

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

Idm-E NO. 4

DMEA NO. 1 & 1A

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☐ Withdrawn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:**
Right

Left Side

- ☒ Royalty Audits
☒ Certification of Discovery] 2-17-56
☐ Closing Letter
☒ Cost Audits -Final Audit - 10-10-58
☒ Termination Notice or Agreement] 10-10-55
☐ Recision Notice
☐ Assignment of Contract
☒ Contract Amendments
☒ Contract with all exhibits and annexes
☒ Owner's Consent to Lien and Subordination Agreement
☒ Application and attachments

Additional Folders:

REPORTS ONLY
Left Side

Folders No. _____: Reports

- ☒ Analysis of Semi-Annual Inspection Reports
☐ Project Summary (Interim) by DMEA Engineers

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

Folders No. IX **: Settlement Sheets ** NOTE: There is 1 folder for just Application, Contracts etc.

Folders No. _____: Drill Logs

Folders No. _____: Royalty material

FOLDER NOS. 2, 3, & 4 **

Right Side

- ☒ Project summary (final)
☒ Work Completed analysis (final)
All other material filed in chronological order including the following reports if checked:
☐ Field Team Semi-Annual Report for Certified Project
☒ Final Field Team Report (Tab) 3-10-58
☒ Operator's Final Report (Tab) 2-7-57
☐ Interim Field Team Reports
☐ Operator's monthly reports and all attachments
☒ On-site Exam Report (Tab)
☐ Settlement Sheets
☐ Drill Logs

Right Side

- ☒ Field Team Semi-Annual Report for Certified Project
☒ Field Team Interim Reports
☒ Operator's Monthly Reports with transmittal, narrative and maps.

There are 3 Correspondence Folders.

There are 2 Reports Folders

There are 3 Settlements Sheets Folders

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF ROYALTY REVIEW

I have reviewed the files of the Washington office pertaining to the Second Amended Contract Idm-B4, Docket DMA-1 and 1A (lead-zinc), dated June 16, 1953, with

Chief Consolidated Mining Company
608 Dooly Building
Salt Lake City, Utah

for the purpose of determining the amount of royalty payable to the U. S. Government on sales of minerals from property referred to as the Chief No. 1 Mine located in Juab and Utah Counties, Utah, during the period July 11, 1956, through February 2, 1960.

A certification of discovery or development was issued on February 17, 1956, and, in accordance with Annex II (attached to Amendment No. 4) of the Second Amended Contract, royalty is payable on all minerals produced from the land described in Article 2 and Exhibit "B" of the Second Amended Contract for a period of 15 years from the date of the Original Contract (June 13, 1951) or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first. A Report of Review dated October 10, 1958, indicated accepted costs under the exploration contract amounting to \$366,626.13 with the Government's contribution being \$174,695.18.

The status of the project, the scope of review, and the reasons therefor are stated on page 2.

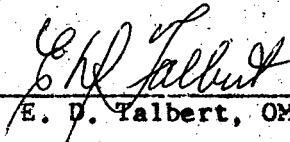
This review established no sales subject to the Government's royalty subsequent to the period covered by a prior Report of Royalty Review which found the sales subject to the Government's royalty through July 10, 1956, to be \$2,638,328.74. The royalty account as of July 10, 1956, was:

Total Royalty Payable	\$127,035.90
Total Royalty Paid	<u>127,035.90</u>
Balance of Royalty Due	<u>\$ -0-</u>

As of February 2, 1960, the royalty account of this project was found to be:

Total Royalty Payable	\$127,035.90
Total Royalty Paid	<u>127,035.90</u>
Balance of Royalty Due	<u><u>\$ -0-</u></u>

March 5, 1962


E. D. Talbert, OME Auditor

Idm-B4

Chief Consolidated Mining Company

DMA-1 and 1A

STATUS OF PROJECT, SCOPE OF REVIEW
AND REASONS THEREFOR

The Second Amended Contract, as further amended by the substitution of Annex II for the provisions of Article 6, provides that the Operator, as principal if the producer or as surety if not the producer, shall pay to the Government a percentage royalty on all mineral production from the land described in Article 2 and set forth in Exhibit "B" and a map attached to the contract form. The lands under the contract were owned in fee simple by the Operator at the time the contract was executed.

Exploration work under the contract was suspended on May 4, 1955. A decision to abandon the exploration project, pull the pumps, and allow the lower levels to flood was made by the Operator during September 1955. A Termination Agreement effective October 15, 1955, was executed on January 30, 1956.

All mining operations on the property ceased during the latter part of November 1955. Production from the date of the contract to the cessation of mining amounted to 155,221.914 dry tons of ore, all of which was sold to the United States Smelting, Refining and Mining Company for aggregate proceeds, after allowable deductions, of \$2,638,328.74. These proceeds were proven by audits of the Operator's sales and production accounts and records on August 10 to 13, 1954, July 19 through August 17, 1955, and July 10, 1956. The aggregate findings of these audits are summarized in a Third Royalty Audit Report and Certificate dated August 16, 1956.

The land under this exploration project contract is embraced by tracts included in an August 29, 1956, Lease and Unit Agreement between the Operator and four other companies, as lessors, and the Bear Creek Mining Company, 161 East 42nd Street, New York, N. Y. This agreement, which is effective until September 1, 2006, unless sooner terminated or extended, recognizes the DMEA lien and provides that the Government's royalty shall be paid by the Operator or, upon its request, by Bear Creek for the account of the Operator.

Inspections by field representatives and advices from the Operator disclosed no mining operations on the property under the contract from November 1955 through the period covered by this review.

This review was made in lieu of an on-site audit of the Operator's accounts and records for the following reasons:

- (1) The files indicate no mining activity on the property during the period covered by this review;

Idm-E4

Chief Consolidated Mining Company

DMA-1 and 1A

- (2) Sales of all prior production are covered by prior Royalty Audit Reports and Certificates; and
- (3) The administrative cost to the Government of an on-site royalty audit at this time would be excessive in relation to the amount of possible additional royalty which might be disclosed.

Stratton
Finch
Betty

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

THIRD ROYALTY AUDIT CERTIFICATE

I have examined the records and sales documents pertaining to the sale of lead-zinc ores for the period August 13, 1955 through July 10, 1956, by

The Chief Consolidated Mining Company
603 Dooley Building,
Salt Lake City, Utah

produced from the Chief Consolidated Mine in Juab County, Utah, under the terms of Contract No. Ida-E4, Docket No. EMA-1 and 1A (Lead and Zinc Ores) dated June 13, 1951.

My examination was made in accordance with generally accepted standards applicable in the circumstances.

The audit established the net sales of lead-zinc ore for this period to be \$110,251.50. Royalty due the United States Government at the contract rates of 1 1/4% to 5% is \$4,119.77.

Prior audits conducted by Donald T. Finch for the periods June 13, 1951 to July 28, 1954, and July 29, 1954 to August 12, 1955, found the sales as of the last date to be \$2,528,077.24, which added to the sales for this period make a total of \$2,638,328.74 as of July 10, 1956. The royalty account as of August 12, 1955 was

Total Royalties Due	\$122,916.13
Total Royalties Paid	<u>122,916.13</u>
Balance of Royalties Due	<u>\$ 0.00</u>

As of July 10, 1956, the royalty account of this project was found to be

Total Royalties Due	\$127,035.90
Total Royalties Paid	<u>127,035.90</u>
Balance of Royalties Due	<u>\$ 0.00</u>

August 16, 1956

Donald T. Finch
Donald T. Finch, Auditor

THIRD ROYALTY AUDIT REPORT

I. INTRODUCTION

On July 10, 1956, an audit was made of the production, sales and royalty accounts and records of

The Chief Consolidated Mining Company
608 Beeley Building,
Salt Lake City, Utah

pertaining to the sale of lead-zinc ores during the period August 13, 1955 through July 10, 1956, produced from the Chief Consolidated Mine located in Juab County, Utah, on which royalties are due the United States Government under the terms of Second Amended Contract Lm-E4, Docket No. BMA 1 and 1A (Lead and Zinc Ores), dated June 16, 1953, as amended.

The amended contract superseded the original contract dated June 13, 1951 and First Amended Contract dated June 16, 1953. Prior royalty audits covered the period from the date of the original contract through August 12, 1955.

The production and sales records pertaining to this contract are maintained at the Operator's main office in Salt Lake City, Utah.

During the on-site audit Mr. W. W. Watson, Secretary-Treasurer of the Company, and Mr. W. E. Young, Mining Engineer, U.S.B.M., were consulted when necessary.

II. GENERAL INFORMATION

A certification of discovery or development was issued on February 17, 1956. Annex II attached to Amendment No. 4 to the second amended contract provides that if the Government makes a certification of discovery or development, the Operator, as principal, if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land described in Article 2 of the contract form for a period of 15 years from the date of the original contract (June 13, 1951) or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

Prior royalty audits have been made of this contract covering the periods June 13, 1951 to July 28, 1954, and July 29, 1954 to August 12, 1955, as evidenced by audit reports dated August 23, 1954 and August 22, 1955, prepared by Donald T. Finch, BMA Auditor. The present audit extends the period covered by audit to July 10, 1956.

A termination agreement has been executed as of January 30, 1956. At the time of this royalty audit the final accepted costs of exploration had, however, not been determined because the liquidation value of items of equipment and materials in which the Government has an equity had not been settled.

The total cost of exploration before adjustment for terminal liquidation, based on the last MP-104 filed by the Operator, amounts to \$389,383.46, of which \$185,680.73 represents Government participation.

The exploration contract authorized a total cost of \$518,040.71 with Government participation of \$259,020.35. An interim audit for the period ending April 30, 1952 has been made of total costs of \$324,030.81 with Government participation of \$153,342.17 approved.

All production for the period August 13, 1955 through July 10, 1956 subject to IMRA royalty was sold to United States Smelting, Refining and Mining Company. The purchaser made royalty payments direct to the IMRA office at Denver, Colorado.

Mining operations in the land area described in Article 2 of the contract form ceased the later part of November, 1955. Mr. Watson, Secretary-Treasurer of the operator, advised the Auditor that the operator did not contemplate resumption of production in that area at the present time. He did, however, state that present joint exploration activities of the company with another operator in a contiguous area might subsequently result in the resumption of production subject to IMRA royalty at some future date.

III SCOPE OF AUDIT AND FINDINGS

A. Conference with Examining Engineer

A conference with the Examining Engineer (Mr. Young) disclosed the following:

- (a) The operator does not stockpile ore, mine or mill rejects and does not commingle production subject to IMRA royalty with exempt production.
- (b) Assay controls in effect are adequate and the manner of disposing of production is considered to give the Government its fair royalty returns.
- (c) Periodic examinations of operations indicate the operator is properly reporting his production of ores subject to IMRA royalty.
- (d) The operator does not buy from, or sell to other operators.
- (e) Mr. Young also confirmed the cessation in November, 1955 of production subject to IMRA royalty.
- (f) At the time of the audit there was one shipment of "Cleanup" in transit. On July 18, 1956 a copy of U.S. S.R. & M. Co. settlement sheet No. 447 QPU covering this shipment was received by the Executive Officer, IMRA Field Team, Region III. This settlement sheet disclosed the shipment consisted of sludge having no value in excess of transportation costs.

B. Audit of Settlement Statements

A considerable amount of pre-audit analysis was accomplished in the DMEA office, Region III, Denver, Colorado, prior to the on-site audit. This consisted of a recomputation and tabulation of all detailed settlement sheets issued during the period August 13, 1955 through July 10, 1956.

This tabulated information was reconciled with amounts of royalty receipts indicated by the records of the Regional Finance Officer. These tabulations are filed as part of my audit working papers. A summary analysis of these statements and the results of prior audits is included in section IV of this audit report.

The on-site audit included a comparison and reconciliation of the data compiled during the pre-audit work with the operator's production and sales records in the company's office at Salt Lake City, Utah. The total royalties paid as shown by this and prior audits was also reconciled with the operator's DMEA control account in its General Ledger.

IV. CONCLUSIONS

A summary analysis of the operator's production and sales with amounts subject to DMEA royalties and royalties paid, segregated by this and prior audit periods follows:

	<u>PERIOD 6/13/51 TO 7/28/54</u>	<u>PERIOD 7/29/54 TO 8/12/55</u>	<u>PERIOD 8/13/55 TO 7/10/56</u>	<u>TOTAL</u>
Gross Weight	128,440,140 lbs.	169,528,760 lbs.	19,205,280 lbs.	317,174,180 lbs.
Dry Weight	125,775,807 lbs.	166,085,640 lbs.	18,582,382 lbs.	310,443,829 lbs.
Tons of Dry Weight	<u>62,887.903</u>	<u>83,042.820</u>	<u>9,291.191</u>	<u>155,221.914</u>
Gross Value Net of Treatment Charges	<u>\$1,315,898.53</u>	<u>\$1,448,386.90</u>	<u>\$121,750.68</u>	<u>\$2,886,036.11</u>
<u>Allowable Deductions</u>				
Railroad Freight	\$103,061.39	\$119,623.06	\$ 10,732.20	\$233,416.65
Fed. Transport. Tax	3,091.84	3,588.90	321.98	7,002.72
Assay Fees	2,415.00	2,562.00	287.00	5,264.00
Umpire Fees	<u>928.00</u>	<u>938.00</u>	<u>158.00</u>	<u>2,024.00</u>
Total Allowable Deductions	<u>\$109,496.23</u>	<u>\$126,711.96</u>	<u>\$11,499.18</u>	<u>\$247,707.37</u>
Net Value	<u>\$1,206,402.30</u>	<u>\$1,321,674.94</u>	<u>\$110,251.50</u>	<u>\$2,638,328.74</u>
Average Value per Dry Ton	\$19.18	\$15.92	\$11.87	\$17.00
Average Royalty Percentage	<u>4.78</u>	<u>4.85</u>	<u>3.74</u>	<u>4.82</u>
Royalties Due	\$58,773.35	\$64,142.78	\$4,119.77	\$127,035.90
Royalties Received	<u>58,773.35</u>	<u>64,142.78</u>	<u>4,119.77</u>	<u>127,035.90</u>
Balance of Royalties Due	<u>\$ 0.00</u>	<u>\$ 0.00</u>	<u>\$ 0.00</u>	<u>\$ 0.00</u>

Note: The last settlement sheet included in the foregoing data was United States Smelting, Refining and Mining Company No. 447 GPU shipped June 18, 1956

The audit has confirmed the accuracy and propriety of royalty payments received by the Regional Office applicable to ore sales during the period June 13, 1951 through July 10, 1956. It has also determined that all indicated sales during such period have been properly accounted for.

August 16, 1956

Donald T. Finch
Donald T. Finch, Auditor.

Check Sheet of Examining Engineer

Operator's Name The Chief Consolidated Mining Company

Address 608 Dooley Building

Salt Lake City, Utah

Exploration Contract No. Ida-E4

Docket No. DMA 1 and 1A

Check One
Yes, No

1. (a) Does the Operator stockpile ore subject to royalty repayment? ✓
(b) If so, is segregation and identification procedure adequate?
2. (a) Does Operator commingle production subject to DMEA royalties with exempt production? ✓
(b) If so, do you consider the allocation of the commingled production equitable?
3. (a) Does the Operator stockpile mine or mill rejects (low grade ore, tailing, middlings, etc.) that may have potential value within the royalty payment period? ✓
(b) If so, are adequate records maintained on such material to protect the Government's interest?
4. Do you consider the assay controls in effect are adequate? ✓
5. Do you consider that the manner of disposing of production gives the Government its fair royalty returns? ✓
6. Do your periodic examinations of operations indicate the Operator is properly reporting his production of ores subject to DMEA royalties? ✓
7. Does the Operator buy from or sell to other Operators? ✓
8. Comment on any item 2 (b) to 6 if answer is No.

One shipment now in transit

Date July 10, 1956

W. E. Young
Mining Engineer

*Prescribed
Betty*

RECEIVED
SEP 1 1955

INTERSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

SECOND ROYALTY AUDIT CERTIFICATE

I have examined the records and sales documents pertaining to the sale of Gold, Silver, Copper, Lead and Zinc ores for the period October 3, 1951 through August 12, 1955, by

The Chief Consolidated Mining Co.

608 Dooley Building

Salt Lake City, Utah

produced from the Chief Consolidated Mine, Juab County, at Eureka, Utah, under the terms of Exploration Contract Idm-E4, Docket Nos. DMA 1 and 1A.

My examination was made in accordance with generally accepted standards applicable in the circumstances.

The audit established the total net sales of Gold, Silver, Copper, Lead and Zinc ores for this period to be \$2,528,077.24. Royalty due the United States Government at the contract rates ranging from 1½% to 5% amounts to \$122,916.13. The royalty paid and balance due are as follows:

Total Royalties Due	\$122,916.13
Total Royalties Received	<u>122,916.13</u>
Balance of Royalties Due	<u>0.00</u>

August 22, 1955

Donald T. Finch
Donald T. Finch, Auditor

SECOND ROYALTY AUDIT REPORT

I INTRODUCTION

Beginning on July 19, and continuing intermittently through August 17, 1955, an audit of royalty payments received covering the period October 3, 1951 through August 12, 1955, was made of the ore sales documents pertaining to Contract IMA-E4, Docket Nos. IMA 1 and 1A, with the

Chief Consolidated Mining Company

608 Dooley Building

Salt Lake City, Utah

covering a project of exploration for Lead, Zinc, located in Juab County at Eureka, Utah, and generally known as Chief Consolidated Mine.

The production records and ore sales accounts pertaining to this contract are located in the Company's office at the above address.

Mr. W. E. Young, Mining Engineer, Salt Lake City Office, United States Bureau of Mines, is the Examining Engineer for this project.

II GENERAL INFORMATION

At the time of this audit of royalty repayments, the exploration contract had not been completed and the IMEA had not issued a Certificate of Discovery. Total cost of exploration, based on the last MF-104 filed by the Operator, amounts to \$389,383.46, of which \$185,680.73 represents Government participation.

The exploration contract authorizes a total cost of \$518,040.71 with Government participation of \$259,020.35. An interim audit for the period ending April 30, 1952, has been made of total costs of \$324,030.81 with Government participation of \$153,342.17, approved.

Gold, Silver, Copper, Lead and Zinc are all involved in the production and sales of ore subject to royalty repayments.

The production area which is subject to royalty repayments is described in Exhibit B of the Second Amended Exploration Contract. Production subject to royalty repayments is broadly described as all ores mined north of the Leadville Fault and all ores mined south of the Leadville Fault below the 2,450 foot level with certain minor blocks excluded.

A first royalty audit covering the period October 3, 1951 through July 28, 1954, was made by Donald T. Finch, as shown by audit report dated August 23, 1954. The present audit, therefore, has been limited to ore sales since July 28, 1954.

In lieu of a conference with the Examining Engineer at the time of this Second Royalty Audit, a review was made of his written reports of periodic examinations during the period July 29, 1954 through August 12, 1955, which are on file with the Executive Officer, MEA Field Team, Region III. The matter was also reviewed with the Executive Officer and signed. "Check Sheet of Examining Engineer" dated August 9, 1955, was secured from Mr. Young, Mining Engineer, U.S.B.M. This check sheet discloses that the Operator does not stockpile ore subject to MEA royalties, nor does it stockpile mine or mill rejects. Production subject to MEA royalties is not commingled with exempt production.

At the time of the first royalty audit the Examining Engineer and the Auditor made a joint inspection of the underground and surface operations to observe the methods for segregation of production subject to MEA royalty from other production. Production and sales records and controls maintained at the mine office at Butte and at the general offices in Salt Lake City were examined.

A. Conference with the Examining Engineer, U.S.B.M.

The extent of the audit and the findings follow:

The audit was limited to determining the accuracy and propriety of royalty payments received by the Mine Operator during the period July 29, 1954 through August 12, 1955, and a determination that all indicated sales of ore subject to repayment royalties under the exploration contract and amendments, for which settlement sheets have been released, have been properly accounted for.

III. SCOPE OF AUDIT AND FINDINGS

Periodic inspection of mining operations have been made by the Examining Engineer who also has in the past reviewed production records. All ore sold by the Operator to the United States Smelting, Refining and Mining Company was on the basis of a smelter contract. This contract contains very complex formulas, the application of which required between 13,000 and 17,000 involved calculations during the present audit covering the period July 29, 1954 to August 12, 1955. These formulas are not reproduced in this report but are available in the audit working papers.

The previous audit disclosed that the Operator produces ore subject to royalty repayments simultaneously with ore that is not subject to royalty repayments, but does not stockpile ore. It also disclosed that the Operator maintains exceptionally complete production and ore sales records and conducts an informal audit of all settlement sheets and bills of lading.

During the period July 29, 1954 through August 12, 1955, all royalty remittances received by the Executive Officer of the MEA Field Team, Region III, were supported by copies of settlement sheets issued by the purchaser of the ore. The remittances for royalties due were made by the purchaser, which was the United States Smelting, Refining and Mining Company's smelter at Midvale, Utah.

The Examining Engineer reports that the Operator does not buy or sell to other operators, and all production subject to IMEA royalties during the period July 29, 1954 through August 12, 1955 was shipped direct to the United States Smelting, Refining and Mining Company, Midvale, Utah.

The engineer considers that assay controls in effect are adequate and the Operator's manner of disposing of production gives the Government its fair royalty returns.

The engineer reports that his periodic examinations of operations indicate the Operator is properly reporting his production of ores subject to IMEA royalties.

B. Audit of Settlement Statements

During the audit detailed and itemized statements of settlement sheet computations and allowable deductions were prepared. A condensed summary of these computations follows:

	PERIOD <u>10/3/51 to 7/28/54</u>	PERIOD <u>7/29/54 to 8/12/55</u>	<u>TOTAL</u>
Gross Weight	128,440,140 lbs.	169,528,760 lbs.	297,968,900 lb
Average Percent of Water	2.07 %	2.03 %	2.05 %
Weight of Water	<u>2,664,333 lbs.</u>	<u>3,443,120 lbs.</u>	<u>6,107,453 lb</u>
Net Dry Weight	125,775,807 lbs.	166,085,640 lbs.	291,861,447 lb
Tons of Dry Weight	<u>62,887,903</u>	<u>83,042,820</u>	<u>145,930,723</u>
Gross Value Net of Treatment Charge	\$1,315,898.53	\$1,448,386.90	\$2,764,285.43
Allowable Deductions	<u>109,496.23</u>	<u>126,711.96</u>	<u>236,208.19</u>
Net Value	<u>\$1,206,402.30</u>	<u>\$1,321,674.94</u>	<u>\$2,528,077.24</u>
Average Value Per Dry Ton	\$19.18	\$15.92	\$17.32
Average Royalty Percentage	<u>4.87</u>	<u>4.85</u>	<u>4.86</u>
Royalties Due	\$58,773.35	\$64,142.78	\$122,916.13
Royalties Received	<u>58,773.35</u>	<u>64,142.78</u>	<u>122,916.13</u>
Balance Royalties Due	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>

The complete detailed computations and schedules supporting the foregoing data, which were compiled during the audit, are available in the file of audit working papers. Discussions of this material and degree of confirmation is submitted below:

Gross Weight in Pounds - (297,968,900 lbs.)

Gross Weight in Pounds represents the aggregate total of the totals of wet weight shown by the settlement sheets of the railroad cars of ore in each lot shipment. The addition of total gross weights shown on all settlement sheets issued during the period July 29, 1954 through August 12, 1955 was confirmed during the audit.

Dry Weight in Pounds - (291,861,447 lbs.)

This weight is set out on the settlement sheets and represents the gross weight less pounds of water content. The settlement sheets showed the percent and weight of water content. All computations of net weight, including the application of percent of water content, were recomputed during the audit for the period July 29, 1954 through August 12, 1955.

Dry Weight in Tons - (145,930.723 Tons)

This weight was recomputed during the audit for all settlement sheets issued during the period July 29, 1954 through August 12, 1955.

Gross Value - (\$2,764,285.43)

Gross Value is shown by the settlement sheets. It is determined by applying the smelter schedule formulae to the assay data as shown on the settlement sheets to determine the price paid per ton of ore for each metal, viz Gold, Silver, Copper, Lead and Zinc. To arrive at the gross value per ton, the prices per ton of ore for each metal are totalled and the scheduled treatment charge of \$3.45 per ton is deducted to arrive at a gross value per ton net of treatment charges. Gross value of the settlement sheet lot is determined by multiplying gross value per ton net of treatment charges by the number of dry tons.

All of the foregoing computations were recomputed during the audit for each settlement sheet issued during the period July 29, 1954 through August 12, 1955.

Allowable Deductions - (\$236,208.19)

Allowable deductions consisted of the following items:

	PERIOD <u>10/3/51 to 7/28/54</u>	PERIOD <u>7/29/54 to 8/12/55</u>	<u>TOTAL</u>
Railroad Freight	\$103,061.39	\$119,623.06	\$222,684.45
Federal Transportation Tax	3,091.84	3,588.90	6,680.74
Assay Fees	2,415.00	2,562.00	4,977.00
Umpire Fees	938.00	938.00	1,866.00
TOTALS	<u>\$109,496.23</u>	<u>\$126,711.96</u>	<u>\$236,208.19</u>

All charges for freight and transportation charges shown by the settlement sheets issued during the period July 29, 1954 through August 12, 1955 were recomputed during the audit. There were no disallowed deductions for the period under review.

Net Value - (\$2,528,077.24)

This item is not shown on the settlement sheets. It is obtained by deducting the allowable deductions from gross value on each settlement sheet. All computations of this nature for the period July 29, 1954 through August 12, 1955, were computed during the audit.

Net Value per Dry Ton

This item is not shown on the settlement statements. It was necessary to compute it during the audit for all settlement sheets issued during the period July 29, 1954 through August 12, 1955 for use in determining the applicable percentage of royalty.

Royalty Percentage

All royalty percentages applicable to the period July 29, 1954 through August 12, 1955, were determined during the audit by reference to the Exploration Contract and to the net value per dry ton of ore. These royalty percentages ranged from 1½% to 5%.

Royalties Due - (\$122,916.13)

This item is determined by applying the royalty percentage to Net Value. All royalty computations for the period July 29, 1954 through August 12, 1955, were recomputed during the audit.

Royalties Received - (\$122,916.13)

Total Royalties Received, as determined by the audit, was reconciled with the Finance Officer's records as follows:

Total per Audit	\$122,916.13
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Total per Finance Officer's Records on August 17, 1955	\$120,406.24
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Add:

Items Not Posted

CD 17, dated 8/8/55	\$ 358.57	
CD 18, dated 8/9/55	<u>1,697.88</u>	2,056.45

Items in Transit

Settlement #406	\$385.58	
Settlement #409	<u>67.86</u>	<u>453.44</u>

Total as above	<u>\$122,916.13</u>
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Balance of Royalties Due

There was no balance of unpaid royalties due.

Miscellaneous Comment

The complete detailed audit of all settlement sheets issued during the period July 29, 1954 through August 12, 1955 disclosed only one very minor error in ore weight totals which may have been a typographical error. Since only 30% of possible royalty could have been involved, the item has been disregarded in this report.

C. Audit of Operator's Records

Because all ore sales have been reported by the Examining Engineer as having been made to the United States Smelting, Refining and Mining Company, who have made payments direct to the Executive Officer of the MEA Field Team, Nogales III, and because of completeness of the on-site review reported in the previous audit report, an on-site examination of the Operator's records at this time has been deferred. It is suggested that at the time of the third royalty audit consideration be given to again reviewing the Operator's records.

IV. CONCLUSIONS

The audit has confirmed the accuracy and propriety of the royalty payments received by the Finance Officer during the period October 3, 1951 through August 12, 1955. It has also determined that all indicated sales of ores subject to MEA royalties under the Exploration Contract, for which settlement sheets have been released, have been properly accounted for.

August 22, 1955

Donald T. Finch
Donald T. Finch, Auditor.

Check Sheet of Examining Engineer

RECEIVED DMEA
Date Rec'd.

SEP 1 1955

Operator's Name Chief Consolidated Mining Company

SEP 12 1955

Address 608 Dooly Building

BUREAU OF MINES
Denver, Colorado

Salt Lake City, Utah

Exploration Contract No. Idm-E4

Docket No. DMA 1 and 1A

Check One
Yes No

1. (a) Does the Operator stockpile ore subject to royalty repayment? ✓
(b) If so, is segregation and identification procedure adequate?
2. (a) Does Operator commingle production subject to DMEA royalties with exempt production? ✓
(b) If so, do you consider the allocation of the commingled production equitable?
3. (a) Does the Operator stockpile mine or mill rejects (low grade ore, tailing, middlings, etc.) that may have potential value within the royalty payment period? ✓
(b) If so, are adequate records maintained on such material to protect the Government's interest?
4. Do you consider the assay controls in effect are adequate? ✓
5. Do you consider that the manner of disposing of production gives the Government its fair royalty returns? ✓
6. Do your periodic examinations of operations indicate the Operator is properly reporting his production of ores subject to DMEA royalties? ✓
7. Does the Operator buy from or sell to other Operators? ✓
8. Comment on any item 2 (b) to 6 if answer is No.

All production subject to DMEA royalty is shipped direct to U. S. Smelting, Refining and Mining Co., Midvale, Utah.

W. E. Young
Mining Engineer

Date Aug. 9, 1955

DEFENSE MINERALS EXPLORATION ADMINISTRATION

CONTRACT ADMINISTRATION AND AUDIT DIVISION

FIRST ROYALTY AUDIT CERTIFICATE

RECEIVED
DEFENSE MINERALS EXPLORATION ADMINISTRATION

23 1954

I have examined the records and sales documents pertaining to the sale of Gold, Silver, Copper, Lead and Zinc Ore for the period October 3, 1951 through July 28, 1954 by

The Chief Consolidated Mining Company
608 Locley Building
Salt Lake City, Utah

produced from the Chief Consolidated Mine in Juab County at Tureka, Utah, under the terms of Contract Ida-74, Rackets Numbers 234 I and 1A.

My examination was made in accordance with generally accepted standards applicable in the circumstances.

The Audit established the total net sales of Gold, Silver, Copper, Lead and Zinc Ore for this period to be \$2,206,402.30. Royalty due the U. S. Government at the contract rate ranging from 1 1/4% to 5% after giving effect to recommended waiver of Balance of Royalties due of \$13.13, is \$58,773.35. The royalty paid and balance due are as follows:

Total Royalties Due	\$58,773.35
Total Royalties Received	<u>58,773.35</u>
Balance of Royalties Due	<u>None</u>

Dated: August 23, 1954

Donald T. Finch
Donald T. Finch
Auditor

MINIST ROYALTY AUDIT REPORT

I INTRODUCTION

On August 10 to 13, an audit of royalty payments received covering the period October 3, 1951 through July 28, 1954, was made of the Production records and Ore sales accounts pertaining to Contract Ida-X4, Pocket Numbers DMA 1 and 14, with the

Chief Consolidated Mining Company
608 Dooley Building
Salt Lake City, Utah

covering a project of exploration for Lead, Zinc located in Juab County, at Eureka, Utah, and generally known as Chief Consolidated Mine.

The production records and Ore sales accounts pertaining to this Contract are located in the Company's office at the above address.

During the course of the Audit, the following representatives of Chief Consolidated Mining Company were consulted when necessary:

Mr. M. M. Watson, Secretary-Treasurer
Mr. E. E. Cornwell, Accountant
Mr. Edward Carter, Chief Clerk at Eureka

Mr. W. E. Young, Mining Engineer, Salt Lake City Office, Bureau of Mines, collaborated in the Audit.

II GENERAL INFORMATION

At the time of this Audit of royalty repayments, the exploration contract had not been completed and the DMA had not issued a Certificate of Discovery. Total costs of exploration, based on the last MF-104 filed by the Operator, amount to \$366,397.46, of which \$174,187.73 represent Government participation.

The Exploration Contract authorizes a total cost of \$518,046.71 with Government participation of \$259,020.35. An interim audit for period ending April 30, 1952, has been made of total costs of \$324,030.81 with Government participation of \$153,342.17 approved.

Gold, Silver, Copper, Lead and Zinc are all involved in the production and sales of Ore subject to royalty repayments.

The mine produces ore subject to royalty repayments simultaneously with ore that is not subject to royalty repayments but does not stockpile ores.

The production area which is subject to royalty repayments is described in Exhibit B of the Second Amended Exploration Contract. Production subject to royalty repayments is broadly described as all ores mined north of the Leadville Fault and all ores mined south of the Leadville Fault below the 2,450 foot level with certain minor excluded blocks of ground.

The Audit indicated that ore sales had been limited to two purchasers of ore. Ore sales during the period October 3, 1951, to July 30, 1953, were made to the Concentrator Plant at Bunker, Utah, operated by the Combined Metals Reduction Company. Ore sales during the period April 30, 1953, to July 21, 1954, were made to the smelter at Midvale, Utah, operated by the United States Smelting, Refining and Mining Company.

The Executive Officer of the DMEA Field Team, Region IV, has been furnished copies of settlement sheets for each lot of ore purchased.

During the first few months of production subject to royalty repayments, the Chief Consolidated Mining Company transmitted royalty payments by that Company's checks. Thereafter, the ore purchasers have transmitted these royalty payments, with copies of supporting settlement sheets, direct to the Government.

Chief Consolidated Mining Company maintains its general ledger records of ore sales on a cash receipts basis. Shipments are recorded in a combination Ore Sales and Royalty Journal.

The Producer does not co-mingle production subject to royalty repayments with its other production. A producer's representative or "Moocher", (Royd J. Bernard) on duty at the purchaser's plant, checks all ore shipment weights and collects the samples for Company and Empire Assay.

The Empire firm is Black & Deason, Assayers.

An internal audit is made by the producer of all settlement sheets and bills of lading.

A general ledger account of royalty repayments is maintained and the totals of this account were reconciled with the total royalty repayments received by the DMEA Finance Officer, Region IV.

All ore is sold by Chief Consolidated Mining Company under Contracts with the purchasers. The formulas used in determining the purchase price of the various metals contained in the ores were made available to the examiners.

Mr. Watson, producer's representative, however, pointed out these contracts provided that the purchaser reserved the right to reject any ores not amenable to processing in the respective purchaser's plant. As a result of these provisions, there are individual instances of negotiated sales that do not conform in every respect with the written contract.

During the current audit only four such negotiations were noted, and these were discussed with Mr. Watson.

The producer maintains very complete production records. The ore is not sorted, but to a large extent is selectively mined. Production subject to royalty repayments is segregated from other production by underground labeling of each mine car of ore produced. Railroad car loading retains this segregation. In this connection, reference is made to special report by Mr. Young, Mining Engineer, dated March 1, 1954, copy of which was transmitted to the Operating Committee, DMEA. This report gives a very complete description of the Operator's methods of segregation of production.

Prior to this audit, Mr. Young has made periodic mine examinations to determine the producer's system of production segregation was being maintained. He has also examined settlement sheets and applied the purchaser's formulae to the indicated purchase prices. Copies of the ore settlement sheets have also been examined by Assistants to the Executive Officer, DMEA Field Team, Region IV.

A great deal of pre-audit analysis was performed by the Auditor at the DMEA office. The Auditor also accompanied the Engineer on an underground examination to observe the production segregation methods in use.

III SCOPE OF AUDIT AND FINDINGS

The Audit was limited to determining the accuracy and propriety of royalty payments received by the Finance Officer during the period November 20, 1951, to July 28, 1954, and a determination that all indicated sales of ores subject to repayment royalties under the exploration contract and amendments for which settlement sheets had been released, have been properly accounted for.

The extent of the Audit and the findings follow:

A. Conference with the Examining Engineer, U. S. Bureau of Mines

This Conference disclosed the following:

The Operator maintains a very complete segregation of ores subject to royalty repayments from other ores. This fact was confirmed by an examination of the producer's records.

Prices paid to the Operator by ore purchasers are based on complex formulae contractually agreed upon by the Operator and the purchasers. These formulae are not set forth in this report but are available in the Audit working paper files.

The Examining Engineer considers these formulae and prices are reasonable and equitable.

Examination of settlement sheets during the Audit disclosed that adequate umpire assays were made of ore sales. The assay controls governing ore sales is considered fully adequate by the Examining Engineer. He also considers the Operator's mining operations, ore preparation and sales of ore are being conducted in a reasonably efficient manner to insure an adequate recovery.

Based on the Examining Engineer's observation during periodic physical examinations of operations and an examination of the Operator's income amounts, the Operator did not make any sales of ore subject to repayment royalties to purchasers other than listed in this Audit report.

The Examining Engineer also advised that there was only one other buyer, in addition to the two listed in this Audit report, located in the Operator's shipping area who was equipped to treat the type of ores currently being produced by Chief Consolidated Mining Company and which are subject to royalty repayment. This buyer, which is the International Smelting and Refining Company plant at Tooe, Utah, is not operating at the present time. There were no sales of ore subject to DMEA royalties to this buyer disclosed by the Audit.

B. Audit of Settlement Statements

During the Audit, a statement of royalty payments received (Schedule 1) was prepared from copies of Settlement sheets received by the Executive Officer, DMEA Field Team, Region IV. This statement is made a part of this report. A discussion of the data and the degree of confirmation follows:

Gross Weight in Pounds

Gross Weight in Pounds represents the total wet weight shown by the settlement sheet of the railroad car's of ore in the lot shipment. The addition of total gross weights shown on all settlement sheets issued during the period audited was confirmed during the Audit.

Dry Weight in Pounds

This weight is set out on the settlement sheets and represents the gross weight less pounds of water content. The settlement sheets showed the percent and weight of water content. All computations of net weight, including the application of percent of water content, were recomputed during the preparation of the Statement of Royalties Received.

Dry Weight in Tons

This weight was recomputed in every case during the preparation of the Statement of Royalties Received.

Gross Value

Gross Value is shown by the settlement sheets. It was determined by applying the Contract schedule formulae to the assay data as shown on the settlement sheets to determine the price paid per ton of ore for each metal: viz. Gold, Silver, Copper, Lead and Zinc. To arrive at the gross value per ton, the prices for each metal were totalled and the scheduled treatment charge was deducted to arrive at a gross value per ton net of treatment charges.

Gross value of the lot was determined by multiplying gross value per ton net of treatment charges by number of dry tons.

The foregoing computations were recomputed either by the Engineer or the Auditor for all settlement sheets shown on Schedule No. 1.

Deductions Allowed

Deductions allowed for the settlement sheets listed on Schedule No. 1 amounted to \$109,496.23. These deductions were for transportation charges, assay, umpire fees, etc. paid by the purchasers and listed on the settlement sheets. All charges for freight were recomputed by the Engineer or the Auditor for all settlement sheets listed on Schedule No. 1. Analysis of allowed deductions follows:

Railroad Freight including 3%	
Federal Transportation Taxes	\$106,153.23
Control and Assay Fees	2,408.00
Umpire Fees	928.00
Watchdog	7.00
Total Allowed Deductions	<u>\$109,496.23</u>

Deductions Disallowed

Deductions disallowed totaled \$22.50. These items represented freight overcharges as follows:

Combined Metals Reduction Co.

Settlement Sheet No. GP-109	\$ 3.75
Settlement Sheet No. GP-135	5.43
Settlement Sheet No. GP-140	3.68
Settlement Sheet No. GP-141	<u>9.64</u>
Total	<u>\$22.50</u>

The foregoing overcharges were discussed with Mr. Watson, Secretary-Treasurer of the Operator, who advised he would file a claim with the purchaser and would account to the Government for any royalty due. (See comments below under Royalties Due).

Net Value

This item is not shown on the settlement sheets. It is obtained by deducting the allowable deductions from gross value. All computations of this nature shown on Schedule No. 1 were computed during the Audit.

Net Value Per Dry Ton

This item is not shown on the settlement sheets. It was computed during the Audit and was used in determining the applicable percentage of Royalty.

Royalty Percentage

All royalty percentages shown on Schedule No. 1 were determined during the Audit by reference to the Exploration Contract and to the net value per dry ton of ore. These ranged from 1½% to 5%.

Royalty Due

This item is determined by applying the Royalty Percentage to Net Value. All entries of Royalties Due shown on Schedule No. 1 were recomputed during the preparation of the Schedule.

Royalties Received

The individual amounts were entered on Schedule No. 1 from the settlement sheets. The total royalties received of \$58,773.35 was confirmed by reference to the records of the Finance Officer, Region IV.

Balance of Royalties Due

These items were determined by subtracting Royalties Received from Royalties Due. Analysis of this balance of \$13.13 follows:

Combined Totals Settlement Sheets

GP-109, 5% of Disallowed Freight of \$3.75,			.19
Gr-135, Royalty Due		\$105.77	
Original Payment	\$115.74		
Less: Adjustment set off on GPU			
#18 of U.S.B.R. & M. Co.	<u>13.19</u>		
Net Payment Received		<u>105.55</u>	
Balance Due, (4% of Disallowed			
Freight overcharge of \$5.43)			.22

GP-140, Royalty Due		\$ 94.23	
Original Payment	\$107.54		
Less: Adjustment set off on			
Settlement Sheet No. GPU #18	<u>13.64</u>		
Net Payment Received		<u>94.10</u>	
Balance Due, 3 1/4% of Freight			
overcharge of \$3.68			.13

GP-141, Royalty Due		\$ 85.35	
Original Payment	\$ 85.51		
Less: Adjustment set off on			
Settlement Sheet No. GPU #18	<u>12.21</u>		
Net Payment Received		<u>73.30</u>	
Balance Due, 3 1/4% of disallowed			
Freight overcharge of \$9.64	.34		
* 1/4% of \$2,43.17	<u>12.21</u>		\$12.55

Four settlement sheets with decimal variations of 1/4 each (disregard)

Total Balance of Royalties Due

.04

\$13.13

* Adjustment for the disallowance of Freight overcharge of \$9.64 changed the net value per dry ton and increased the royalty percentage from 3% to 3 1/4%.

** See Insert Page 7A.

C. Audit of Operator's Records

In addition to the above confirmations, a review of the Operator's records and methods of internal check, or audit of ore production and sales as described below was made.

At the Mine Office, Bunka, Utah

It was determined the Chief Mine Clerk reconciled daily ore production which is compiled from three independent reporting sources in the mine. Segregation of production subject to DREA royalty from other ore has been previously described in this report.

During the on site audit, the "freight over charges" (see Page 5 this audit report) were discussed with Mr. Watson by the Engineer and the Auditor. Mr. Watson rechecked the audit computations and at that time concurred with them. Subsequent to the on site audit, Mr. Watson addressed a letter to the Executive Officer, DMEA Field Team, Region IV, enclosing a letter from the Combined Metals Reduction Company. This correspondence, copies of which are attached, indicate the ore purchaser and the operator do not at this time consider any freight over charges existed, and that there are no additional amounts due the operator or the government for Royalties due. While there is some indication the computation of Freight Charges varied from the position outlined in correspondence referred to, it is also recognized the Ore Sales Contracts were subject to negotiation in the case of individual sales. (See 1st Paragraph Page 3 of this report).

It is therefore recommended the indicated balance of royalties due be waived. The Schedule 1 has been adjusted to reflect this recommendation and the Audit Certificate does not show any Balance of Royalties Due.

Railroad Bills of Lading, records and methods of preparation were reviewed in detail.

The daily reports, preliminary assay control methods and production reports were scanned. These reports are all transmitted to the Salt Lake City Accounting Office of the Operator.

The system in use at the mine office to control proper accounting for production and sales is considered very complete by the Auditor.

At the Accounting Office, Salt Lake City, Utah

It was determined that the Operator made a complete detailed check of all ore shipments and settlement sheets. The Ore Sales and Royalties Paid Journal was scanned and limited test checks were made to determine that methods of internal checks were functioning.

An analysis of the General Ledger Accounts disclosed the following DMA royalty payments:

Year 1951	\$ 410.74	
Year 1952	14,913.45	
Year 1953	21,699.33	
Year 1954 thru June	21,528.98	
Settlement Sheet, 38		
DMA dated July 21,		
1954 not posted	<u>220.85</u>	
Total Royalty Payments		<u>\$58,773.35</u>

A similar analysis of the Finance Officer's Ledger showed the following:

Balance Royalties received per Ledger	\$58,552.50	
and Settlement Sheet		
Sheet 38 from U.S.S.R.		
U.S. Co. not posted	<u>220.85</u>	
Total Received by Finance		<u>\$58,773.35</u>
October, July 28, 1954		

In view of the positive reconciliation of the Operator's records with the Finance Officer's records, and the Operator's methods of internal audit and control of ore sales and production, further examination of the Operator's records was considered unnecessary.

IV CONCLUSIONS

A summary analysis of sales of ore subject to DMA royalties by Chief Consolidated Mining Company, prepared from Schedule No. 1 shows the following:

PURCHASERS OF ORE

	<u>Combined Metals Reduction Co.</u>	<u>United States Smelting-Refining & Mining Co.</u>	<u>Totals</u>
Gross Weight	37,974,200 lbs.	90,465,940 lbs.	128,440,140 lbs.
Average Percent of Water	1.74 %	2.21 %	2.07 %
Weight of Water	661,090 lbs.	2,003,243 lbs.	2,664,333 lbs.
Net Dry Weight	37,313,110 lbs.	88,462,697 lbs.	125,775,807 lbs.
Tons of Dry Weight	18,656.555 Tons	44,231.348 Tons	62,887.903 Tons
Gross Value Net of Treatment Charge	\$476,837.81	\$839,060.72	\$1,315,898.53
Allowable Deductions	33,598.17	75,898.06	109,496.23
Net Value	\$443,239.64	\$763,162.66	\$1,206,402.30
Average Value per Ton (Dry Weight)	\$ 23.76	\$ 17.25	\$ 19.18
Average Royalty Percentage	4.94 %	4.83 %	4.87 %
Royalties Due	\$ 21,913.32	\$ 36,873.16	\$ 58,786.48
Royalties Received	21,900.19	36,873.16	58,773.35
Balance of Royalties Due	* \$ 13.13	—	\$ 13.13

* It is recommended Balance of Royalties Due be waived. (See Comments page 7A).

The Audit has confirmed the accuracy and propriety of the royalty payments received by the Finance Officer during the period October 3, 1951, through July 28, 1954. It has also determined that all indicated sales of ores subject to DMEA Royalties under the Exploration Contract, for which settlement sheets have been released, have been properly accounted for except for the balance due of \$13.19 set forth in the above tabulation and as detailed on the attached Schedule No. 1.

Donald T. Finch
Donald T. Finch
Auditor

August 23, 1954

STATEMENT OF ROYALTY PAYMENTS RECEIVED
 CHIEF CONSOLIDATED MINING COMPANY
 EXPLORATION CONTRACT ID#-84, DOCKET DMA 1 AND 1A
 SCHEDULE NO. 1

Date	Lot No.	Gross Weight Pounds	Dry Weight Pounds	Loss Pounds	Proceeds Net of Treatment Charges	Reductions Allowed	Disallowed	Net Proceeds	Net Value Per Ton	Royalty Percent	Royalties Due	Royalties Received	Balance Royalties Due
Combined Metals Reduction Company													
Oct. 3, 1981	99 1	193,643	193,488	96.744	\$ 1,622.28	\$ 131.95	\$	\$ 1,490.33	\$15.40	5 %	\$ 74.51	\$ 74.51	
Oct. 11, 1981	99 2	224,288	218,830	109.418	3,089.00	234.91	\$	2,854.09	26.18	5 %	143.20	143.20	
Oct. 19, 1981	99 3	112,220	109,864	54.932	1,335.36	92.70		1,242.66	22.90	5 %	62.03	62.03	
Nov. 8, 1981	99 4	116,440	114,648	57.324	1,423.47	95.95		1,327.52	23.16	5 %	64.38	64.38	
Dec. 4, 1981	99 5	87,620	84,492	42.346	1,397.12	104.76		1,292.36	20.99	5 %	64.62	64.62	
Jan. 21, 1982	99 6	184,980	180,186	90.092	2,718.68	177.42		2,541.26	28.21	5 %	127.06	127.06	
Jan. 28, 1982	99 7	216,840	208,448	104.234	2,748.39	297.01		2,451.38	24.28	5 %	127.07	127.07	
Jan. 30, 1982	99 8	122,020	117,988	50.979	1,899.51	119.11		1,780.40	25.18	5 %	74.02	74.02	
Feb. 11, 1982	99 9	149,340	139,896	69.948	2,921.17	188.82		2,732.35	39.11	5 %	136.78	136.78	
Feb. 11, 1982	99 10	139,300	132,368	64.284	3,012.21	173.23		2,838.98	42.83	5 %	141.95	141.95	
Feb. 12, 1982	99 11	100,200	98,398	49.299	2,444.00	129.86		2,314.14	44.94	5 %	115.71	115.71	
Feb. 13, 1982	99 12	128,860	126,940	63.470	3,053.36	168.27		2,885.09	45.90	5 %	144.49	144.41	
Feb. 22, 1982	99 13	134,040	131,668	65.834	3,053.39	171.68		2,881.71	43.92	5 %	144.58	144.58	.01
Mar. 4, 1982	99 14	144,860	142,292	71.644	3,769.38	213.21		3,556.17	49.68	5 %	177.97	177.97	
Mar. 4, 1982	99 14	27,040	26,284	12.192	694.08	37.40		656.68	49.75	5 %	32.82	32.82	
Mar. 4, 1982	99 15	187,980	184,632	77.316	3,236.53	201.14		3,035.39	39.26	5 %	151.77	151.77	
Mar. 4, 1982	99 16	147,180	143,128	71.564	3,673.31	192.82		3,480.49	48.82	5 %	173.97	173.97	
Mar. 10, 1982	99 17	180,680	97,978	48.989	2,623.28	145.14		2,478.14	50.79	5 %	124.41	124.41	
Mar. 10, 1982	99 18	114,020	114,388	57.194	2,126.04	169.30		2,956.74	51.87	5 %	148.34	148.34	
Mar. 10, 1982	99 19	181,760	99,764	49.893	2,832.71	131.77		2,700.94	48.13	5 %	130.05	130.05	
Mar. 19, 1982	99 20	113,080	118,488	58.239	2,285.24	148.77		2,136.47	38.68	5 %	106.72	106.72	
Mar. 18, 1982	99 21	172,400	168,744	84.373	4,839.78	219.10		4,620.68	46.38	5 %	191.63	191.63	
Mar. 18, 1982	99 22	157,960	158,592	77.794	2,577.90	202.24		3,374.64	47.23	5 %	163.73	163.73	
Mar. 19, 1982	99 23	137,760	134,640	67.380	3,488.91	197.85		3,291.06	48.89	5 %	164.97	164.94	.01
Mar. 23, 1982	99 24	137,600	134,298	67.149	3,071.93	189.07		2,882.86	43.07	5 %	144.59	144.59	
Mar. 20, 1982	99 25	129,340	123,192	61.596	2,848.45	161.17		2,687.28	43.63	5 %	134.36	134.36	
Mar. 20, 1982	99 26	129,180	122,940	61.470	3,343.17	180.84		3,162.33	51.46	5 %	158.16	158.16	
Mar. 28, 1982	99 27	126,780	124,148	62.671	3,389.70	198.18		3,191.52	51.38	5 %	159.98	159.97	.01
Mar. 28, 1982	99 28	161,780	158,270	79.126	4,818.15	209.96		4,608.19	48.88	5 %	198.26	198.26	
Mar. 27, 1982	99 29	128,880	123,214	76.697	4,684.43	224.75		4,459.68	50.22	5 %	222.98	222.98	
Mar. 27, 1982	99 30	287,280	281,398	125.694	6,091.56	334.09		5,757.47	48.79	5 %	287.77	287.77	
Mar. 28, 1982	99 31	118,880	112,214	56.187	3,398.99	189.94		3,209.05	57.80	5 %	161.30	161.30	
Mar. 31, 1982	99 32	161,980	158,978	79.488	3,893.01	218.11		3,674.90	43.78	5 %	174.80	174.80	
Mar. 31, 1982	99 33	129,040	126,184	68.657	2,741.19	154.37		2,586.82	57.97	5 %	129.24	129.24	
Mar. 31, 1982	99 34	120,940	128,846	64.423	2,941.84	167.84		2,774.00	43.88	5 %	128.64	128.64	
Mar. 31, 1982	99 35	113,280	111,082	55.541	2,584.73	146.02		2,438.71	42.47	5 %	117.94	117.94	
Apr. 5, 1982	99 36	117,840	114,338	56.119	3,182.51	137.44		1,945.07	33.81	5 %	98.25	98.25	
Apr. 5, 1982	99 37	130,660	147,888	73.944	3,519.51	194.21		3,325.30	44.94	5 %	166.17	166.17	
Apr. 5, 1982	99 38	148,380	144,998	72.499	2,932.87	147.38		1,075.49	26.87	5 %	93.77	93.77	
Apr. 16, 1982	99 39	142,320	138,834	69.912	2,488.20	161.92		2,326.28	51.20	5 %	116.41	116.41	.01
Totals Forward		5,898,960	5,470,348	2,735,124	\$ 116,642.71	\$ 6,811.71		\$ 109,831.00		\$ 5,491.55	\$ 5,491.55	\$.03	

CHIEF CONSOLIDATED MINING COMPANY

EXPLORATION CONTRACT ID#-84, BOCKEY DMS 1 AND 1A

SCHEDULE NO. 1

Date	Lot No.	Gross Weight	Dry Weight		Proceeds	Deductions		Net Proceeds	Net Value		Royalty	Royalties	Royalties	Balance
		Pounds	Pounds	Tons	Net of Treatment Charge	Allowed	Disallowed		For Ton	Percent			Received	Royalties Due
Totals Forward		5,590,960	5,478,248	2,739.124	\$ 116,642.71	\$ 6,811.71	\$	\$ 109,831.00	\$		\$ 5,491.32	\$ 5,491.32	\$ 5,491.32	\$.03
Apr. 3, 1932	GP- 40	129,300	127,710	63.858	2,924.00	166.81		2,757.19	43.30	5 X	137.91	137.91	137.91	
Apr. 14, 1932	GP- 41	142,700	141,274	70.637	2,892.23	184.38		2,707.85	38.31	5 X	138.29	138.29	138.29	
Apr. 14, 1932	GP- 42	116,360	114,290	57.145	2,393.23	149.82		2,243.41	39.25	5 X	112.17	112.17	112.17	
Apr. 23, 1932	GP- 43	84,660	83,188	41.594	1,131.07	84.48		1,046.59	25.11	5 X	52.23	52.23	52.23	
Apr. 25, 1932	GP- 44	161,760	157,960	78.980	2,823.68	138.46		1,887.22	23.89	5 X	94.36	94.36	94.36	
Apr. 25, 1932	GP- 45	290,440	284,840	142.420	7,957.54	413.55		7,543.99	52.60	5 X	377.19	377.19	377.19	
Apr. 25, 1932	GP- 46	157,380	154,830	77.415	3,445.87	207.53		3,238.34	42.09	5 X	162.92	162.92	162.92	
Apr. 30, 1932	GP- 47	135,600	132,380	66.175	2,424.90	154.68		2,270.22	34.05	5 X	113.51	113.51	113.51	
Apr. 28, 1932	GP- 48	127,020	124,138	62.049	2,423.38	143.37		2,280.01	36.83	5 X	114.30	114.30	114.30	
Apr. 30, 1932	GP- 49	236,340	233,978	116.989	4,764.61	298.12		4,466.49	38.15	5 X	223.32	223.32	223.32	
May 3, 1932	GP- 50	124,380	123,136	61.568	2,279.50	144.52		2,134.98	34.53	5 X	106.30	106.30	106.30	
May 6, 1932	GP- 51	136,800	137,412	68.706	2,457.54	160.11		2,297.43	33.44	5 X	114.87	114.87	114.87	
May 6, 1932	GP- 52	150,860	148,798	74.379	2,384.33	172.98		2,211.35	29.36	5 X	109.19	109.19	109.19	
May 3, 1932	GP- 53	153,220	151,182	75.591	2,481.67	171.71		2,309.96	33.20	5 X	125.00	125.00	125.00	
May 6, 1932	GP- 54	113,840	112,434	56.212	2,407.90	150.36		2,257.54	48.16	5 X	112.88	112.87	112.87	.01
May 2, 1932	GP- 55	127,280	125,816	62.908	2,372.07	143.65		2,228.42	38.43	5 X	111.42	111.42	111.42	
May 3, 1932	GP- 56	121,040	119,830	59.925	2,386.74	155.63		2,231.11	39.57	5 X	115.54	115.54	115.54	
May 5, 1932	GP- 57	143,580	142,144	71.072	2,178.81	187.47		2,991.34	41.98	5 X	148.17	148.17	148.17	
May 17, 1932	GP- 58	128,240	123,988	61.994	2,394.01	164.80		2,229.21	39.18	5 X	121.46	121.46	121.46	
May 19, 1932	GP- 59	330,340	317,038	158.519	8,304.05	383.34		4,920.71	31.24	5 X	247.59	247.59	247.59	
May 20, 1932	GP- 60	172,540	169,384	84.692	4,364.26	245.92		4,118.34	48.43	5 X	205.92	205.92	205.92	
May 20, 1932	GP- 61	308,700	305,614	152.807	6,382.19	391.55		5,990.64	39.91	5 X	298.03	298.03	298.03	
May 20, 1932	GP- 62	153,960	151,512	75.754	2,585.93	172.51		2,413.42	31.13	5 X	117.92	117.92	117.92	
May 20, 1932	GP- 63	134,200	132,344	66.162	2,217.00	158.14		2,058.86	31.11	5 X	103.09	103.09	103.09	
May 22, 1932	GP- 64	91,820	90,902	45.451	1,704.50	104.30		1,599.20	35.16	5 X	79.91	79.91	79.91	
May 22, 1932	GP- 65	146,760	144,956	72.478	2,630.01	165.72		2,464.29	34.00	5 X	123.21	123.21	123.21	
May 23, 1932	GP- 66	259,160	254,080	127.040	3,282.83	331.32		4,951.51	38.93	5 X	247.58	247.58	247.58	
May 23, 1932	GP- 67	166,800	165,050	82.525	3,114.66	191.39		2,923.27	35.42	5 X	146.16	146.16	146.16	
May 23, 1932	GP- 68	120,120	117,982	58.991	2,387.16	134.91		2,252.25	37.64	5 X	111.61	111.61	111.61	
May 23, 1932	GP- 69	118,380	108,084	54.042	2,191.67	136.18		2,055.49	38.22	5 X	103.27	103.27	103.27	
May 28, 1932	GP- 70	131,880	127,686	63.843	2,512.16	154.88		2,357.28	34.92	5 X	117.84	117.84	117.84	
May 29, 1932	GP- 71	261,260	258,512	127.754	4,578.14	289.58		4,288.56	33.57	5 X	214.43	214.43	214.43	
May 28, 1932	GP- 72	261,440	263,742	174.871	6,333.75	397.90		5,935.85	33.54	5 X	296.79	296.79	296.79	
June 3, 1932	GP- 73	224,880	220,946	110.473	3,113.46	215.46		2,898.00	25.23	5 X	144.90	144.90	144.90	
May 29, 1932	GP- 74	227,620	223,022	111.511	4,391.78	253.17		4,138.61	37.11	5 X	204.93	204.93	204.93	
June 3, 1932	GP- 75	381,980	294,986	147.478	4,724.84	323.51		4,401.33	29.81	5 X	219.83	219.83	219.83	
June 3, 1932	GP- 76	146,940	142,680	71.340	1,947.44	147.22		1,800.22	25.23	5 X	90.01	90.01	90.01	
June 4, 1932	GP- 77	258,860	249,620	124.810	3,117.35	208.97		2,908.38	23.29	5 X	148.41	148.41	148.41	
June 6, 1932	GP- 78	204,640	201,412	100.804	1,715.72	148.01		1,567.71	15.58	5 X	78.39	78.39	78.39	
June 6, 1932	GP- 79	150,520	147,440	73.720	2,282.68	145.07		2,137.61	28.99	5 X	105.28	105.28	105.28	
Totals Forward		12,623,040	12,386,898	6,193.449	\$ 244,637.62	\$ 14,882.95		\$ 229,754.67			\$11,487.72	\$11,487.68	\$ 11,487.68	\$.04

STATEMENT OF ROYALTY PAYMENTS RECEIVED

CHIEF CONSOLIDATED MININGS COMPANY

EXPLORATION CONTRACT KIM-54, DOCKET DMA 1 AND 1A

SCHEDULE NO. 1

Date	Lot No.	Gross Weight	Dry Weight		Proceeds		Deductions		Net Proceeds	Net Value		Royalty	Royalties	Royalties Received	Balance
		Pounds	Pounds	Tons	Treatment Charge	Assessment	Allowed	Disallowed		Per Ton	Pounds		Per Ton		
Totals Forward		12,423,040	12,354,898	6,192.449	\$ 244,437.42	\$ 14,822.98	\$	\$	\$ 229,754.57	\$		\$11,487.72	\$11,487.72	\$11,487.72	\$.04
June 6, 1952	GP-80	273,960	271,239	135.619	4,088.11	264.96			3,748.15	27.36		\$	187.01	187.01	
June 6, 1952	GP-81	264,280	261,438	130.719	3,919.47	288.99			3,443.48	28.00		\$	183.17	183.17	
June 6, 1952	GP-82	99,920	98,922	49.461	1,427.17	123.07			1,308.10	20.41		\$	75.21	75.21	
June 6, 1952	GP-83	95,500	93,962	46.981	1,384.93	103.33			1,158.40	24.36		\$	87.67	87.67	
June 17, 1952	GP-84	328,720	273,954	136.977	5,182.82	318.28			4,872.34	38.57		\$	242.61	242.61	
June 9, 1952	GP-85	342,340	239,674	119.837	3,839.70	277.89			3,562.61	29.73		\$	178.13	178.13	
June 9, 1952	GP-86	276,500	270,168	135.084	3,744.39	267.32			3,477.07	23.74		\$	173.85	173.85	
June 17, 1952	GP-87	232,660	243,612	122.806	2,078.61	176.16			1,902.45	18.49		\$	95.12	95.12	
June 17, 1952	GP-88	312,260	307,829	153.764	8,035.14	349.23			4,489.87	30.47		\$	234.29	234.29	
June 17, 1952	GP-89	132,860	131,346	65.673	2,088.98	138.16			1,957.82	28.44		\$	93.39	93.39	
June 17, 1952	GP-90	148,100	140,296	70.148	1,053.06	103.14			989.92	13.56		\$	47.85	47.85	
June 20, 1952	GP-91	341,560	237,938	118.969	2,998.14	170.61			2,827.93	23.77		\$	141.38	141.38	
June 23, 1952	GP-92	243,580	260,238	130.119	2,801.85	218.36			2,583.90	19.85		\$	129.18	129.17	.01
June 23, 1952	GP-93	149,160	147,182	73.591	1,515.22	122.23			1,392.99	18.94		\$	69.65	69.65	
June 23, 1952	GP-94	142,980	141,380	70.675	1,391.99	106.73			1,284.86	18.18		\$	64.24	64.24	
June 23, 1952	GP-95	240,340	255,778	127.889	2,871.36	212.13			2,659.23	20.79		\$	132.96	132.96	
June 23, 1952	GP-96	140,440	137,982	68.991	1,837.85	141.19			1,696.66	24.99		\$	84.83	84.83	
July 1, 1952	GP-97	249,940	243,392	122.696	2,645.82	204.08			2,441.74	19.90		\$	122.08	122.08	
July 1, 1952	GP-98	110,080	108,888	54.429	1,884.82	84.70			920.22	14.91		\$	46.01	46.01	
July 1, 1952	GP-99	127,220	125,720	62.860	1,127.21	96.17			1,031.04	16.40		\$	81.85	81.85	
July 1, 1952	GP-100	141,040	139,480	69.740	1,383.88	105.43			1,278.45	18.33		\$	63.92	63.92	
July 2, 1952	GP-101	412,080	404,780	202.375	3,784.88	286.33			3,418.55	16.89		\$	170.93	170.92	.01
July 3, 1952	GP-102	117,120	115,306	57.653	884.85	64.47			797.38	13.83		\$	39.88	39.88	
July 7, 1952	GP-103	111,860	109,658	54.829	848.19	65.13			783.06	14.37		\$	39.15	39.15	
July 16, 1952	GP-104	117,820	115,880	57.928	1,317.85	108.45			1,212.45	20.93		\$	60.63	60.63	
July 16, 1952	GP-105	115,280	113,382	56.775	1,042.11	82.18			959.93	17.68		\$	48.80	48.80	
July 16, 1952	GP-106	133,080	131,044	65.522	996.92	100.10			896.82	13.89		\$	44.84	44.84	
July 16, 1952	GP-107	286,060	280,682	140.341	2,244.19	210.52			2,033.67	14.49		\$	101.68	101.68	
July 16, 1952	GP-108	288,040	301,688	150.829	2,134.35	173.39			1,960.96	19.45		\$	98.05	98.05	
July 16, 1952	GP-109	38,140	34,798	17.395	389.84	42.15	3.75		357.71	20.96		\$	17.89	17.70	.19
Dec. 15, 1952	GP-110	857,980	543,814	271.907	3,681.84	327.86			3,354.78	12.31		\$	167.74	167.74	
Jan. 2, 1953	GP-111	129,780	126,486	63.243	2,198.44	147.36			2,051.28	32.46		\$	102.56	102.56	
Jan. 9, 1953	GP-112	108,860	108,812	54.406	823.17	77.88			748.09	14.14		\$	37.40	37.40	
Jan. 13, 1953	GP-113	110,340	106,802	53.401	1,189.12	78.83			1,031.09	19.42		\$	51.85	51.85	
Jan. 16, 1953	GP-114	489,360	458,948	229.474	7,377.13	514.83			4,862.30	29.90		\$	343.12	343.12	
Jan. 29, 1953	GP-115	594,140	574,366	287.178	9,912.24	449.57			9,462.67	32.38		\$	463.13	463.13	
Feb. 18, 1953	GP-116	603,640	596,980	298.490	8,194.56	566.89			7,627.67	23.56		\$	381.30	381.30	
Feb. 24, 1953	GP-117	589,840	572,194	286.097	2,984.86	340.89			2,643.97	9.34		\$	46.10		
Mar. 11, 1953	GP-118	608,460	590,082	295.041	4,973.51	396.76			4,576.75	15.51		\$	238.04	308.93	.02
Mar. 14, 1953	GP-119	282,680	284,424	142.212	845.82	114.94			731.88	7.16		\$	10.97		
Totals Forward		22,338,740	21,988,184	10,994.882	\$ 383,481.25	\$ 23,107.14	\$ 3.75	\$	\$ 358,574.11			\$16,436.98	\$16,436.79	\$.23	

CHIEF CONSOLIDATED MINING COMPANY

EXPLORATION CONTRACT EDM-24, DOCKET DMA 1 AND 1A

SCHEDULE NO. 1

Date	Lot No.	Gross Weight		Dry Weight		Proceeds Net of Treatment Charge	Deductions		Net Proceeds	Net Value		Royalty Payable	Royalties Received	Royalties Balance Due
		Pounds	Pounds	Pounds	Pounds		Allowed	Disallowed		Per Ton	Per Ton			
Totals Forward		22,336,740	21,908,184	19,984,082	\$ 363,681.25	\$ 21,187.14	\$ 3.75	\$ 230,874.11	\$	\$16,435.98	\$16,435.98	\$.23		
Mar. 26, 1953	GP-120	119,640	116,878	238,439	3,630.08	201.38		3,318.70	12.99	5 X	183.94	183.94		
Apr. 7, 1953	GP-121	348,040	326,688	278,349	4,298.30	378.75		3,838.55	13.97	5 X	194.43	194.43		
Apr. 12, 1953	GP-122	194,360	189,968	94,984	836.08	187.20		728.88	7.67	1 X	10.93	10.93		
May 3, 1953	GP-123	389,200	379,386	288,798	4,847.22	360.64		3,894.68	12.72	5 X	184.38	184.38		
May 5, 1953	GP-124	821,180	810,060	238,030	2,994.88	318.24		2,784.64	10.92	4 X	111.36	128.28		
United States Smelting, Refining and Mining Company														
Apr. 20, 1953	1 USMP	187,180	184,072	32,036	434.09	56.68		367.41	7.06	1 X	5.51	5.51		
Apr. 20, 1953	2 USMP	349,340	329,488	168,748	2,861.30	236.81		2,625.89	15.47	5 X	131.89	131.89		
Apr. 20, 1953	3 USMP	287,180	282,126	181,848	1,681.69	140.36		1,541.33	13.25	5 X	77.87	77.07		
Apr. 20, 1953	4 USMP	96,340	94,126	47,863	883.84	73.18		810.69	17.23	5 X	40.53	40.53		
Apr. 20, 1953	5 USMP	225,620	220,682	118,316	2,030.92	182.37		1,878.58	17.83	5 X	93.93	93.93		
Apr. 20, 1953	6 USMP	88,020	87,822	42,916	368.79	56.29		302.50	6.89	1 X	4.54	4.54		
Consolidated Metals Refining Company														
May 18, 1953	GP-125	387,840	319,388	288,738	4,166.38	346.88		3,819.59	14.70	5 X	190.98	190.98		
May 20, 1953	GP-126	832,340	824,978	362,489	8,712.34	448.88		8,272.76	20.09	5 X	262.64	262.64		
May 20, 1953	GP-127	384,180	203,418	181,789	1,486.23	138.32		1,378.11	12.54	5 X	63.76	63.76		
May 20, 1953	GP-128	887,940	830,280	360,180	5,112.82	431.16		4,682.66	18.00	5 X	234.12	234.12		
May 22, 1953	GP-129	388,200	343,740	272,878	3,788.88	338.72		3,426.13	12.56	5 X	171.31	171.31		
May 20, 1953	GP-130	854,340	844,378	272,188	2,964.54	348.96		3,563.88	13.09	5 X	178.18	178.18		
June 2, 1953	GP-131	848,200	834,778	267,386	4,982.91	418.88		4,485.32	16.66	5 X	222.77	222.77		
June 2, 1953	GP-132	821,400	812,340	284,920	4,388.27	382.88		3,982.34	15.38	5 X	197.62	197.62		
June 2, 1953	GP-133	836,300	825,778	282,888	4,884.93	398.88		4,491.11	17.08	5 X	224.36	224.36		
June 9, 1953	GP-134	814,320	807,646	283,822	3,854.30	326.11		3,528.19	13.90	5 X	176.41	176.41		
June 9, 1953	GP-135	493,780	483,786	241,878	2,881.88	247.80	3.43	2,644.13	10.93	4 X	185.77	118.74	12.97	
June 24, 1953	GP-136	624,920	616,878	288,326	4,188.63	433.33		3,736.49	12.12	5 X	186.82	186.82		
June 29, 1953	GP-137	539,440	531,294	268,647	3,488.97	322.84		3,096.98	11.66	5 X	154.85	154.85		
June 24, 1953	GP-138	529,580	520,206	260,103	4,331.24	388.83		3,942.41	15.16	5 X	197.12	197.12		
June 24, 1953	GP-139	549,680	537,128	268,864	4,312.41	311.20		3,982.71	14.82	5 X	199.11	198.76	.35	
July 3, 1953	GP-140	541,980	538,188	267,888	2,968.91	276.66	3.68	2,692.25	10.06	3 X	94.23	107.54		
July 6, 1953	GP-141	498,320	488,426	244,712	2,781.14	248.33	9.64	2,492.81	10.02	3 X	85.85	85.51	.34	
July 6, 1953	GP-142	818,840	812,880	284,586	4,488.79	312.64		4,144.13	16.15	5 X	282.21	287.21		
July 18, 1953	GP-143	884,540	819,296	288,648	5,121.68	388.20		4,746.48	18.28	5 X	237.32	237.32		
July 20, 1953	GP-144	686,460	679,396	288,738	3,813.94	404.63		3,399.31	15.86	5 X	269.47	269.47		
July 28, 1953	GP-145	813,740	808,300	284,280	3,382.39	381.41		3,010.98	19.71	5 X	230.35	230.35		
July 22, 1953	GP-146	538,880	527,842	263,921	2,811.81	487.88		3,373.48	20.36	5 X	268.87	268.87		
July 23, 1953	GP-147	508,740	503,348	251,674	4,673.87	371.80		4,298.77	17.06	5 X	214.69	214.69		
July 22, 1953	7525	608,880	593,824	296,887	2,884.67	388.76		2,495.91	11.77	5 X	174.30	174.30		
July 20, 1953	7526	578,780	546,288	288,129	4,814.30	474.16		4,082.64	14.43	5 X	282.13	282.13		
United States Smelting, Refining and Mining Company														
July 22, 1953	85-1	821,380	821,684	422,842	4,086.72	467.82		3,389.12	13.44	5 X	268.46	268.46		
Totals Forward		39,571,788	39,143,872	19,961,386	\$ 488,378.74	\$ 34,980.62	822.95	\$ 488,378.12			\$22,497.65	\$22,536.93	\$39.28	

STATEMENT OF ROYALTY PAYMENTS RECEIVED
CHIEF CONSOLIDATED MINING COMPANY
EXPLORATION CONTRACT ID#-64, BOCKET DMS 1 AND 1A

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SCHEDULE NO. 1

Date	Lot No.	Gross Weight Pounds	Dry Weight Pounds	Proceeds Net of Deductions	Net of Deductions	Net of Deductions	Net of Deductions	Net Value Per Ton	Royalty Percent	Royalties Received	Royalties Due	Balance Royalties Due
Totals Forward		39,871,760	39,163,072	19,881,336	\$ 490,375.74	\$ 34,980.42	\$22.80	\$ 455,395.12		\$22,497.66	\$22,526.93	39.26
Aug. 3, 1963	2-CPU	360,980	351,444	275,722	6,966.47	513.03		6,453.44	23.37	332.17	332.17	
Aug. 5, 1963	3-CPU	581,948	568,446	382,823	1,482.36	486.88		2,975.78	10.32	119.03	148.79	29.76
Aug. 10, 1963	4-CPU	468,760	462,718	236,389	6,111.69	417.17		5,694.52	25.16	284.73	284.73	
Aug. 12, 1963	5-CPU	578,160	564,384	282,142	2,080.39	282.91		1,714.48	6.08	25.79	25.79	
Aug. 5, 1963	6-CPU	114,980	110,236	55,113	1,749.29	125.47		1,623.82	29.46	81.19	81.19	
Aug. 10, 1963	7-CPU	129,120	126,796	62,998	1,657.86	124.71		1,533.15	24.18	76.64	76.64	
Aug. 14, 1963	8-CPU	389,940	374,812	287,006	1,890.47	388.88		1,501.59	4.88	21.01	21.01	
Aug. 14, 1963	9-CPU	123,140	121,962	65,981	2,335.72	148.06		2,187.66	23.28	109.78	109.78	
Aug. 24, 1963	10-CPU	688,000	648,498	322,749	3,714.84	483.48		3,231.36	10.26	118.98	168.87	49.89
Aug. 18, 1963	11-CPU	384,808	347,358	173,678	4,793.43	321.48		4,471.95	25.74	223.80	223.80	
Aug. 24, 1963	12-CPU	384,348	278,884	138,042	1,060.89	148.19		912.70	6.89	12.74	12.74	
Aug. 14, 1963	13-CPU	103,800	102,140	51,070	1,988.28	110.71		1,877.57	28.93	72.88	72.88	
Aug. 27, 1963	14-CPU	562,800	584,634	277,312	9,278.84	968.08		8,310.76	31.41	438.49	438.49	
Aug. 27, 1963	15-CPU	606,860	597,788	298,879	3,275.71	376.66		2,899.05	9.78	86.97	118.96	31.99
Sept. 10, 1963	16-CPU	351,488	346,388	173,184	1,699.88	218.79		1,481.09	8.84	29.62	29.62	
Aug. 24, 1963	17-CPU	128,388	127,888	68,778	2,446.33	148.39		2,297.94	32.46	118.06	118.06	
Sept. 1, 1963	18-CPU	831,488	824,812	262,284	4,660.29	423.95		4,236.34	16.12	211.32	78.48	132.84
Aug. 28, 1963	19-CPU	116,368	113,984	56,967	1,438.00	109.38		1,328.62	22.27	66.38	66.38	
Sept. 1, 1963	20-CPU	834,888	829,174	264,687	5,112.79	477.81		4,634.98	17.51	231.75	282.76	51.01
Sept. 8, 1963	21-CPU	368,868	360,178	275,688	5,623.11	487.11		5,136.00	16.68	238.30	238.30	
Sept. 14, 1963	22-CPU	348,868	338,340	279,770	5,088.15	511.26		4,576.89	27.08	378.84	378.84	
Sept. 2, 1963	23-CPU	128,448	120,972	68,486	1,537.86	115.71		1,422.15	22.51	71.09	71.09	
Sept. 14, 1963	24-CPU	618,788	604,638	308,319	6,898.98	548.23		6,350.75	28.99	317.33	317.33	
Sept. 14, 1963	25-CPU	112,468	112,068	56,034	1,913.24	120.56		1,792.68	32.03	89.73	89.73	
Sept. 14, 1963	26-CPU	858,100	846,944	423,472	3,040.53	417.99		2,622.54	6.19	39.34	39.34	
Sept. 14, 1963	27-CPU	541,760	530,924	265,462	5,927.77	484.10		5,443.67	20.51	272.18	272.18	
Sept. 17, 1963	28-CPU	376,080	368,182	184,091	1,538.08	181.13		1,356.95	7.32	20.22	20.22	
Sept. 17, 1963	29-CPU	Price on Silver			52.79	-		52.79	-	2.49	2.49	
Sept. 17, 1963	30-CPU	389,388	388,482	182,781	2,211.15	193.39		2,017.76	19.67	188.99	188.99	
Sept. 18, 1963	31-CPU	538,148	523,988	261,981	5,372.82	488.27		4,884.55	15.87	244.82	244.82	
Sept. 25, 1963	32-CPU	580,468	511,612	238,806	5,720.08	489.34		5,230.74	23.57	263.04	263.04	
Sept. 28, 1963	33-CPU	226,388	214,274	287,137	5,884.44	481.86		5,402.58	20.12	288.44	288.44	
Sept. 28, 1963	34-CPU	483,088	472,924	226,988	4,437.49	400.41		4,037.08	16.91	288.34	288.34	
Oct. 2, 1963	35-CPU	567,488	557,482	272,722	4,514.47	471.87		4,042.60	15.89	217.27	217.27	
Oct. 5, 1963	36-CPU	588,488	548,482	274,821	4,422.89	384.93		4,037.96	21.83	295.79	295.79	
Oct. 5, 1963	37-CPU	562,488	551,714	275,887	5,888.84	584.28		5,304.56	18.14	288.23	288.23	
Oct. 6, 1963	38-CPU	582,988	580,312	188,286	2,489.64	188.63		2,300.99	24.17	121.15	121.15	
Oct. 6, 1963	39-CPU	512,948	504,288	282,118	4,817.82	488.72		4,329.10	17.29	217.96	217.96	
Oct. 9, 1963	40-CPU	588,388	581,482	288,716	4,661.89	437.43		4,224.46	16.38	211.21	211.21	
Oct. 15, 1963	41-CPU	582,488	516,214	237,187	4,386.28	431.82		3,954.46	15.38	187.72	187.72	
Totals Forward		54,789,068	53,738,846	27,889,433	\$ 648,964.38	\$ 48,483.98	\$22.80	\$ 600,480.40		\$29,140.06	\$29,126.93	\$13.13

CHIEF CONSOLIDATED MINING COMPANY

EXPLORATION CONTRACT ID#-E4, DOCKET DMA 1 AND 1A

SCHEDULE NO. 1

Date	Lot No.	Gross Weight Pounds	Dry Weight Pounds	Tons	Proceeds Net of Treatment Charges	Deductions Allowed Disallowed	Net Proceeds	Net Value Per Ton	Royalty Percent	Royalties Due	Royalties Received	Balance Royalties Due
Totals Forward		34,739,840	35,732,844	27,869.433	\$ 645,944.95	\$ 42,483.95 322.50	\$ 597,462.40			\$29,140.66	\$29,126.93	\$13.13
Oct. 23, 1953	41-GPU	607,820	594,793	298.350	4,844.89	496.68	4,348.21	14.86	5 X	218.47	218.47	
Oct. 16, 1953	42-GPU	525,820	520,814	249.407	3,499.80	477.59	3,022.21	19.29	5 X	251.11	251.11	
Oct. 19, 1953	43-GPU	539,820	531,474	265.737	5,290.82	486.69	4,804.13	18.08	5 X	240.26	240.26	
Oct. 23, 1953	44-GPU	979,888	968,862	284.431	6,302.99	523.67	5,779.32	20.32	5 X	288.97	288.97	
Oct. 28, 1953	45-GPU	499,128	490,634	245.217	5,988.19	446.55	5,541.64	22.99	5 X	277.08	277.08	
Oct. 30, 1953	46-GPU	502,960	497,930	248.965	5,798.44	449.93	5,348.51	21.44	5 X	264.93	264.93	
Nov. 2, 1953	47-GPU	519,840	509,716	254.888	5,431.02	448.11	4,982.91	19.47	5 X	248.15	248.15	
Nov. 9, 1953	48-GPU	498,480	488,462	242.731	3,844.81	372.36	3,472.45	14.73	5 X	178.72	178.72	
Nov. 9, 1953	49-GPU	491,920	481,990	240.795	3,421.70	365.67	3,056.03	12.69	5 X	182.80	182.80	
Nov. 9, 1953	50-GPU	505,268	494,144	247.072	3,619.40	371.29	3,248.11	13.15	5 X	168.42	168.42	
Nov. 10, 1953	51-GPU	484,320	478,620	237.810	4,011.85	401.71	3,610.14	15.18	5 X	189.81	189.81	
Nov. 13, 1953	52-GPU	525,360	513,728	254.864	5,893.61	478.54	5,415.07	18.00	5 X	231.15	231.15	
Nov. 16, 1953	53-GPU	517,780	505,304	252.677	7,098.17	532.32	6,565.85	25.97	5 X	328.14	328.14	
Nov. 19, 1953	54-GPU	484,240	473,884	234.793	5,224.02	433.45	4,790.57	20.24	5 X	239.63	239.63	
Nov. 25, 1953	55-GPU	494,840	484,126	242.068	5,228.35	445.83	4,782.52	19.80	5 X	239.63	239.63	
Nov. 25, 1953	56-GPU	498,368	487,323	243.764	5,165.40	450.81	4,714.59	19.34	5 X	228.77	228.77	
Nov. 30, 1953	57-GPU	497,200	483,776	241.888	4,883.07	418.48	4,464.59	18.18	5 X	183.63	183.63	
Dec. 3, 1953	58-GPU	103,120	100,748	80.874	1,270.43	161.82	1,108.61	22.30	5 X	58.43	58.43	
Dec. 3, 1953	59-GPU	514,680	500,586	230.293	5,739.22	465.94	5,273.28	21.07	5 X	263.66	263.66	
Dec. 4, 1953	60-GPU	839,200	815,782	407.891	3,034.80	412.94	2,621.86	6.48	1 1/2 X	38.63	38.63	
Dec. 7, 1953	61-GPU	519,800	501,836	250.918	4,389.18	468.80	3,920.38	16.30	5 X	204.53	204.53	
Dec. 11, 1953	62-GPU	533,320	520,828	260.360	6,371.16	488.67	5,882.49	22.63	5 X	294.82	294.82	
Dec. 14, 1953	63-GPU	499,068	488,588	242.793	4,411.85	418.95	3,992.90	16.46	5 X	199.78	199.78	
Dec. 1, 1953	64-GPU	182,940	180,364	90.183	767.30	99.78	667.52	13.30	5 X	33.38	33.38	
Dec. 17, 1953	65-GPU	506,140	492,980	246.490	4,143.50	417.63	3,725.87	15.12	5 X	186.29	186.29	
Dec. 17, 1953	66-GPU	457,020	443,766	221.883	3,113.02	348.78	2,764.24	12.46	5 X	138.21	138.21	
Dec. 17, 1953	67-GPU	113,700	111,198	55.599	1,531.75	115.13	1,416.62	25.48	5 X	70.83	70.83	
Dec. 21, 1953	68-GPU	490,160	478,396	239.198	4,133.34	408.79	3,724.55	15.60	5 X	186.63	186.63	
Dec. 24, 1953	69-GPU	498,840	482,472	241.236	4,849.71	451.68	4,398.03	16.99	5 X	204.90	204.90	
Dec. 24, 1953	70-GPU	518,840	499,328	249.664	4,781.07	458.63	4,322.44	17.31	5 X	216.12	216.12	
Dec. 24, 1953	71-GPU	514,920	500,190	250.095	4,219.10	417.48	3,801.62	15.30	5 X	198.88	198.88	
Jan. 5, 1954	DMFA-1	168,980	154,830	77.813	381.37	86.50	294.87	8.29	1 1/2 X	6.22	6.22	
Jan. 5, 1954	72-GPU	513,120	502,788	251.894	5,695.32	464.64	5,230.68	20.77	5 X	261.53	261.53	
Jan. 5, 1954	73-GPU	529,300	515,538	257.769	5,722.47	473.13	5,249.34	20.26	5 X	262.47	262.47	
Jan. 5, 1954	74-GPU	549,220	534,940	267.470	6,528.94	493.67	6,035.27	22.58	5 X	301.91	301.91	
Jan. 15, 1954	75-GPU	493,840	479,804	239.912	4,484.92	403.76	4,081.16	16.91	5 X	202.56	202.56	
Jan. 18, 1954	76-GPU	611,620	593,272	296.636	1,764.92	303.93	1,461.00	4.93	1 1/2 X	21.92	21.92	
Jan. 18, 1954	77-GPU	324,840	314,318	157.159	3,749.81	296.26	3,453.55	21.97	5 X	172.67	172.67	
Jan. 18, 1954	78-GPU	538,640	517,986	258.843	5,141.02	484.87	4,656.15	17.89	5 X	232.85	232.85	
Jan. 18, 1954	79-GPU	512,320	495,342	248.171	4,144.86	432.52	3,712.34	15.80	5 X	186.10	186.10	
Totals Forward		73,978,840	74,482,877	27,241,288	\$ 822,383.90	\$ 64,564.97 322.50	\$ 757,818.93			\$26,998.60	\$26,985.32	\$13.13

CHIEF CONSOLIDATED MINING COMPANY

EXPLORATION CONTRACT 1944-54, DOCKNEY BMA 1 AND 1A

SCHEDULE NO. 1

Date	Lot No.	Gross Weight	Dry Weight		Proceeds	Deductions		Net Proceeds	Net Value	Royalty	Royalties	Royalties	Balance
		Pounds	Pounds	Tons	Treatment Charge	Allowed	Disallowed	Net Proceeds	Per Ton	Amount	Due	Received	Royalties Due
Totals Forward		73,970,060	74,482,577	37,341.388	\$ 822,383.90	\$ 64,366.97	\$22.80	\$ 757,816.93			\$36,998.65	\$36,998.52	\$13.13
Jan. 27, 1954	80-GPU	510,260	498,972	247.984	4,099.21	428.94		3,670.27	14.83	3 X	183.91	183.91	
Jan. 28, 1954	81-GPU	475,240	464,210	233.105	3,480.26	368.81		3,091.45	13.26	3 X	154.37	154.37	
Jan. 28, 1954	82-GPU	522,340	504,864	253.432	4,376.77	426.81		3,949.96	15.59	3 X	197.50	197.50	
Jan. 29, 1954	83-GPU	506,800	492,102	246.051	4,237.80	418.16		3,819.64	15.52	3 X	190.94	190.94	
Feb. 3, 1954	84-GPU	524,720	510,552	255.276	4,337.14	469.10		3,868.04	15.15	3 X	193.40	193.40	
Feb. 4, 1954	85-GPU	524,580	505,696	252.848	3,542.40	432.48		3,109.92	12.30	3 X	155.50	155.50	
Feb. 8, 1954	86-GPU	515,520	498,508	249.254	4,052.87	425.17		3,627.70	14.56	3 X	181.39	181.39	
Feb. 8, 1954	87-GPU	492,880	477,108	238.554	3,906.36	410.98		3,495.38	14.63	3 X	174.47	174.47	
Feb. 11, 1954	88-GPU	498,560	488,598	242.799	2,942.72	370.46		2,572.26	10.59	4 X	102.89	102.89	
Feb. 12, 1954	89-GPU	506,500	491,804	245.902	3,822.30	421.92		3,400.38	13.84	3 X	170.02	170.02	
Feb. 12, 1954	90-GPU	809,780	488,370	244.188	3,546.22	434.56		3,111.66	12.84	3 X	154.78	154.78	
Feb. 12, 1954	91-GPU	373,860	357,784	178.892	2,391.79	282.58		2,109.21	11.79	3 X	105.46	105.46	
Feb. 24, 1954 Correction	91-GPU (Adjustment on Treatment Charge)				72.34			72.34		3 X	3.67	3.67	
Feb. 24, 1954	92-GPU	524,820	509,188	254.594	3,849.46	429.61		3,419.85	13.43	3 X	170.99	170.99	
Feb. 28, 1954	93-GPU	522,100	507,482	253.741	4,251.95	426.46		3,775.49	14.88	3 X	188.77	188.77	
Feb. 28, 1954	94-GPU	538,380	520,280	260.195	4,441.53	437.13		4,004.40	13.39	3 X	200.22	200.22	
Feb. 24, 1954 Correction	84-GPU (Adjustment on Treatment Charge)				104.66			104.66		3 X	5.23	5.24	.01
Feb. 24, 1954 Correction	85-GPU (Adjustment on Treatment Charge)				103.67			103.67		3 X	5.18	5.18	
Feb. 24, 1954 Correction	86-GPU (Adjustment on Treatment Charge)				102.19	35.82		66.37		3 X	3.12	3.11	.01
Feb. 24, 1954 Correction	87-GPU (Adjustment on Treatment Charge)				97.81			97.81		3 X	4.89	4.89	
Feb. 24, 1954 Correction	88-GPU (Adjustment on Treatment Charge)				95.35			95.35		4 X	(4.48)	(4.48)	
Feb. 24, 1954 Correction	88-GPU (Above adjustment increased Royalty Rate from 4% to 4 1/2%. This part of adjustment equal 1/2% of \$2,572.76)										(12.86)	(12.86)	
Feb. 24, 1954 Correction	89-GPU (Adjustment on Treatment Charge)				100.71			100.71		3 X	5.04	5.04	
Feb. 24, 1954 Correction	90-GPU (Adjustment on Treatment Charge)				100.11			100.11		3 X	5.01	5.01	
Feb. 25, 1954	95-GPU	542,320	527,330	263.665	4,719.60	448.87		4,270.73	16.20	3 X	213.54	213.54	
Mar. 1, 1954	96-GPU	212,440	206,280	103.140	2,106.12	194.09		1,912.03	18.84	3 X	95.60	95.60	
Mar. 1, 1954	97-GPU	351,560	336,116	168.058	4,808.25	496.73		4,311.52	16.30	3 X	218.43	218.43	
Mar. 1, 1954	98-GPU	340,160	325,036	162.518	3,482.11	400.40		3,081.71	11.62	3 X	182.38	182.38	
Mar. 3, 1954	99-GPU	548,980	533,068	266.538	7,692.06	386.49		7,305.57	26.78	3 X	364.83	364.83	
Mar. 5, 1954	100-GPU	514,120	502,700	251.350	4,806.35	468.82		4,337.53	17.67	3 X	222.04	222.04	
Mar. 8, 1954	101-GPU	512,780	502,908	251.479	4,088.68	486.51		3,602.17	14.36	3 X	178.51	178.51	
Mar. 8, 1954	102-GPU	388,140	341,262	170.631	3,055.39	499.88		2,555.51	16.83	3 X	227.78	227.78	
Mar. 15, 1954 Correction	99-GPU (Adjustment Price of Silver)				295.18			295.18		3 X	14.66	14.66	
Mar. 15, 1954	103-GPU	505,300	493,874	246.937	3,990.50	482.17		3,508.33	14.33	3 X	176.93	176.93	
Mar. 15, 1954	104-GPU	495,520	484,124	242.062	3,565.87	413.11		3,152.76	13.02	3 X	157.62	157.62	
Mar. 15, 1954	105-GPU	498,660	488,596	244.298	3,148.03	483.62		2,664.41	19.18	3 X	234.32	234.32	
Mar. 15, 1954	106-GPU	298,760	292,784	146.392	2,349.39	267.82		2,081.57	14.36	3 X	108.13	108.13	
Mar. 15, 1954	107-GPU	364,020	494,948	247.474	4,208.72	484.87		3,723.85	15.49	3 X	191.69	191.69	
Mar. 28, 1954	108-GPU	337,880	323,636	161.813	3,757.02	444.69		3,312.33	12.60	3 X	165.62	165.62	
Mar. 19, 1954	109-GPU	229,240	224,882	112.441	2,527.67	211.28		2,316.39	20.60	3 X	115.81	115.81	
Totals Forward		90,566,040	88,673,281	44,336.640	\$ 943,139.81	\$ 76,988.42	\$22.80	\$ 866,151.39			\$42,402.02	\$42,388.89	\$13.13

STATEMENT OF ROYALTY PAYMENTS RECEIVED
CHIEF CONSOLIDATED MINING COMPANY
EXPLORATION CONTRACT IDN-24, DOCKET IDN 1 AND 1A
SCHEDULE NO. 1

Date	Lot No.	Gross Weight Pounds	Dry Weight Pounds	Tons	Proceeds Net of Treatment Chg.	Deductions Allowed	Disallowed	Net Proceeds	Net Value Per Ton	Roy. \$	Royalties Due	Royalties Received	Balance Royalties Due
Totals Forward		90,566,040	88,673,281	44,336.640	\$ 943,139.81	\$ 76,988.42	\$22.50	\$ 866,151.39			\$42,402.02	\$42,388.89	\$13.13
Mar. 22, 1954	110-GPU	587,060	570,036	285,018	6,162.09	524.00		5,638.09	19.78	3	281.90	281.90	
Mar. 23, 1954	111-GPU	719,540	702,272	351,136	8,195.51	644.67		7,550.84	21.50	3	377.54	377.54	
Mar. 29, 1954	112-GPU)	453,540	439,026	219,513	6,078.31	464.13		5,614.18	25.58	3	280.71	280.71	
Mar. 29, 1954	111-GPU)	Adjustment			28.22			28.22		3	1.41	1.41	
Mar. 24, 1954	113-GPU	560,760	547,862	273,931	7,502.97	569.26		6,933.71	25.31	3	346.69	346.69	
Mar. 26, 1954	114-GPU	673,000	658,866	329,433	7,155.28	599.68		6,555.60	19.90	3	327.78	327.78	
Mar. 29, 1954	115-GPU	544,540	530,926	265,463	2,779.40	339.12		2,440.28	9.19	2	61.01	61.01	
Mar. 26, 1954	116-GPU	535,440	523,124	261,562	4,122.22	441.17		3,681.05	14.07	3	184.05	184.05	
Mar. 31, 1954	117-GPU	522,820	509,226	254,613	4,779.09	467.42		4,311.67	16.93	3	215.58	215.58	
Mar. 29, 1954	118-GPU	518,940	502,334	251,167	4,639.05	472.00		4,167.05	16.59	3	208.35	208.35	
Mar. 31, 1954	119-GPU	519,520	502,376	251,188	3,375.97	381.57		2,994.40	11.92	3	149.72	149.72	
Apr. 5, 1954	120-GPU	543,200	525,818	262,909	3,260.07	402.65		2,857.42	10.87	4	114.30	114.30	
Apr. 5, 1954	121-GPU	509,080	492,790	246,395	3,969.42	417.99		3,551.43	14.41	3	177.57	177.57	
Apr. 5, 1954	122-GPU	549,640	528,204	264,102	3,863.81	452.58		3,411.23	12.92	3	170.56	170.56	
Mar. 24, 1954	1-INPA	111,440	109,546	54,773	1,438.34	118.34		1,320.00	24.10	3	66.00	66.00	
Mar. 30, 1954	2-INPA	154,620	149,982	74,991	1,766.79	187.17		1,619.62	21.60	3	80.98	80.98	
Apr. 8, 1954	123-GPU	550,220	534,264	267,132	4,827.08	495.55		4,331.53	16.21	3	216.58	216.58	
Apr. 8, 1954	124-GPU	529,500	514,144	257,072	3,910.07	436.40		3,473.67	13.51	3	173.68	173.68	
Apr. 9, 1954	125-GPU	566,960	552,220	276,110	5,193.63	506.29		4,687.34	16.98	3	234.37	234.37	
Apr. 7, 1954	3-INPA	136,260	133,534	66,767	1,501.59	127.00		1,374.59	20.59	3	68.73	68.73	
Apr. 15, 1954	126-GPU	530,620	516,824	258,412	4,444.69	441.30		4,003.39	15.49	3	200.17	200.17	
Apr. 12, 1954	127-GPU	539,400	526,994	263,497	5,749.50	482.03		5,267.47	19.99	3	263.37	263.37	
Apr. 12, 1954	128-GPU	104,480	101,554	50,777	974.41	99.01		875.40	17.24	3	43.77	43.77	
Apr. 16, 1954	129-GPU	556,320	544,080	272,040	6,942.46	496.92		6,445.54	23.69	3	322.28	322.28	
Apr. 26, 1954	130-GPU	555,120	542,352	271,176	5,719.10	495.87		5,223.23	19.28	3	261.16	261.16	
Apr. 21, 1954	131-GPU	502,660	492,104	246,052	5,041.61	449.66		4,591.95	18.66	3	229.60	229.60	
Apr. 26, 1954	132-GPU	557,180	546,594	273,297	5,476.87	501.68		4,975.19	18.20	3	248.76	248.76	
Apr. 28, 1954	133-GPU	525,460	516,528	258,264	4,798.55	433.16		4,365.39	16.90	3	218.27	218.27	
Apr. 29, 1954	134-GPU	497,220	487,276	243,638	2,531.40	310.60		2,220.80	9.12	2	55.52	55.52	
May 5, 1954	135-GPU	546,260	536,974	268,487	4,158.86	449.86		3,709.00	13.81	3	185.45	185.45	
May 5, 1954	136-GPU	530,820	526,574	263,287	6,195.14	478.47		5,716.67	21.71	3	285.83	285.83	
Apr. 21, 1954	4-INPA	352,460	326,808	163,404	6,464.26	395.66		6,068.60	37.14	3	303.43	303.43	
Apr. 26, 1954	5-INPA	164,760	160,806	80,403	2,490.08	173.61		2,316.47	28.81	3	115.82	115.82	
Apr. 26, 1954	6-INPA	182,720	180,344	90,172	4,304.81	220.61		4,084.20	45.29	3	204.21	204.21	
Apr. 26, 1954	7-INPA	185,560	182,592	91,296	3,817.09	227.93		3,589.16	39.51	3	179.46	179.46	
Apr. 28, 1954	8-INPA	141,840	139,854	69,927	2,018.79	152.71		1,866.08	26.69	3	93.30	93.30	
May 3, 1954	9-INPA	155,840	153,190	76,595	2,517.68	162.69		2,354.99	30.75	3	117.75	117.75	
May 6, 1954	10-INPA	156,740	154,702	77,351	2,597.45	171.60		2,425.85	31.36	3	121.29	121.29	
May 7, 1954	137-GPU	795,740	779,090	389,545	4,175.60	488.48		3,687.12	9.47	2	92.18	92.18	
May 7, 1954	138-GPU	291,200	289,452	144,726	3,466.19	267.45		3,198.74	23.10	3	159.94	159.94	
Totals Forward		107,704,520	105,404,463	52,702.231	\$1,111,573.26	\$91,894.71	\$22.50	\$1,019,678.55			\$49,841.09	\$49,827.96	\$13.13

STATEMENT OF ROYALTY PAYMENTS RECEIVED
 CHIEF CONSOLIDATED MINING COMPANY
 EXPLORATION CONTRACT IDM-24, DOCKET DMA 1 AND 1A
 SCHEDULE NO. 1

Date	Lot No.	Gross Weight Pounds	Dry Weight Pounds	Tons	Proceeds Net of Treatment Chg.	Deductions Allowed	Disallowed	Net Proceeds	Net Value Per Ton	Roy. %	Royalties Due	Royalties Received	Balance Royalties Due
Totals Forward		107,704,520	105,404,463	52,702.231	\$1,111,573.26	\$ 91,894.71	\$22.50	\$1,019,678.55			\$49,841.09	\$49,827.96	\$13.13
May 7, 1954	11-DMPA	160,600	157,383	78.694	2,848.72	200.75		2,647.97	33.65	5%	132.40	132.40	
May 7, 1954	12-DMPA	126,740	123,444	61.722	2,242.98	155.17		2,087.81	33.83	5%	104.39	104.39	
May 10, 1954	139-GPU	804,160	784,056	392.028	4,139.82	493.54		3,646.28	9.30	2.5%	91.16	91.16	
May 10, 1954	140-GPU	663,680	651,070	325.535	3,287.90	410.90		2,877.00	8.84	2%	57.54	57.54	
May 10, 1954	13-DMPA	136,080	132,270	66.135	535.35	76.18		459.17	6.96	1.5%	6.90	6.90	
May 10, 1954	14-DMPA	128,540	126,354	63.177	2,192.24	137.42		2,054.82	32.52	5%	102.74	102.74	
May 17, 1954	15-DMPA	164,260	161,632	80.816	3,247.19	199.03		3,048.16	37.72	5%	152.41	152.41	
May 14, 1954	16-DMPA	100,860	99,146	49.573	706.91	87.72		619.19	12.49	5%	30.96	30.96	
May 17, 1954	17-DMPA	174,000	169,476	84.738	3,283.60	210.41		3,073.19	36.27	5%	153.66	153.66	
May 13, 1954	141-GPU	508,020	492,780	246.390	2,394.91	263.42		2,131.49	8.65	2%	42.63	42.63	
May 14, 1954	142-GPU	641,300	631,040	315.520	6,695.33	571.76		6,123.57	19.41	5%	306.18	306.18	
May 17, 1954	Dev. 2-DMPA	320,240	307,430	153.715	502.65	164.38		338.27	2.20	1.5%	5.07	5.07	
May 20, 1954	18-DMPA	115,580	115,118	57.559	2,095.29	126.47		1,968.82	33.16	5%	95.44	95.44	
May 20, 1954	19-DMPA	162,220	160,760	80.380	2,579.39	173.07		2,406.32	29.94	5%	120.32	120.32	
May 20, 1954	20-DMPA	136,300	134,862	67.431	273.10	76.37		196.73	2.92	1.5%	2.95	2.95	
May 20, 1954	143-GPU	558,960	549,458	274.729	5,332.49	499.25		4,833.24	17.59	5%	241.66	241.66	
May 20, 1954	144-GPU	553,520	543,956	271.778	7,549.99	496.46		7,053.53	25.95	5%	352.68	352.68	
May 24, 1954	21-DMPA	269,540	265,056	132.588	3,578.26	248.46		3,329.80	25.13	5%	166.49	166.49	
May 27, 1954	145-GPU	326,540	319,682	159.841	3,291.13	298.57		2,992.56	18.72	5%	149.63	149.63	
May 24, 1954	146-GPU	559,160	546,858	273.429	2,991.31	347.92		2,643.39	9.67	3%	79.30	79.30	
May 26, 1954	147-GPU	558,200	548,152	274.076	4,045.36	409.46		3,635.90	13.27	5%	181.80	181.80	
May 26, 1954	22-DMPA	127,500	125,332	62.666	2,163.23	134.39		2,028.84	32.38	5%	101.44	101.44	
May 26, 1954	23-DMPA	125,320	123,190	61.595	1,873.72	132.21		1,741.51	28.27	5%	87.08	87.08	
June 4, 1954	148-GPU	518,300	508,452	254.226	4,863.34	463.44		4,399.90	17.31	5%	220.00	220.00	
June 4, 1954	149-GPU	578,080	567,674	283.837	5,075.01	479.43		4,595.58	16.19	5%	229.78	229.78	
June 8, 1954	150-GPU	516,280	505,438	252.719	4,311.39	425.78		3,885.61	15.35	5%	194.28	194.28	
June 8, 1954	24-DMPA	127,100	124,812	62.406	1,982.01	133.99		1,848.02	29.61	5%	92.40	92.40	
June 4, 1954	25-DMPA	121,820	120,846	60.423	1,549.35	116.28		1,433.07	23.73	5%	71.68	71.68	
June 9, 1954	26-DMPA	137,020	135,376	67.688	1,670.54	131.66		1,538.88	22.73	5%	76.94	76.94	
June 14, 1954	27-DMPA	158,420	157,470	78.735	1,600.68	146.51		1,454.17	18.47	5%	72.71	72.71	
June 9, 1954	151-GPU	547,700	537,294	268.647	6,442.16	489.33		5,952.83	22.16	5%	297.64	297.64	
June 13, 1954	152-GPU	579,880	568,862	284.431	6,849.10	521.67		6,327.43	22.25	5%	316.37	316.37	
June 14, 1954	153-GPU	558,560	549,624	274.812	5,303.87	498.90		4,804.97	17.48	5%	240.25	240.25	
June 14, 1954	154-GPU	337,540	334,502	167.251	2,502.07	254.37		2,247.70	13.44	5%	112.39	112.39	
June 18, 1954	155-GPU	544,520	531,996	265.998	4,311.83	444.47		3,867.36	14.54	5%	193.37	193.37	
June 18, 1954	28-DMPA	132,900	130,774	65.387	1,675.21	128.04		1,547.17	23.66	5%	77.36	77.36	
June 21, 1954	29-DMPA	151,120	148,400	74.208	2,115.44	144.09		1,971.35	26.57	5%	98.57	98.57	
June 22, 1954	156-GPU	553,820	541,636	270.818	5,836.13	494.73		5,341.40	19.72	5%	267.07	267.07	
June 24, 1954	157-GPU	524,480	514,514	257.257	4,044.08	385.15		3,658.93	14.22	5%	182.95	182.95	
June 25, 1954	158-GPU	560,500	558,022	276.046	4,391.89	457.31		3,934.58	14.25	5%	196.73	196.73	
Totals Forward		121,774,180	119,202,335	59,601.167	\$1,243,889.73	\$103,523.17	\$22.50	\$1,140,366.56			\$55,546.41	\$55,533.28	\$13.13

STATEMENT OF ROYALTY PAYMENTS RECEIVED
CHIEF CONSOLIDATED MINING COMPANY
EXPLORATION CONTRACT IDN-E4, DOCKET DMA 1 AND 1A
SCHEDULE NO. 1

Date	Lot No.	Gross Weight Pounds	Dry Weight Pounds	Tons	Proceeds Net of Treatment Chg.	Deductions Allowed	Disallowed	Net Proceeds	Net Value Per Ton	Roy. %	Royalties Due	Royalties Received	Balance Royalties Due
Totals Forward		121,774,180	119,202,335	59,601.167	\$1,243,889.73	\$103,523.17	\$22.50	\$1,140,366.56	\$		\$55,346.41	\$55,533.28	\$13.13
June 25, 1954	159-GPU	579,620	568,028	284.014	6,168.76	517.45		5,651.33	19.90	5%	282.57	282.57	
June 28, 1954	30-DMPA	159,320	157,408	78.704	2,631.86	170.18		2,461.68	31.28	5%	123.08	123.08	
June 28, 1954	31-DMPA	278,660	276,988	138.494	4,048.18	289.41		3,758.77	27.14	5%	187.94	187.94	
June 28, 1954	32-DMPA	160,500	158,894	79.447	2,835.33	175.36		2,679.97	33.73	5%	134.00	134.00	
July 9, 1954	33-DMPA	661,540	654,264	327.132	9,038.66	667.94		8,370.72	25.59	5%	418.54	418.54	
July 9, 1954	160-GPU	635,000	624,204	312.102	3,479.94	393.62		3,086.32	9.89	3%	92.59	92.59	
July 9, 1954	161-GPU	563,280	550,888	275.444	5,902.76	503.05		5,399.71	19.60	5%	269.99	269.99	
July 12, 1954	34-DMPA	619,780	609,244	304.622	7,393.18	556.81		6,836.37	22.44	5%	341.82	341.82	
July 15, 1954	162-GPU	568,020	561,772	280.886	5,850.36	509.23		5,341.63	19.02	3%	267.08	267.08	
July 15, 1954	35-DMPA	587,960	582,080	291.040	6,335.94	524.79		5,811.15	19.27	5%	290.56	290.56	
July 15, 1954	36-DMPA	496,200	492,230	246.115	5,030.39	447.96		4,582.61	18.62	5%	229.13	229.13	
July 19, 1954	37-DMPA	277,860	273,136	136.568	2,428.18	251.70		2,176.48	15.24	5%	108.82	108.82	
July 21, 1954	38-DMPA	517,000	508,728	254.364	4,881.25	464.30		4,416.95	17.36	5%	220.85	220.85	
July 15, 1954	163-GPU	561,220	555,608	277.804	5,203.27	501.24		4,702.03	16.93	5%	235.10	235.10	

Add:

Settlement with D. & R. G. Railroad for loss of
ore in transit applicable to the following
Settlement Sheets:

March 1952	GP 43				126.12			126.12		5%	6.31	6.31	
May 1952	GP 64				627.78			627.78		5%	31.39	31.39	
June 1952	GP 103				6.12			6.12		5%	.30	.30	
Totals July 28, 1954		128,440,140	125,775,807	62,387,903	\$1,315,898.53	\$109,496.23	\$22.50	\$1,206,402.30			\$58,786.48	\$58,773.35	\$13.13

Less:

Recommended waiver of indicated balance of
Royalties Due (See comments Page 7A)

Totals Royalties
July 28, 1954

											13.13		13.13
											\$58,773.35	\$58,773.35	-0-

C O R Y

CHIEF CONSOLIDATED MINING COMPANY

608 DOOLY BUILDING

SALT LAKE CITY, UTAH

August 26, 1954

Mr. W. H. King, Executive Officer
D.M.E.A. Field Team, Region IV
224 New Customhouse
Denver, Colorado

Dear Mr. King:

Recently an auditor from your Denver office called attention to four settlements made on ore shipped by us to the Combined Metals Reduction Company in which the Government was entitled to a royalty, and in which the auditor alleged certain discrepancies in freight deductions.

We referred this matter to the Combined Metals Reduction Company and enclose a letter from them in reply which, I believe, you will find self-explanatory.

Yours very truly

/s/ W. W. Watson
Secretary-Treasurer

W:W:W
Enc.

COMBINED METAL REDUCTION COMPANY

P. O. Box 150

Salt Lake City 10, Utah

August 24, 1954

Mr. L. W. Watson, Secretary-Treasurer
Chief Consolidated Mining Co.
608 Deely Building
Salt Lake City, Utah

Dear Mr. Watson:

Please refer to your letter of August 17, 1954, wherein you list four lots in which government auditor alleges excess freight deductions have been taken.

In each of the four lots in question freight was paid on minimum weight. On lot 109-CP minimum weight is 40,000 pounds and on the other three lots 100,000 pounds. Therefore the royalty as set up on lots and paid by us to D.M.F.A. is correct.

Yours very truly,

/s/ H. E. Swenson

Chief Clerk
Crs Settlement Department

HEC:rs

cc - O. F. Burton



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

File Copy
Surname

Simms
Rubi
Apr. Sol. Off.
Tallent
Huhon
Kilsgaard
Selfridge
F. Johnson

CERTIFICATION BY THE UNITED STATES OF AMERICA
OF A DISCOVERY OR DEVELOPMENT UNDER
AN EXPLORATION PROJECT CONTRACT

To: Mr. W. W. Watson, Secretary-Treasurer
Chief Consolidated Mining Company
608 Dooly Building
Salt Lake City, Utah

Pursuant to the provisions of Exploration Project Contract No. Idm-E4, dated June 13, 1951, and of the First Amended Contract No. Idm-E4, dated June 16, 1953, and of the Second Amended Contract No. Idm-E4, dated June 16, 1953, all having Docket No. DMEA-1 and 1A, hereinafter called the "contracts", between you and the United States of America, hereinafter called the "Government"; to establish and fix the Government's percentage royalty on production and its lien thereon and on the land described in the contracts, the Government considers and therefore certifies that discovery or development from which production may be made has resulted from the exploration work.

The nature of said discovery or development is described broadly or indicated as follows: Drifting and raising on and above the 2700 mine level, together with wining below such level, have shown the existence of and made accessible lead-zinc ore occurring as replacement deposits in limestone.

Dated FEB 17 1956

WRGriswold/er 1/31/56

Rewritten 2/7 & 10/56

Copy to:

✓ Docket

Mr. C. A. Fredell, Dr, MD, LPS

Mr. Geehan, USBM

Mr. Kilsgaard, USGS

Admr R File

Op. Committee

Base "etals

Cont. Adm. & Audit Div.

Finance Office

Region III (2)

F. E. Johnson

W. R. Griswold

Chron.

THE UNITED STATES OF AMERICA

By *C. P. Mitchell*
Administrator, Defense Minerals
Exploration Administration

**OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION**

REPORT OF REVIEW

RECEIVED OCT 16 1958

I have reviewed the Monthly Reports of:

Chief Consolidated Mining Company
605 Dooly Bldg., Salt Lake City, Utah

pertaining to Exploration Project Contract No. Idm-B4, Docket Nos. MA 1 & 1A, dated June 13, 1951, amendments Nos. 1 through 3, first amended Contract dated June 16, 1953, as of June 13, 1951, second amended contract dated June 16, 1953, as of July 11, 1952, amendments Nos. 1 through 4 to this contract, Termination Agreement dated January 30, 1956, Disposal of Government's Interest in Property dated September 23, 1958, covering a project for exploration of lead, zinc ores on property generally referred to as the Chief Consolidated Mine in Juab County, Utah for the period June 13, 1951 through May 31, 1955.

My review included an examination of the Monthly Reports (Form MF-104) and supporting documents attached thereto, comparison of the costs claimed with the contract and pertinent schedules, verification of work performed by reference to Field Team reports and correspondence, and a determination of the reasonableness and propriety of costs.

This review was made in lieu of a final audit of the operator's accounts and records for the reasons given on the attachment to this report.

The review disclosed the following facts in regard to the amount paid or to be paid the contractor:

Total costs as billed by the Contractor	\$399,560.25
Less: Proceeds from Property Disposition (See Schedule No. 1 attached)	20,274.26
Net Cost as Claimed by Operator	<u>\$369,285.99</u>
Exceptions: (See audit report Jan. 23, 1957)	
Prior to this review	\$2,659.86
Less: Reinstatement by Review	0.00
Herewith	<u>0.00</u>
Total Accepted Cost	<u>\$366,626.13</u>

The contract for participation of exploration expenses by the United States Government is as follows:

50% of \$332,154.57	or	\$166,077.29
25% of 34,471.56	or	8,617.89
Totals		<u>\$174,695.18</u>

Therefore, payment to the contractor by the Government in the amount of One hundred seventy-four thousand, six hundred ninety-five and 18/100ths Dollars is valid and proper, provided that the Regional Executive Officer, the Administrator, or other competent official has accepted or will accept the project as having otherwise met the terms of the contract.

Amount payable to Contractor	\$174,695.18
Amount reimbursed	<u>174,695.18</u>
Balance	<u>\$ 0.00</u>

October 10, 1958

Donald T. Finch
Donald T. Finch, OMS Auditor

REASONS FOR REPORT OF REVIEW IN LIEU OF FINAL AUDIT

CHIEF CONSOLIDATED MINING COMPANY

CONTRACT 100-104

BOOKET ID# 1 & 1A

- (a) All cost of operations prior to liquidation of jointly owned property covering the period June 13, 1951 to May 31, 1955, had been audited. See Audit Report, January 23, 1957.
- (b) All sales of jointly owned property and pertinent amounts were approved by the Administrator.
- (c) Claimed costs of liquidation consisting of labor and applicable payroll taxes were supported by an itemized schedule which the examining engineer checked in detail to the operator's payroll records.

CHIEF CONSOLIDATED MINING COMPANY

SCHEDULE OF PROPERTY LIQUIDATION

CONTRACT ICM-24

DOCKET IMA 1 & 1A

<u>Date Sale Authorized by DMEA</u>	<u>Equipment</u>	<u>Gross Sale</u>	<u>Cost of Liquid'n.</u>	<u>Net Sale Value</u>	<u>% Due Gov't</u>	<u>Amount Due Government</u>
<u>1957</u>						
3/29	Hydromucker	<u>\$ 1,554.00</u>		<u>\$ 1,554.00</u>	25%	\$ 388.50
2/8)	Larkin Transformer					
2/14)	and Accessories	9,006.48			50%	
2/8	37 Strand No. 2 Cable	67.08			"	
7/10	2 Pump Cases (Junk)	38.70			"	
<u>1958</u>						
3/4	37 Strand Cable	1,277.76			"	
3/4	37 Strand Cable	30.00			"	
3/4	37 Strand Cable	30.00			"	
3/4	37 Strand Cable	413.04			"	
3/4	Westinghouse Starter with Heaters	935.00			"	
3/4	37 Strand Cable	40.00			"	
9/23	Balance of Equipment	<u>13,000.00 *</u>			"	
		<u>\$4,838.06</u>	<u>\$6,117.80</u>	<u>18,720.26</u>	50%	<u>9,360.13</u>
	Totals	<u>\$26,392.06</u>	<u>\$6,117.80</u>	<u>\$20,274.26</u>		<u>\$9,748.63</u>

* M. H. Howes' letter of July 7, 1958. Reports check of labor and payroll taxes in detail to Operator's payroll records.

OFFICIAL FILE COPY

Government's RECOPY: 00 3 1958

DATE INITIALS

DISPOSAL OF GOVERNMENT'S INTEREST IN PROPERTY

To: Chief Consolidated Mining Company
608 Dooly Building
Salt Lake City, Utah

The United States of America, acting through the Department of the Interior, Office of Minerals Exploration, for a valuable consideration hereby sells, assigns, transfers and sets over to you all of its right, title and interest in all property acquired under Exploration Project Contract No. Idm-E4, Docket Nos. DMEA-1 and 1A, dated June 16, 1953, as amended.

Dated SEP 23, 1958.

THE UNITED STATES OF AMERICA

By *C. M. Mittensoy*
ACTING Director, Office of Minerals
Exploration

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

SECOND INTERIM AUDIT CERTIFICATE

I have examined the records and transactions of

Chief Consolidated Mining Company
608 Dooley Building
Salt Lake City, Utah

pertaining to Exploration Project Contract No. Idm-84, Docket No. DMA 1 and 1A, dated June 13, 1951, Amendments Nos. 1 through 3, first amended contract dated June 16, 1953, as of June 13, 1951, second amended contract dated June 16, 1953 as of July 11, 1952, Amendments Nos. 1 through 4 to this contract and Termination Agreement dated January 30, 1956, covering a project for exploration of lead and zinc ores on property generally referred to as the Chief Consolidated Mine in Juab County, Utah, for the period June 13, 1951 to May 31, 1955.

My examination was made in accordance with generally accepted standards applicable in the circumstances.

The audit disclosed the following facts in regard to the amount to be paid the contractor:

Total cost as billed by Contractor	\$389,383.46
Plus reinstatement, Operator's error	176.79
Total true cost due	<u>\$389,560.25</u>
Exceptions: (See audit report for details)	
Prior to this audit	\$ 0.00
During the audit	<u>2,659.86</u>
Total Accepted Costs	<u>\$386,900.39</u>

The contract calls for participation of exploration expenses by the United States Government as follows:

50% of \$350,874.83,	or	\$175,437.42
25% of 36,025.56,	or	9,006.39
Total		<u>\$184,443.81</u>

Therefore, payment to the contractor by the Government in the amount of one hundred eighty-four thousand, four hundred forty-three and 81/100ths Dollars

** \$184,443.81 **

is valid and proper.

This certificate is issued on the provision that the Regional Executive Officer, the Administrator, or other competent official has accepted or will accept the project as having otherwise met the terms of the contract.

January 23, 1957

T. M. Brading
T. M. Brading, Auditor

SECOND INTERIM AUDIT REPORT

I INTRODUCTION

On July 14, 1956, a second interim audit (covering operations for the period June 13, 1951 to May 31, 1955) was made of the records and transactions pertaining to Exploration Project Contract No. Ida-1A, Docket No. IDMA 1 and 1A, dated June 13, 1951, Amendments Nos. 1 through 3, first amended contract, dated June 16, 1953, as of June 13, 1951, second amended contract dated June 16, 1953, as of July 1, 1952, Amendments Nos. 1 through 4 to this contract, and Termination Agreement dated January 30, 1956, with the

Chief Consolidated Mining Company
608 Dooly Building
Salt Lake City, Utah

covering a project for exploration of lead and zinc ores on property generally referred to as the Chief Consolidated Mine in Juab County, Utah.

Mr. Donald T. Finch, IDMA Auditor, Denver, and Mr. W. E. Young, Mining Engineer, Salt Lake City, collaborated in the audit. Mr. W. W. Watson, Vice President of the Company, was consulted as required.

Prior to the on-site audit considerable time was devoted to pre-audit analysis in the Denver office of IDMA.

II GENERAL INFORMATION ON RECORDS

The general books of the company are in the office of the Company at the address shown above.

The Operator's Monthly Report and Voucher Forms MF-104 were prepared under the direction of Mr. W. W. Watson from information in the General Ledger and monthly work sheets prepared in the Salt Lake office of the Company.

III SCOPE OF AUDIT AND FINDINGS

The audit was limited to ascertaining the accuracy, propriety and validity of the costs shown in the "Totals to Date" column of the Operator's Monthly Report and Voucher, as follows:

Project 1	June, 1953
Project 1A	June, 1953
Amended Contract	May, 1955

The audit disclosed an error in carrying forward certain totals on the part of the Operator in February, 1952, in the amount of \$176.79, and some errors in distribution; therefore, the audit findings presented below are those resulting after correction of error, and changes in distribution. In view of a prior audit by T. H. Brading, IDMA Auditor, for the period from June 13, 1951 to April 30, 1952, unless otherwise specifically indicated, this audit was limited to the costs claimed by the Operator since that latter date.

The extent of the audit and the findings under each of the items follows:

(1) Independent Contracts

	<u>PRIOR AUDIT</u>	<u>MAY 1, 1952 TO JUNE 30, 1953</u>	<u>TOTAL AS CLAIMED</u>
Project 1	\$32,953.69	\$11,862.37	\$44,416.06
Project 1A	22,039.85	748.68	22,788.53
	<u>\$54,993.54</u>	<u>\$12,611.05</u>	<u>\$67,204.59</u>

On Project 1, invoices totaling \$8,839.75 for a total advance of 455 feet of drifting, or an average cost of \$19.4214 per foot, were examined. On Project 1A, invoice for May for \$686.43, preparatory work, was examined and found to be in order. In addition to the aforementioned invoices, June, 1953 invoices covering retroactive wage adjustments as follows, were examined:

Project 1	\$3,022.62
Project 1A	62.25
	<u>\$3,084.87</u>

All of above invoices were from Centennial Development Company.

The June, 1953 invoices covered retroactive payroll adjustments for the period July, 1951 to June 30, 1952, in line with union contract, and is authorized by second amended contract dated June 16, 1953, as of July 1, 1952. The increase was 17.49 percent plus applicable payroll taxes and compensation insurance, and represents the total amount due Centennial Development Company under their contract.

According to a published audit report for the year ended December 31, 1955, signed by Wells, Barker and Miller, Certified Public Accountants, Salt Lake City, Utah, dated February 25, 1956, copies of which were furnished this auditor by Mr. W. W. Watson, Vice President of the Company, there was a contingent liability (at December 31, 1955) of \$19,338.56 covering retroactive pay increases for the period July 1, 1951 to September 31, 1952. This contingent liability was reconciled with the Operator's records during the on-site audit. Analysis follows:

Total liability for retroactive wage increase to Sept. 30, 1952		\$65,498.19
Paid to December 31, 1955	\$41,294.16	
Included in Current Liabilities	<u>4,865.47</u>	46,159.63
Balance December 31, 1955		<u>\$19,338.56</u>

The total due was divided as follows:

Chief Consolidated Mining Company Employees	\$52,984.52
Centennial Development Company Employees	12,513.67
Total	<u>\$65,498.19</u>

Inasmuch as it is against Government policy to participate in contingent liabilities, disallowance as follows is made:

Total claimed by Contractor:

Project 1	\$3,022.62
Project 1A	62.25
Total Claimed	\$3,084.87

Total wages due Centennial Development Company based on settlement with Union was \$12,513.67. Total payments, including payment made in July, 1956, were \$8,291.02, or 66.26%.

Total claimed as above:

66.25% of \$3,022.62 = \$2,002.79

\$3,022.62 - \$2,002.79 = \$1,019.83, Disallowed Project 1

66.25% of \$62.25 = \$41.25

\$62.25 - \$41.25 = \$21.00, Disallowed Project 1-A

Total allowable costs are as follows:

	<u>PROJECT 1</u>	<u>PROJECT 1A</u>	<u>TOTAL</u>
Amount claimed	\$44,416.06	\$22,768.53	\$67,204.59
Amount disallowed	1,019.83	21.00	1,040.83
Total costs allowed	\$43,396.23	\$22,747.53	\$66,163.76

Agreed Estimated Unit Costs (Amended Contract)

Amended contract dated July 16, 1953, effective July 1, 1952, provided for 323 feet of winch sinking at \$180.00 per foot, or a total of \$58,140.00. Total approved footage advance of 253.7 feet at \$180.00 per foot, a cost of \$45,666.00, was verified by checking monthly engineering reports of footage advanced. Attention is directed to the fact that a total advance of 254.7 feet is shown on Form MF-104A. This is deemed to be a typographical error as the cost of \$45,666.00 is the correct amount for a total advance of 253.7 feet.

(2) Labor and Supervision

Labor

	<u>PRICED AMOUNT</u>	<u>MAY 1, 1952 TO JUNE 30, 1953</u>	<u>TOTAL AS CLAIMED</u>
Project 1	\$ 412.19	\$ 72.09	\$ 484.28
Project 1A	2,875.36	504.00	3,379.36
	\$3,287.55	\$576.09	\$3,863.64

The amounts claimed on the June, 1953 MF-104 filed by the Operator covered retroactive wage increases as consented on under "Independent Contracts" (Item 1). Total wages as claimed and related disallowance for each project is shown in the next summary:

Total for All Company operations	\$52,984.52
Payments to July, 1956	\$38,003.14
\$38,003.14 ÷ \$52,984.52 =	71.73%

	<u>PROJECT 1</u>	<u>PROJECT 1A</u>	<u>TOTAL</u>
Direct Labor claimed	\$ 72.09	\$ 504.00	\$ 576.09
71.73% Paid	51.71	361.52	413.23
28.27% Disallowed	<u>\$ 20.38</u>	<u>\$ 142.48</u>	<u>\$ 162.86</u>

Total labor considered to be an allowable cost is shown below:

	<u>PROJECT 1</u>	<u>PROJECT 1A</u>	<u>TOTAL</u>
Total Claimed	\$484.28	\$3,379.36	\$3,863.64
Disallowed	20.38	142.48	162.86
Total allowed cost	<u>\$463.90</u>	<u>\$3,236.88</u>	<u>\$3,700.70</u>

(3) Operating Materials and Supplies

Total allowable costs for this category are summarized herewith:

	<u>PROJECT 1</u>		<u>PROJECT 1A</u>		<u>TOTAL</u>
	<u>Prior</u>	<u>May 1, 1952 to</u>	<u>Prior</u>	<u>May 1, 1952 to</u>	
	<u>Audit</u>	<u>June 30, 1953</u>	<u>Audit</u>	<u>June 30, 1953</u>	
Timber	\$ 0.00	\$0.00	\$1,601.12	\$ 0.00	\$1,601.12
Explosives	218.13	0.00	0.00	0.00	218.13
Pipe	11.04	0.00	52.78	0.00	63.82
Other	109.13	0.00	2,030.44	16.11	2,155.68

Copies of invoices dated in May, 1952 covering shipping charges on materials in the following amounts were examined:

Delta Bros. Lines	\$ 0.52
Railway Express Agency	2.19
Railway Express Agency	5.30
The Lang Company	
Set of matched V belts (3 @ \$2.70 each)	<u>8.10</u>
Total	<u>\$16.11</u>

Other Supplies is further broken down as follows:

Steel	\$490.89
Cement	75.27
Hose and connections	775.59
Wire and cable	171.20
Oil and Grease	30.78
Electrical Supplies	268.19
Wire rope	196.22
Transportation	8.01
Hardware and Miscellaneous	<u>136.53</u>
Total	<u>\$2,155.68</u>

(4) Operating Equipment - Purchase

	<u>PRIOR AUDIT</u>	<u>MAY 1, 1952 TO JUNE 30, 1953</u>	<u>TOTAL AS CLAIMED</u>
Project 1	\$239,065.53	\$0.00	\$239,065.53
Project 1A	0.00	0.00	0.00
Total	<u>\$239,065.53</u>	<u>\$0.00</u>	<u>\$239,065.53</u>

Included in the above total is an amount of \$1,005.00 which covers cost of reels on which wire and cable were shipped. In view of the fact these reels are returnable for credit, this item is not considered to be a necessary cost to the project and is disallowed.

Total claimed	\$239,065.53
Disallowed	1,005.00
Net allowable cost	<u><u>\$238,060.53</u></u>

Operating Equipment - Rental

In November, 1951 a grouting machine was rented from Boyles Brothers Drilling Company, Salt Lake City, Utah, at a total cost of \$536.41. This cost is considered to be a necessary expense and is allowable.

(5) Initial Rehabilitation and Repairs

Not applicable to this contract.

(6) New Buildings, Improvements, etc.

Not applicable to this contract.

(7) Miscellaneous

Payroll Taxes

	<u>PRIOR AUDIT</u>	<u>MAY 1, 1952 TO JUNE 30, 1953</u>	<u>TOTAL AS CLAIMED</u>
Project 1	\$ 11.02	\$ 1.95	\$ 12.97
Project 1A	74.77	13.61	88.38
	<u>\$ 85.79</u>	<u>\$15.56</u>	<u>\$101.35</u>

Payroll taxes at the rate of 2.7% on \$72.09 on Project 1 and 2.7% on \$504.00 on Project 1A amounted to \$1.95 and \$13.61 respectively. Disallowance of 28.27% is made on these amounts as reflected in comment under Labor in a prior section of this report. Disallowance of the same percentage is accordingly made on payroll taxes shown in next summary.

	<u>CLAIMED</u>	<u>DISALLOW</u>	<u>TOTAL ALLOWED</u>
Project 1	\$ 12.97	28.27% of \$ 1.95 = \$.55	\$ 12.42
Project 1A	88.38	28.27% of \$13.61 = 3.85	84.53
	<u>\$101.35</u>	<u>28.27% of \$15.56 = \$4.40</u>	<u>\$ 96.95</u>

Liability Insurance

	<u>PRIOR AUDIT</u>	<u>MAY 1, 1952 TO JUNE 30, 1953</u>	<u>TOTAL CLAIMED</u>
Project 1	\$ 27.77	\$ 4.92	\$ 32.69
Project 1A	188.69	34.41	223.10
	<u>\$216.46</u>	<u>\$39.33</u>	<u>\$255.79</u>

Workmen's compensation insurance at the rate of .06827 on \$72.09 on Project 1 amounted to \$4.92, and at that same rate on \$504.00 on Project 1A, amounted to \$34.41 for the period under review. Disallowance of 83.27% is made on these amounts as reflected in comments under Labor in prior section of this report. Disallowance of this same percentage on Liability Insurance charged is made as shown in the next summary:

	<u>CLAIMED</u>	<u>DISALLOWED</u>	<u>ALLOWABLE CHARGE</u>
Project 1	\$ 32.69	83.27% of \$ 4.92 = \$ 1.39	\$ 31.30
Project 1A	223.10	83.27% of \$34.41 = \$ 9.73	213.37
	<u>\$255.79</u>	<u>83.27% of \$39.33 = \$11.12</u>	<u>\$244.67</u>

ContingenciesProrated Charges

These items are prorated on following bases:

Compressor: Proportion of compressing shifts devoted to project work as compared to total compressing shifts worked.

Hoisting: Proportion of cars of ore and waste handled for project as compared to total cars of ore and waste hoisted.

Power for Pumping: Main hoist and other major operations are metered. Other operations are prorated on basis of cars hoisted and compressing shifts working places as against total metered charges. Remaining KW hours give total power charges for pumping. At the time of the first interim audit all prorated charges were reviewed in detail with W. E. Young, Mining Engineer, Salt Lake City office, who checked monthly progress. It was the opinion of Mr. Young and this auditor that allocation of costs as charged were on a fair and equitable basis, and analysis of these charges follows:

PROJECT 1

	<u>PRIOR AUDIT</u>	<u>MAY 1, 1952 TO JUNE 30, 1953</u>	<u>TOTAL</u>
Compressing	\$9,148.23	\$2,311.38	\$11,459.61
Hoisting	3,217.42	2,304.60	5,522.02
Pumping	4,204.06	1,543.71	5,747.77

PROJECT 1A

Compressing	\$3,017.59	\$ 64.19	\$ 3,081.78
Hoisting	1,831.36	204.63	2,035.99
Pumping	981.02	--	981.02

TOTALS

Compressing	\$12,165.82	\$2,375.57	\$14,541.39
Hoisting	5,048.78	250.93	7,558.01
Pumping	5,185.08	1,543.71	6,728.79

A breakdown of the items claimed (excluding amount due Centennial Development Company) for retroactive wage increase as shown on Form MP-104 dated June, 1953 follows:

	<u>PROJECT 1</u>	<u>PROJECT 1A</u>
Labor	\$1,233.63	\$749.45
Payroll Taxes	33.31	20.23
Workmen's Compensation	84.22	51.16
	<u>\$1,351.16</u>	<u>\$820.84</u>

In view of the fact a portion of these charges was originally charged to Compressing and Hoisting, correction of distribution as follows was made:

	<u>PROJECT 1</u>	<u>PROJECT 1A</u>	<u>TOTAL</u>
Direct Labor	\$ 72.09	\$504.00	\$ 576.09
Payroll taxes	1.95	13.61	15.56
Workmen's Compensation	4.92	34.41	39.33
* Compressing	106.67	57.25	163.92
* Hoisting	1,165.53	211.57	1,377.10
Totals	<u>\$1,351.16</u>	<u>\$820.84</u>	<u>\$2,172.00</u>

* Disallowances are made as follows: (28.27% of the items above.)

	<u>PROJECT 1</u>	<u>PROJECT 1A</u>	<u>TOTAL</u>
Compressing (\$ 106.67)	\$ 30.16	(\$ 57.25) \$16.18	(\$ 163.92) \$ 46.34
Hoisting (\$1,165.53)	329.50	(\$211.57) 59.81	(\$1377.10) 389.31
Totals (\$1,272.20)	<u>\$359.66</u>	<u>(\$268.82) \$75.99</u>	<u>(\$1541.02) \$435.65</u>

<u>PROJECT 1</u>	<u>CLAIMED</u>	<u>DISALLOWED</u>	<u>ALLOWABLE CHANGE</u>
Compressing	\$11,459.61	\$ 30.16	\$11,429.45
Hoisting	5,522.02	329.50	5,192.52
Pumping	5,747.77	--	5,747.77
<u>PROJECT 1A</u>			
Compressing	3,081.78	16.18	3,065.60
Hoisting	2,035.99	59.81	1,976.18
Pumping	981.02	--	981.02
<u>TOTAL</u>			
Compressing	14,541.39	46.34	14,495.05
Hoisting	7,558.01	389.31	7,168.70
Pumping	6,728.79	--	6,728.79

IV CONCLUSIONS

The audit disclosed that all costs charged to this project, with the exception of disallowances aggregating \$2,659.86 as itemized in a preceding section of this report, are reasonable and proper under the terms of the contract.

The adjustments between "Items of Costs" as shown on the June, 1953, MF-104, the disallowances, reinstatement, and the accepted costs, as disclosed by this audit, are summarized in Exhibit "A" attached hereto.

At the conclusion of the on-site audit the findings were discussed in a general way with Mr. W. W. Watson, Vice President of the Company.

During the preparation of the report the findings were discussed with Mr. W. M. Traver, Executive Officer, DEEA Field Team, Region III.

January 23, 1957.

T. H. Brading
T. H. Brading, Auditor

CHIEF CONSOLIDATED MINING COMPANYContract Ida-E4AUDIT SUMMARY

	<u>TOTALS</u> <u>MF-104</u>	<u>CORRECTIONS</u> <u>OPERATOR'S</u> <u>ERROR</u>	<u>DISTRIBUTION</u>	<u>DISALLOWED</u>	<u>ALLOWED</u> <u>BY AUDIT</u>
(1) Independent Contract Drifting & Crosscutting	\$67,204.59		\$ 67,204.59	\$1,040.83	\$66,163.76
Agreed Estimated Costs	45,666.00		45,666.00		45,666.00 ✓
(2) Labor and Supervision Labor	5,870.63		3,863.64	162.86	3,700.78
Audit Disallowances	1,699.53				
Audit Adjustments 6/21/51	59.47				
(3) Operating Materials and Supplies					
Timber			1,601.12		1,601.12
Explosives	11.73		218.13		218.13
Pipe			63.82		63.82
Other	3,859.23	\$176.79	2,155.68		2,155.68
(4) Operating Equipment Purchases	240,705.59		239,065.53	1,005.00	238,060.53 ✓
Rental	536.41		536.41		536.41
(5) Initial Rehab. & Repairs					
(6) New Bldgs., Imprvm'ts, etc.					
(7) Miscellaneous Payroll Taxes	139.33		101.35	4.40	96.95
Liability Insurance	351.84		255.79	11.12	244.67
(8) Contingencies Provided					
Compressing	14,310.54		14,541.39	46.34	14,495.05
Hoisting	6,247.84		7,558.01	339.31	7,168.70
Pumping	6,728.79		6,728.79		6,728.79
TOTALS	<u>\$389,383.46</u>	<u>\$176.79</u>	<u>\$389,560.25</u>	<u>\$2,659.86</u>	<u>\$386,900.39</u>

SCHEDULE ACHIEF CONSOLIDATED MINING COMPANYContract 14a-E4PROJECT 1.

	<u>TOTALS</u>	<u>CORRECTIONS</u>			<u>ALLOWED</u>
	<u>JUNE, 1953</u>	<u>OPERATOR'S</u>		<u>DISALLOWED</u>	<u>BY AUDIT</u>
	<u>MF-104</u>	<u>ERROR</u>	<u>DISTRIBUTION</u>		
(1) Independent Contract Drifting & Raising	\$44,416.06		\$44,416.06	\$1,019.83	\$ 43,396.23
(2) Labor and Supervision					
Labor	1,645.82		484.28	20.58	463.90
Audit Disallowance	1,699.53				
Audit Adjustment 6/21/51	59.47				
(3) Operating Materials and Supplies					
Explosives	11.73		218.13		218.13
Pipe			11.04		11.04
Other	149.78	\$176.79	109.13		109.13
(4) Operating Equipment					
Purchases	240,705.59		239,065.53	1,005.00	238,060.53
Rental	536.41		536.41		536.41
(7) Miscellaneous					
Payroll taxes	44.33		12.97	.55	12.42
Liability Insurance	111.99		32.69	1.39	31.30
(8) Contingencies					
Provided					
Compressing	11,292.95		11,459.61	30.16	11,429.45
Hoisting	4,416.43		5,522.02	329.50	5,192.52
Pumping	5,747.77		5,747.77		5,747.77
TOTALS	<u>\$307,438.85</u>	<u>\$176.79</u>	<u>\$307,615.64</u>	<u>\$2,406.81</u>	<u>\$305,208.83</u>

CHIEF CONSOLIDATED MINING COMPANY

Contract Ida-24

PROJECT 1-A

	<u>TOTALS</u> <u>JUNE, 1953</u> <u>MF-104</u>	<u>CORRECTED</u> <u>DISTRIBUTION</u>	<u>DISALLOWED</u>	<u>ALLOWED</u> <u>BY AUDIT</u>
(1) Independent Contract				
Drifting and crosscutting	\$22,788.53	\$22,788.53	\$ 21.00	\$22,767.53
(2) Labor and Supervision				
Labor	3,624.81	3,379.36	142.48	3,236.88
(3) Operating Materials & Supplies				
Timber		1,601.12		1,601.12
Explosives				
Pipe		52.78		52.78
Track	3,700.45	2,046.55		2,046.55
Other				
(4) Operating Equipment				
(7) Miscellaneous				
Payroll taxes	95.00	88.38	3.85	84.53
Workmen's Compensation	239.85	223.10	9.73	213.37
(8) Contingencies				
Pro-rated				
Compressing	3,017.59	3,081.78	16.18	3,065.60
Hoisting	1,831.36	2,035.99	59.81	1,976.18
Pumping	981.02	981.02		981.02
TOTALS	<u>\$36,278.61</u>	<u>\$36,278.61</u>	<u>\$253.05</u>	<u>\$36,025.56</u>

SCHEDULE C

CHIEF CONSOLIDATED MINING COMPANY

Contract Ida-E4, Amended Contract

	<u>TOTALS</u> MAY, 1955 <u>MF-104</u>	<u>ALLOWED</u> BY <u>AUDIT</u>
Agreed Estimated Costs -		
Shaft Sinking	<u>\$45,666.00</u>	<u>\$45,666.00</u> ✓
TOTALS	<u>\$45,666.00</u>	<u>\$45,666.00</u>

*Answered
Kesting
B. H.*

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

INTERIM AUDIT CERTIFICATE

I have examined the records and transactions of:

Chief Consolidated Mining Company
Salt Lake City, Utah

pertaining to Exploration Project Contract E4, Bocket No. 1 and 1A, for the period from June 13, 1951 to April 30, 1952.

My examination was made in accordance with generally accepted standards applicable in the circumstances.

The audit disclosed the following facts in regard to contract with Centennial Development Company:

Centennial Development Company billed Chief Consolidated Mining Company on the following basis:

1. Labor at cost including a supervision charge of \$12.00 per day worked.
2. Material at cost plus delivery charges.
3. Rental charges for equipment or mutually agreed price.
4. A maximum of \$75.00 per month or .06% of total labor cost whichever is less for office and accounting, and 10% of above amounts expended (under sub-section 1-4) by the Contractor as a fee for supervision and general overhead.

Chief Consolidated will not be obligated to pay Centennial Development Company the 10% fee on any labor which it may provide for the Contractor.

The audit disclosed the following facts in regard to the amount to be paid the Contractor:

Total Cost as Billed by Contractor		\$325,750.16
Exceptions (See Audit Report for details):		
During this Audit	\$1699.53	
Prior to this Audit	\$19.82	
Less Amounts determined to be allowable	None	
Total Accepted Cost	19.82	1,719.35
		<u>\$324,030.81</u>

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The contract calls for a participation of exploratory expenses by the United States Government as follows:

50% of 289,337.83	or	144,668.92
25% of 34,692.98	or	8,673.25
<u>324,030.81</u>		<u>153,342.17</u> ✓ 1.63

Therefore, payment to the contractor by the Government in the amount of One hundred fifty three thousand three hundred forty two Dollars and 17/100

-153,342.17-

is valid and proper.

This certificate is issued on the provision that the Regional Executive Officer, the Administrator, or other competent official has accepted or will accept the project as having otherwise met the terms of the contract.

July 3, 1952

T. H. Brading
T. H. Brading, Auditor
Region IV

Chief Consolidated Mining Company
Exploration Project Contract No. E4
Docket No. DMA 1 and 1A

I. INTRODUCTION

An audit was made from June 24 to June 28 of Defense Minerals Contract No. E4, Chief Consolidated Mining Company. The general records pertaining to this contract are in the office of the company at Salt Lake City, Utah, while the detail payroll and material inventory records are at the mine office at Eureka, Utah, which is approximately 100 miles from Salt Lake City. In addition to the records of Chief Consolidated, an examination was also made of the records of Centennial Development Company, subcontractor on project development, and Eureka Machinery Company, a wholly owned subsidiary of Chief Consolidated Mining Company.

The audit covered the period from June 13, 1951 to April 30, 1952 of the contract that continues until June 12, 1953. Mr. W.E. Young, Mining Engineer, Salt Lake City office, rendered very capable assistance. In the Salt Lake City office, Mr. W.W. Watson, Secretary and Treasurer and Mr. R. Cornwell, Bookkeeper, were present. At the mine office in Eureka, Mr. J.G. Hall, General Superintendent, and Mr. Maynard Carter, Chief Clerk, were present, while at the office of Centennial Development Company, Mr. Robert Watts was present. All concerned extended us every courtesy when consulted.

II. EXTENT AND SCOPE OF AUDIT

1. Equipment Purchases

Original invoices from suppliers, covering a major portion of the cost charged to equipment purchases, were examined. Due to the highly

technical nature of the purchases, Mr. W.E. Young, Mining Engineer, Salt Lake City office, was questioned from time to time as to the applicability of certain invoices. Comprehensive check of materials issued by the company was made and found to be in order. Payrolls for June 1951 and March 1952 were checked in detail for charges made to equipment account. Payroll and materials covering Chief Consolidated and Centennial Development Company were included in the test.

2. Labor

Due to their incentive plan, payroll records of Chief Consolidated are very complicated. All charges to the project for labor for the months of June 1951 and March 1952 were traced from individual time cards of the men involved, to shift boss reports, to contract schedule, to payroll summary, which is maintained for each man, and finally to the payroll record which is maintained at the Salt Lake City office. Charges were found to be in order.

3. Supplies

The greater portion of the supplies used and charged to the operation both by Chief Consolidated and Centennial Development Company are obtained from Eureka Machinery Company. This company is a wholly owned subsidiary of Chief Consolidated. The warehouse and office of Eureka Machinery Company are located in the mine office building and the activities are supervised by the Chief Clerk at the mine.

Charges for supplies are as follows: To Chief Consolidated - cost plus 5% for handling and 2% sales tax; Centennial Development Company and independent leasers - cost plus 10% and 2% sales tax. It was explained in the case of Chief Consolidated that the smaller mark-up is

used as no charge for rent, supervision, etc., is made to Eureka Machinery Company by Chief Consolidated. By purchasing in large quantities, Chief Consolidated obtains more favorable prices which are in turn passed on to Centennial Development Company and independent leasers, thus enabling Centennial Development Company to do development work for Chief Consolidated at a lower rate and, in the case of the independent leasers, enable them to make more favorable returns to Chief Consolidated.

A test check of a representative number of suppliers' invoices for supplies and materials purchased showed that respective items were charged into records at cost plus transportation charges. Tests of requisitions covering charges to Chief Consolidated and Centennial Development Company reflected that all items charged were at cost. The following formula is used to determine cost every month: On each inventory card the total purchases for the month, both units and dollars, are added to the balance on hand at the beginning of the month; from this is subtracted the total issued. Units remaining are divided into the remaining dollar balance to determine the average cost.

4. Workmen's Compensation Insurance

Rates charged for compensation insurance were verified by inspection of invoice from State Insurance Department.

5. Contract Work

Direct examination of payroll records of Centennial Development Company was made. Our test included tracing of individual time tickets for the months of June and July 1951, and March 1952 to the payroll distribution sheet, from there to the job analysis sheet, from which sheet posting is made to cost records. Portion of costs charged to

project were traced to project billing. Supplies as billed by Chief Consolidated were checked to project charges for June 1951 and March 1952.

6. Payroll Taxes

Payroll taxes charged to project were verified by multiplying total labor charge by .015 for FOAB and .012 for Utah State and Federal Unemployment Taxes.

7. Applicable Charges Apportioned

Charges allocated to project are based as follows: Compressor - Proportion of compressing shifts devoted to project work as compared to total compressor shifts worked. Proportion of cars of ore and waste handled for project as compared to total number of cars and waste handled at mine. Total shifts on compressor and steel sharpening charged to project were checked in detail for the months of June 1951 and March 1952, as were total cars of waste handled those months.

8. Power

Allocation of power bills for June 1951 and March 1952 were checked in detail. Main hoists and other large operations are metered. Other operations are prorated on basis of cars hoisted and compressing shifts working places as against total metered. Remaining KW hours give total pumping charges for power. Mr. W.E. Young, Mining Engineer, Salt Lake City office, checked the analysis as presented and it is his opinion that the allocations of costs as charged to the project are fair and equitable.

III. FINDINGS

The records as maintained by Chief Consolidated Mining Company are

IV. RECOMMENDATIONS

The Audit Certificate, prefacing this report, reflects the amount of the costs properly chargeable to this project through April 1952.

TERMINATION AGREEMENT

It is agreed this 30th day of January, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Chief Consolidated Mining Company, hereinafter called the "Operator," parties to that certain Second Amended Exploration Project Contract Idm-M4, Docket No. DMA-1 and 1A, dated June 16, 1953, as of July 1, 1952, hereinafter called the "Contract," that:

1. Effective October 15, 1955, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Operator shall promptly perform all winding-up and settlement actions provided for in the Contract, including the rendering of the final report and final account.

3. The Government shall contribute to only those allowable costs of disposal of property in which the Government has an interest as are incurred beginning with the date this Termination Agreement is executed.

4. All rights of the Government provided for in the Contract with respect to a certification of discovery or development and a percentage royalty and lien for its payment are preserved.

5. The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this Termination Agreement.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

CHIEF CONSOLIDATED MINING COMPANY

By Paul M. Smith

Title Vice President

By

W. M. Mather
Administrator, Defense Minerals
Exploration Administration

**SECOND AMENDED
EXPLORATION PROJECT CONTRACT
CHIEF CONSOLIDATED MINING COMPANY
DOCKET NOS. DMA-1 and 1A**

AMENDMENT NO. 4

It is agreed this 7th day of March, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and Chief Consolidated Mining Company, that Second Amended Exploration Project Contract idm-E4 (Docket Nos. DMA-1 and DMA-1A) dated June 16, 1953, as amended, (hereinafter called the "Contract") is further amended effective January 15, 1955, as follows:

1. The recess agreed upon in Amendment No. 2 to the Contract is further extended to end no later than March 15, 1955.
2. In Article 3 of the Contract form, the period for completion of the project is further extended to March 16, 1956.
3. Annex I attached to Amendment No. 2 to the Contract is cancelled, and Annex II, attached hereto and made a part hereof is substituted for the provisions of Article 6 of the Contract form.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, nor the agreed unit cost of any item of work.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By

O. M. Thunders
Administrator, Defense
Minerals Exploration
Administration

CHIEF CONSOLIDATED MINING COMPANY

By

David H. H. H.

Vice President & Gen'l Manager

*Robert
Hoffland*
Appd. Sub. Off.

*resweld
Chapman
Selfridge
H. P. H.*

MAR 28 1955

ANNEX II

6 :

The following provisions are in lieu of Article

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

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

c. Basis for computation.--The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f.o.b. point); except, that charges of the buyer arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by the buyer, sampling and assaying to determine the value of the production sold, and freight paid by the buyer to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the

* The word "land" refers to the land described in Article 2 of the contract form.

‡ The words "for a period of ten years from the date of the contract" are changed to read "for a period of fifteen years from the date of the Original Contract (June 13, 1951)."

Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the raw ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

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

e. Percentages of royalty.--The percentages of the Government's royalty shall be as follows:

One and one-half ($1\frac{1}{2}$) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars (\$8.00) per ton of production in the form in which sold, held, or used, plus one-half ($\frac{1}{2}$) percent for each additional full fifty cents (\$0.50) by which such amounts exceed eight dollars (\$8.00) per ton, but not in excess of five (5) percent of such amounts.

(For instance: the royalty on an amount of five dollars (\$5.00) per ton, would be one and one-half ($1\frac{1}{2}$) percent; on an amount of ten dollars (\$10.00) per ton, three and one-half ($3\frac{1}{2}$) percent.)

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

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

h. No obligation to produce.--Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

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

**EXPLORATION PROJECT CONTRACT
CHIEF CONSOLIDATED MINING COMPANY
DOCKET NOS. DMA-1 and 1A**

AMENDMENT NO. 3 to SECOND AMENDED CONTRACT

It is agreed this 24th day of September, 1954, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and Chief Consolidated Mining Company, that Contract No. Idm-24, Docket Nos. DMA-1 and 1A, dated June 16, 1953, now designated "Second Amended Exploration Project Contract," as amended by Amendment No. 2, is further amended as follows:

1. The agreed period of recess fixed by Amendment No. 2 as terminating September 15, 1954, is hereby extended to January 15, 1955.

2. The time fixed for completion by Amendment No. 2 as on or before September 16, 1955, is hereby extended to January 16, 1956.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, nor the agreed unit cost of any item of work.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By

C. M. Thompson
Administrator, Defense Minerals
Exploration Administration

H. H. Hines
CHIEF CONSOLIDATED MINING COMPANY

By

Selfridge *H. H. Hines*
Halbert *Paul H. Hines*
Vice President & General Manager

EXPLORATION PROJECT CONTRACT
CHIEF CONSOLIDATED MINING COMPANY
DOCKET NOS. DMA-1 AND 1A

AMENDMENT NO. 2 to SECOND AMENDED CONTRACT

It is agreed this 10th day of February, 1954, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and Chief Consolidated Mining Company, that Second Amended Exploration Project Contract Idm-E4, Docket Nos. DMA-1 and 1A, dated June 16, 1953, as amended, is further amended, effective January 15, 1954, as follows:

1. During the period from January 15, 1954, to not later than September 15, 1954: (a) The project work shall be recessed; (b) the Government shall not contribute to any costs of operation or maintenance incurred by the Operator; and (c) the Operator shall save the Government harmless from any and all claims, and shall preserve and protect the project work and any property in which the Government has an interest. Moreover, after the project work is resumed, the Government will not contribute to any costs of rehabilitation or repair which are necessitated by reason of the recess of operations.

2. In Article 3 of the contract form, delete the words "on or before December 13, 1954," and substitute the words "on or before September 16, 1955."

3. Annex I, attached hereto and made a part hereof, is substituted for Article 6 of the contract form.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, nor the agreed unit cost of any item of work.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

CHIEF CONSOLIDATED MINING
COMPANY

Chartered By Wm Theodore
Administrator, Defense Minerals
Exploration Administration
By Paul H. H. Hoffmann

EXPLORATION PROJECT CONTRACT
CHIEF CONSOLIDATED MINING COMPANY
DOCKET NOS. DMA-1 AND 1A

DEPARTMENT OF THE INTERIOR
BUREAU OF MINERALS ADMINISTRATION
RECEIVED

ANNEX I

The following provisions are in lieu of Article 6: June 8 - 1954

Repayment by Operator.--a. Certification.--If at any time the Government considers that a discovery or development from which production may be made has resulted from the exploration work, the Government, at any time not later than six months after the Operator has rendered the final report and final account, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

b. Percentage royalty.--The Operator, or his successor in interest, shall pay to the Government a royalty on all minerals mined or produced from the land described in Article 2,--(1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification of discovery or development, or until the total net amount contributed by the Government, without interest, is fully repaid, whichever occurs first, unless the Government waives its right to a royalty; or (2) if the Government makes a certification of discovery or development, for a period of ten* years (or other period fixed by this contract) from the date of the contract, or until the total net amount contributed by the Government, without interest, is fully repaid, whichever occurs first. Said royalty shall be a percentage of the net smelter returns, the net concentrator returns, or other amounts realized from the sale or other disposition of any such production (including any bonuses, premiums, allowances, or other benefits), in whatever form disposed of, including ore, concentrates, or metal, as follows:

(a) One and one-half ($1\frac{1}{2}$) percent of any such net amounts not in excess of eight dollars (\$8.00) per ton.

(b) One and one-half ($1\frac{1}{2}$) percent of any such net amounts, plus one-half ($\frac{1}{2}$) percent of such net amounts for each additional full fifty cents (\$0.50) by which such net amounts exceed eight dollars (\$8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: the percentage royalty on a net amount of five dollars (\$5.00) per ton, would be one and one-half ($1\frac{1}{2}$) percent; on a net amount of ten dollars (\$10.00) per ton, three and one-half ($3\frac{1}{2}$) percent.)

c. Definitions.--As here used, "net smelter returns", "net concentrator returns", and "other amounts realized from the sale or other disposition", mean gross revenue from sales; or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be gross income from mining operations for percentage depletion purposes in income tax determination.

d. Lien for Payment.--To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

e. Notice to Purchasers.--The Operator shall notify any purchaser of the production of the Government's royalty interest, and shall authorize and direct the purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets; but failure or refusal by the purchaser to comply shall not relieve the Operator of liability to pay any royalty falling due.

f. No Obligation to Produce.--This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

*The period "fifteen years" is substituted
for the period "ten years."

RECEIVED
OCT 26 1953

AMENDMENT NO. 1
to SECOND AMENDED EXPLORATION PROJECT CONTRACT
DOCKET NO. DMA-1 and 1a

Ambrin 11/19/53
ag/Kane
11/19/53

Contract No. IDM-E4, dated June 10, 1953, as of July 1, 1952,
between the United States of America and Chief Consolidated Mining Company
is hereby amended as follows, effective August 27, 1953:

Referring to work operations under the terms of
Contract IDM-E4, as Amended by the First and Second
Amended Exploration Project Contracts: Execution
of this Amendment constitutes an agreement between
the parties concerned that work operations under
the terms of said contract will be recessed effec-
tive August 27, 1953, contingent on the following
conditions:

1. Normal operations under the terms of the said
contract will be resumed on or before November 1,
1953.
2. The operator hereby resolves and agrees to save
harmless the Government from all claims and
demands under the terms of said contract, during
the period work operations thereunder are re-
cessed, or from any claims or demands due to
conditions or circumstances which may develop
during the period operations are recessed.

This amendment shall not be construed to increase the
estimated total cost of the project, the amount of the Government's
contribution, or any item of allowable cost which is expressly
designated "allowable maximum".

Dated OCT 26 1953

CHIEF CONSOLIDATED MINING COMPANY

UNITED STATES OF AMERICA *two*

By *Cecil Fitch*
Cecil Fitch, President

By *W. H. King*
W. H. King, Executive Officer,
DMA Field Team, Region IV

(Seal)

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Docket copy
IDM-E 4

JUL 10 1952

SECOND AMENDED
EXPLORATION PROJECT CONTRACT¹

(Short Form)

as of July 1, 1952.

IT IS AGREED this 16th day of June, 1952, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Chief Consolidated Mining Company, an Arizona corporation with principal offices at 600 Dooly Building, Salt Lake City, Utah, and mine and mine offices in Eureka, Utah, hereinafter called the "Operator," as follows: and as provided in Exhibit "A" annexed hereto as a part hereof.

~~XX~~

ARTICLE 1. *Authority for contract.*—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the State of Utah, County of Juab and County of Utah, described as follows: as set forth in Exhibit "B" attached hereto as a part hereof

the Operator represents and undertakes:⁴

(a) That the Operator is the owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached: _____

none

~~(1) The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.~~

ARTICLE 3. *Exploration project.*—The Operator, within on or before Aug. 15, 1953 days from the date of this contract shall continue work on a project of exploration for lead and zinc ores

in or upon the described land; and shall bring the project to completion on or before Dec 13, 1954 from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided. The work shall be performed by the Operator or by independent contractor or contractors efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmen's compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 4. *Costs of the project.*—The agreed, estimated costs of performing the work, expressed in terms of units of work to be performed (per foot of drifting, per foot of drilling, per cubic yard of material to be moved, etc.) are set forth in Exhibit "A," attached hereto. The Government will pay fifty (50) percent of these agreed, estimated costs, as they accrue, for units of work actually performed that conform with the description or specifications for the work set forth in this

contract, in an aggregate total amount not in excess of \$ 95,411.25 which is fifty (50) percent of 190,822.50, the agreed, estimated total cost of the project in which the Government will participate: *Provided*, That until the Operator's final report and final accounting have been rendered to the Government and any final check or auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract. The Government may, as it sees fit, make payments direct to the Operator's independent contractors, if any, for the account of the Operator, rather than to the Operator.

ARTICLE 5. *Reports, accounts, audits.*—(a) *Progress reports.* The Operator shall provide the Government with monthly reports of units of work performed under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of units of work performed on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

¹ If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.

² State name, address, and nature of organization if any.

³ Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.

⁴ Strike out the provision not applicable.

⁵ Name of mineral or minerals.

(b) *Final report.*—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(c) *Compliance with requirements.*—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(d) *Accounts and audits.*—The Operator shall keep suitable records and accounts of the units of work performed, which the Government may inspect and audit at any time. The Government may at any time require a check of the work performed and an audit of the Operator's records and accounts, by a certified public accountant or otherwise, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account and statement of work performed to accompany his final report.

ARTICLE 6. *Repayment by Operator.*—(a) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows:

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars (\$8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents (\$0.50) by which such net amounts exceed eight dollars (\$8.00) per ton, but not in excess of five (5) percent of such net amounts.

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

(b) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales, or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be the gross income from mining operations for percentage depletion purposes in income-tax determination.

(c) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(d) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

ARTICLE 7. *Assignment, transfer, or loss of Operator's interest.*—Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; *Provided*, that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of 10 years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator.

ARTICLE 8. *Termination and completion.*—The Government may, at any time, by written notice to the Operator, terminate this contract: (a) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (b) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (c) if, in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worth while discovery and in the opinion of the Government further operations are not justified.

ARTICLE 9. *Changes and added provisions.*—The words "10 years," wherever they occur in the above contract form, are hereby changed to 15 years. This Second Amended Contract is supplemental to a First Amended Contract of even date.

,as of July 1, 1952.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

~~CHIEF CONSOLIDATED MINING COMPANY~~

By Cecil Fitch
President

By O. Mittermeyer
Administrator, Defense
Minerals Exploration
Administration

I, W. W. Watson, certify that I am the
of the corporation named as Operator herein; that
this contract on behalf of the Operator, was then
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.

Cecil Fitch
President

Hoffman
Secretary

secretary
, who signed
of said corporation;

W. W. Watson

[CORPORATE
SEAL]

RECEIVED
[illegible]
REGISTERED
JUL 20 1952

**EXPLORATION PROJECT CONTRACT
CHIEF CONSOLIDATED MINING COMPANY
DOCKET NO. DMA-1 and 1A**

EXHIBIT "A" (Second Amended Contract)

In addition to the provisions set forth in the contract form to which this Exhibit "A" is attached, hereinafter called the Second Amended Contract, it is agreed as follows:

1. That certain Exploration Project Contract of even date herewith on Form MP-200 (revised February 1952), therein and hereinafter referred to as the First Amended Contract, shall be wound up and settled as therein provided, except for the liquidation and accounting for the Government's interest and equity in any property referred to in Article 11 of the First Amended Contract, which shall be liquidated and accounted for as provided in that contract, but upon the completion of the work provided for in this Second Amended Contract or upon its termination. Except as otherwise expressly provided in the First Amended Contract and this Second Amended Contract, all of the rights and obligations of the parties under the First Amended Contract are fully merged in this Second Amended Contract.

2. Any such property referred to in Article 11 of the First Amended Contract, in which the Government has an interest or equity, may be used by the Operator in the performance of the work under this Second Amended Contract, but shall be preserved, maintained, repaired, and to the extent necessary to complete the work replaced, by the Operator, the cost and use-value thereof having been considered in arriving at the agreed unit costs under this Second Amended Contract.

3. Any materials or supplies remaining unexpended, to the cost of which the Government has contributed under the provisions of the First Amended Contract, may be expended by the Operator in the performance of the work under this Second Amended Contract, the cost thereof having been considered in fixing the agreed unit costs.

4. The work to be performed remains the same as described in the First Amended Contract and not performed under the provisions thereof.

5. The costs as estimated in the Original and First Amended Contracts and the agreed unit costs under this Second Amended Contract are recapitulated and restated as follows:

A. RECAPITULATION OF COSTS AS ESTIMATED IN ORIGINAL CONTRACT

Project 1			\$ 63,000.00
Project 1-A			
4-compartment, 400-foot winze, \$140,000.00, one-half of which is allowable for Government contribution		\$70,000.00	
Drifting and raising	<u>99,000.00</u>	<u>169,000.00</u>	\$232,000.00
Exhibits "B" and "C"			
Electrical system		78,900.00	
Pumping system		126,020.00	
Sump, etc. (2700-foot level)		<u>26,500.00</u>	<u>231,420.00</u>
Total estimated cost			<u>\$463,420.00</u>

B. COSTS INCURRED UNDER ORIGINAL AND FIRST AMENDED CONTRACTS (SUBJECT TO AUDIT) PLUS COSTS TO BE INCURRED

Costs (allowable) incurred under First Contract

Project 1		63,999.54	
Project 1-A ($\frac{1}{2}$)		17,697.76	
Pumping system		240,705.59	
Retroactive adjustment of wages		<u>4,815.32</u>	327,218.21

Added work

Sump and pump station at 3100-foot level (a unit)		20,482.50
---	--	-----------

Work described in Original
Contract, uncompleted

323 ft. of winze @ \$360/ft.,
\$116,280.00, $\frac{1}{2}$ allowable

\$ 58,140.00

3300 ft. of drifting, cross-
cutting, raising @ \$34/ft.

112,200.00

\$190,822.50

Estimated new total

\$518,040.71

C. ORIGINAL ESTIMATE OF COSTS PLUS ADDITIONS

Original estimate

463,420.00

Retroactive wage adjustment

4,815.32

Added work

Sump and pump station at
3100-foot level (a unit)

20,482.50

Increased estimates

3-compartment, 400-ft. winze

Costs incurred (77 ft.) ($\frac{1}{2}$)

17,697.76

Costs remaining (323 ft.)

58,140.00

New estimated total

75,837.76

Original (allowable) estimate

70,000.00

5,837.76

3300 ft. of drifting, cross-
cutting, raising

New estimate @ \$34/ft.

112,200.00

Original estimate @
\$30/ft.

99,000.00

13,200.00

Pumping system

Costs incurred

240,705.59

Original estimate

231,420.00

9,285.59

Project 1

Costs incurred
Original estimate

\$ 63,999.54

63,000.00 \$ 999.54

ESTIMATED NEW TOTAL

\$518,040.71

EXPLORATION PROJECT CONTRACT
CHIEF CONSOLIDATED MINING COMPANY
DOCKET NO. DMA-1 and 1A

EXHIBIT "B" (Second Amended Contract)

WHEREAS, the land described in the Original Contract which would be subject to certification by the Government of a discovery or development, is "10,000 acres of mineral lands owned in fee simple ; to which Appendix "A" adds "presently known bodies of ore situated south of the Leadville Fault and below the 2450-foot level of the 18-411 winze and which lies outside of the exploration project described in this contract"; and

WHEREAS, by the provisions of Article 14 of the Original Contract the Government's right to make a certification of a discovery or development is limited to one that "has resulted from the work," as set forth in a certification "particularly describing and delimiting" such discovery or development; to which Appendix "A" adds certain known ore bodies as indicated above; and

WHEREAS, the 10,000 acres is much more than any area which could reasonably be included in any certification by the Government under the terms of the Original Contract; and

WHEREAS, by the provisions of the Government's amended contract forms (MF-200 and MF-200A) any production from the entire area described in Article 2 of those forms is subject to the Government's claim for a percentage royalty, regardless of whether it may have resulted from the exploration work; and

WHEREAS, the area described in Article 2 of the First and Second Amended Contracts includes anything that might reasonably have been certified by the Government under the provisions of the Original Contract (with the exception of certain exclusions hereafter indicated), and adds areas that would not reasonably have been subject to certification under the Original Contract; and

WHEREAS, the Government's interests are deemed to be benefited by placing the contract on its new contract forms and by making certain the areas the production from which will be subject to the Government's claim for a percentage royalty;

NOW THEREFORE, the land referred to in Article 2 of the First and Second Amended Contracts, shall be that indicated by yellow shading on a map attached hereto denominated "Claims and Mining Rights of the Chief Consolidated Mining Co., in the Tintic & North Tintic Min'g Dist., Utah," excluding therefrom everything south of the Leadville Fault from the surface to the 2450-foot level of the 18-411 winze (which exclusion is not indicated on the map).

Of the areas indicated on the map as excluded from this contract, two situated in the area of the exploration operations, are a small rectangular parcel, unshaded, and a larger rectangular parcel partially shaded by diagonal yellow lines, the latter being excluded only from the 1800-foot level to the 2000-foot level. The smaller parcel is more particularly described as follows:

Part of lot 10 and all of lots 7 - 11 and 12 in Block 3, Plate C Eureka Townsite Survey, 2.521 acres.

The larger and partly excluded parcel is more particularly described as follows:

A subsurface block, with vertical exterior boundaries, between the 1800- and 2000-foot levels of the 18-411 winze.

**LARGE
FORMAT
DOCUMENTS
AT END OF
FILE**

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
FIRST AMENDED
EXPLORATION PROJECT CONTRACT

DEPARTMENT OF THE INTERIOR
Docket **copy** Minerals Administration
IDM-E 4
RECEIVED
JUL 20 1953

as of June 13, 1951.

IT IS AGREED this 16th day of June, 1951, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Chief Consolidated Mining Company, an Arizona corporation, with principal offices at 603 Dooley Building, Salt Lake City, Utah, and mine and mine offices in Eureka, Utah, hereinafter called the Operator, as follows: and as provided in Exhibit "A" annexed hereto as a part

ARTICLE 1. Authority for contract.—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. Operator's property rights.—With respect to that certain land situated in the State of Utah, County of Juab and County of Utah, described as follows: as set forth in Article 2 and Exhibit "B" of the Second Amended Contract, which are incorporated herein by reference

the Operator represents and undertakes:

(a) That the Operator is the owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached:

none

(b) That the Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE 3. Exploration project.—The Operator, within one year after Dec 15, 1953 days from the date of this contract shall begin work on a project of exploration for lead and zinc ores

in or upon the described land; and shall bring the project to completion within a period of one year after Dec 13, 1954 from the date of this contract. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided.

ARTICLE 4. Performance of the work.—(a) Operator's responsibility. The work shall be performed efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmen's compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. To the extent specified in Exhibit "A," attached hereto, the work may be performed by independent contractor or contractors; and work not specified in Exhibit "A" for performance by independent contractor may nevertheless be so performed upon amendment of Exhibit "A," as agreed to by the parties, to state the work to be so performed and the estimated unit costs thereof, as provided hereafter.

(b) Independent contracts.—Any independent contract for the performance of work shall be on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved), or on some basis that will indicate the amount due for work performed at any stage of the work to be performed under such independent contract. The Government shall not be nor be considered to be a party to any such independent contract, and the Government's right to terminate the exploration project contract under any of its provisions shall not in any manner be affected by reason of any such independent contract. If the reference in Exhibit "A" to any such independent contract states that the Government's approval thereof is required, the Government may refuse to participate in the cost thereof unless and until it has given its written approval of the independent contract.

(c) Government may inspect.—The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

ARTICLE 5. Estimated costs of the project.—A statement of the estimated cost of the project is set forth in Exhibit "A," attached hereto. Except insofar as any item of requirement or the estimated cost thereof set forth in Exhibit "A" is there or elsewhere designated as an "allowable maximum," such items of requirement and of related cost are estimates only, and may be exceeded to the extent that the Government may from time to time approve for the most economic and beneficial performance of the work within the limitation of the total aggregate estimate of costs. The Government's approval of any such excess over the estimate for an item of requirement or related cost will be signified by its approval and payment of any invoice or voucher for payment which expressly calls attention to such excess. Items expressly designated in Exhibit "A" or elsewhere as "allowable maximum," and the total aggregate estimated cost are limitations, and any excess therein will be for the sole account of the Operator in which the Government will not participate.

ARTICLE 6. Allowable costs of the project.—(a) The costs of the project in which the Government will participate are limited to the following:

(1) Independent contracts.—Payments to independent contractors under independent contracts listed in Exhibit "A." The estimated cost of any work to be performed under an independent contract is or shall be included in the estimate of costs in Exhibit "A" in terms of the estimated numbers of units of work to be performed, the estimated amount to be paid per unit, and the estimated total amount to be paid to the independent contractor, and such estimates shall be allowable maximums above which the Government will not contribute. Regardless of the provisions of any such independent contract, the Government will participate in the payments to the independent contractor only on account of work actually performed and that conforms with the provisions of the exploration project contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable and necessary. No such independent contract shall have the effect of increasing the estimated total cost of the exploration project contract nor the maximum amount which the Government will pay as provided in the exploration project contract.

(2) Labor, supervision, consultants.—Labor, supervision and technical services (including engineering and geological consultants), a schedule of which is included in the estimate of costs set forth in Exhibit "A." The requirements and related estimated costs for supervision and technical services are allowable maximums.

(3) Operating materials and supplies.—Necessary materials and supplies including items of equipment costing less than \$50.00 each, and power, water, and fuel, a schedule of which is included in the estimate of costs in Exhibit "A."

(4) Operating equipment.—Any operating equipment to be rented or purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or the allowable depreciation, as the case may be, a schedule of which is included in Exhibit "A." Any items listed as owned and to be furnished by the Operator, and related initial allowable depreciation, are allowable maximums.

(5) Rehabilitation and repairs.—Any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and to be devoted to the purposes of the exploration contract, a schedule of which is included in the estimate of costs set forth in Exhibit "A." These items are allowable maximums.

(6) New buildings, improvements, installations.—Any necessary buildings, fixed improvements, or installations to be purchased, installed, or constructed for the purposes of the exploration work, with the estimated cost of each, a schedule of which is included in the estimate of costs in Exhibit "A." All of these items are allowable maximums.

(7) Miscellaneous.—Repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance and payroll taxes.

(8) Contingencies.—Such other necessary, reasonable direct costs of performing the exploration work, within the limit of the total aggregate estimate of costs, whether or not included in any schedule of costs in Exhibit "A," as may be approved by the Government in the course of the work, as indicated by its approval and payment of invoices and vouchers.

¹ If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.

² State name, address, and nature of organization if any.

³ Give legal description or enough to identify the property, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.

⁴ Strike out the provision not applicable.

⁵ Name of mineral or minerals.

(b) The Government's payments in all cases will be based on actual, necessary costs (including contract unit prices) incurred not in excess of any "allowable maximum," and not in excess of the fixed percentage of the total aggregate estimated cost. Costs will be considered to be incurred only as they are or become due and payable.

(c) No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes) or any other indirect costs, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

ARTICLE 7. Reports, accounts, audits.—(a) Progress reports. The Operators shall provide the Government with monthly reports of work performed and costs (including contract unit prices) incurred under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of costs incurred on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay reports on samples taken concurrently with the advance in mineralized ground.

(b) Final report.—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(c) Compliance with requirements.—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(d) Accounts and audits.—The Operator shall keep suitable records and accounts of operations, which the Government may inspect and audit at any time. The Government may at any time require an audit of the Operator's records and accounts by a certified public accountant, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract. Upon the completion of the project or termination of the contract the Operator shall render a final account as provided in Article 12.

ARTICLE 8. Payments by the Government.—(a) The Government will pay 50 percent of the allowable costs incurred, as they accrue, in an aggregate total amount not in excess of \$ 231,710.00, which is 50 percent of \$ 463,420.00, the agreed, estimated total cost of the project in which the Government will participate; Provided, that until the Operator's final report and final accounting have been rendered to the Government, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract.

(b) The Government may make any payment or payments direct to independent contractors and to suppliers, for the account of the Operator, rather than to the Operator.

ARTICLE 9. Repayment by Operator.—(a) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows:

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars (\$8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents (\$0.50) by which such net amounts exceed eight dollars (\$8.00) per ton, but not in excess of five (5) percent of such net amounts.

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

(b) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales; or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be gross income from mining operations for percentage depletion purposes in income-tax determination.

(c) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(d) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

ARTICLE 10. Assignment, transfer, or loss of Operator's interest.—Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; Provided, that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of 10 years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator.

ARTICLE 11. Title to and disposition of property.—All facilities, buildings, fixtures, equipment, or other items costing more than \$50.00 each, paid for or purchased with funds contributed jointly by the Operator and the Government, although title may be taken in the name of the Operator, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the completion of the work or the termination of the contract shall be disposed of promptly by the Operator for the joint account of the Government and the Operator, either by return to the vendor, by sale to others, or purchase by the Operator at a price at least as high as could otherwise be obtained, as may appear to be for the best interest of the Government, unless the Government, in writing, waives its interest in any such item. If necessary to accomplish such disposition, the Operator shall dismantle, sever from the land, and remove any such item, the cost thereof to be for the joint account of the parties in proportion to their respective interests. If the Operator, within 90 days after the receipt of written notice from the Government, fails, neglects, or refuses to dispose of such property, the Government may itself enter upon the land, take possession of, and remove and dispose of any such property as above provided.

ARTICLE 12. Termination and completion.—The Government may, at any time, by written notice to the Operator, terminate this contract: (a) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (b) If the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (c) if in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any work while discovery and in the opinion of the Government further operations are not justified. Upon the completion of the project or any termination of the contract the Operator shall dispose of any remaining materials, supplies, facilities, buildings, fixtures, and equipment in which the Government has an interest, for the joint account of the Operator and the Government in the proportion of their respective interests; shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; and shall pay to the Government its pro rata share of any money remaining.

ARTICLE 13. Changes and added provisions. The words "10 years," wherever they occur in the above contract form, are hereby changed to "15 years." This First Amended Contract is supplemented by a Second Amended Contract of even date. as of June 13, 1951.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

CHIEF CONSOLIDATED MINING COMPANY
(Operator)

By Cecil Fitch
President

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

W. W. Watson
Administrator, Defense Minerals Exploration Administration

Cecil Fitch
President

secretary, who of said corporation

W. W. Watson

RECEIVED
JUL 20 1953

EXPLORATION PROJECT CONTRACT
CHIEF CONSOLIDATED MINING COMPANY
DOCKET NO. DMA-1 and 1A

EXHIBIT "A" (First Amended Contract)

In addition to the provisions set forth in the contract form (MF-200, revised February 1952), to which this Exhibit "A" is attached, it is mutually agreed as follows:

1. That certain Exploration Project Contract dated June 13, 1951, Docket No. DMA-1 and 1A, Contract No. I-DMA-E4, as amended, hereinafter called the Original Contract,^{1/} is amended, as of the date thereof, and superseded by this agreement, hereinafter called the First Amended Contract, in which all the rights and obligations of the parties are merged except as herein otherwise expressly provided. This First Amended Contract is supplemented by a Second Amended Contract of even date herewith.

2. The work performed and to be performed shall remain as described in the Original Contract, except that the 18-411 winze shall be of three compartments instead of four compartments, each not less than 50" x 50" in the clear, and a sump and pump station shall be constructed at the 3100-foot level of the said winze, as shown on drawing attached hereto designated "Figure 1."

1/ The Original Contract consists of the following documents:

1. The printed Exploration Project Contract Form (MF-200, April 1951), dated June 13, 1951, with attachments:

- (a) Appendix "A"
- (b) Exhibit "A"
- (c) Exhibits "B" and "C"
- (d) Exhibit "D"
- (e) Exhibit "E"

2. Amendment No. 1 (not so denominated) dated August 13, 1951.

3. Amendment No. 2 (not so denominated) dated November 26, 1951.

4. Amendment No. 3 dated April 4, 1952.

3. Of the work described in the Original Contract, the following was completed prior to July 1, 1953:

(a) The work described in Exhibit "A" of the Original Contract, under the title "Project 1."

(b) Of the work described in Exhibit "A" of the Original Contract under the title: "Project 1-A," 77 feet of the 400-foot winze.

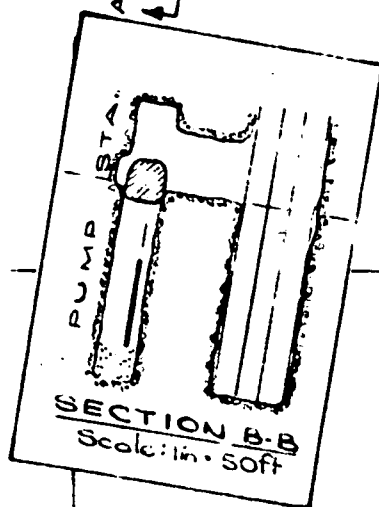
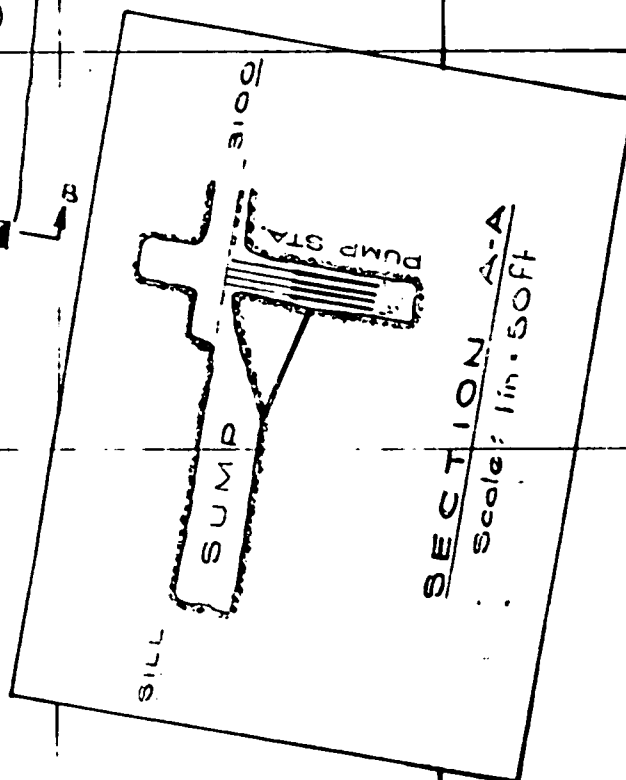
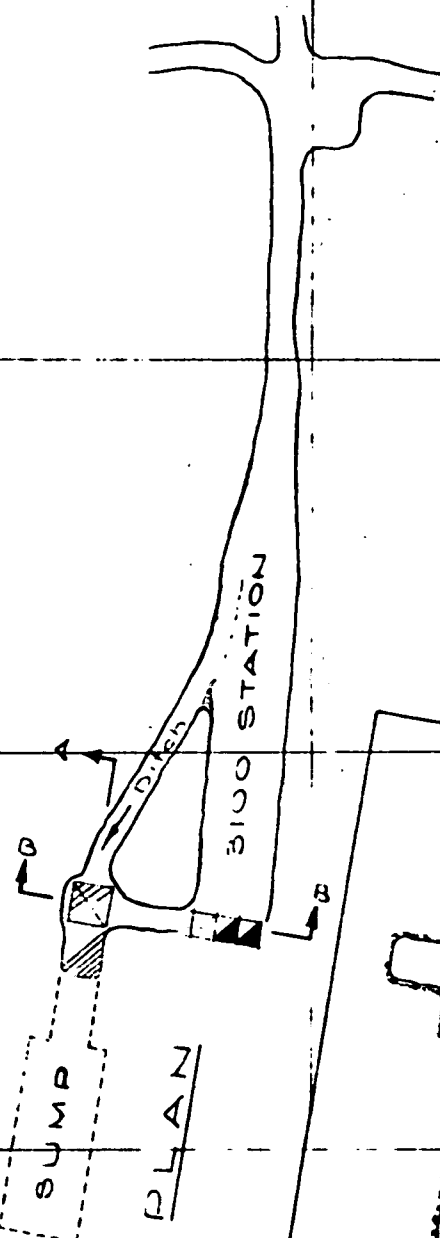
(c) All of the work described under the title "Recapitulation of Costs of New Pumping System ..." (Exhibits "B" and "C").

4. In the performance of the completed work, the Operator has incurred as allowable costs for contribution by the Government, prior to July 1, 1953, the sum of \$327,218.21 (subject to audit), of which sum the Government is obligated to contribute 50 percent, or \$163,609.11 (subject to the aforesaid audit), under the provisions of this First Amended Contract.

5. Upon the payment by the Government of the amount of its contribution to the work performed, as above provided, both the Original Contract and this First Amended Contract shall become fully settled, wound up, and terminated, except for (a) the Government's interest and equity in any property referred to in Article 11 of this First Amended Contract, the liquidation of and the accounting for which shall be as provided in Article 11 of this First Amended Contract, but shall be deferred until the completion of the work provided for in the Second Amended Contract; and (b) the Government's right to and lien for a percentage royalty on production, which shall be as provided in this First Amended Contract as supplemented by the Second Amended Contract.



SCALE: 1 in = 50 ft



PROPOSED SUMP
PUMPING STATION

3100 LEVEL

CHIEF CONSOLIDATED MINING CO.
EUREKA, UTAH

Figure 1. DMEA 1m41A

2nd, give
Docket Copy
No. 3

AMENDMENT OF CONTRACT: No. I-DMA-E4

Contract Docket No. DMA 1 and 1A, dated June 13, 1951, between the United States of America and Chief Consolidated Mining Company is hereby amended as follows, effective as of the date of said contract:

Referring to "Exhibit B" attached to Exploration Project Contract Form NF-200, under heading:

List of Monthly Rates Paid Supervisory and Professional Employees Whose Salaries will be Allocated in Part to Exploration Contract NF-200, DMA Docket Nos. 1 and 1A.

and the following:

	<u>Rate per month</u>
Blacksmith Shop Foreman	258.00*
Machine Shop Foreman	242.00*
Sergeant Shop Foreman	277.50*
Chief Underground Mechanic	282.00*
Chief Electrician	351.00*

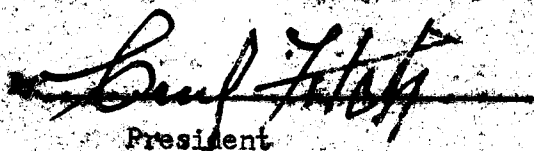
*The above rates are based on a 40-hour week and are subject to time and one-half for overtime.

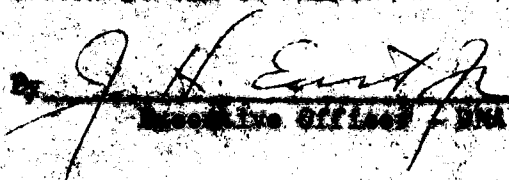
This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may pay or the percentage of the costs which the Government may pay under the provisions of Article 11 of the contract form.

Dated April 6, 1952.

CHIEF CONSOLIDATED MINING COMPANY

UNITED STATES OF AMERICA


President


Executive Officer - DMA

AMENDMENT OF EXPLORATION PROJECT CONTRACT

It is agreed this 13th day of August, 1951, between the undersigned parties to Exploration Project Contract DMA 1 and 1A and DMA B 4, dated June 13, 1951 that:

WHEREAS, said contract in Exhibit B and C attached thereto estimates the cost of a new pumping system, installed, at the total of \$231,420.00; and

WHEREAS, said sum of \$231,420.00, more or less, as estimated, was intended to be and is intended to be one of the costs of the project in which the Government will participate according to the terms of said contract; and

WHEREAS, by the provisions of Article 10 of said contract it is provided that: "no items of ... work performed or costs incurred before the date of this contract shall be allowed as costs of the project in which the Government will participate;" and

WHEREAS, the installation of said pumping system was actually completed in whole or in part before June 13, 1951, on the strength of the representations of the Government and the intentions of the parties that the cost thereof should be included as a part of the Exploration Project Contract;

NOW THEREFORE, it is agreed that the cost of said pumping system which was estimated in the amount of \$231,420.00 shall be and is allowed as one of the costs of the Exploration Project in which the Government will participate pursuant to the terms of said contract.

Referring to Exhibit B of said contract entitled "List of Wage Rates in Effect at Bureka, Utah as of May 22, 1951; it is agreed that according to the practice in the district where the work is being performed, or as it may appear that the work can be performed as or more expeditiously, efficiently, and economically, that payment may be made to miners engaged in the work in terms of units of work accomplished rather than in terms of daily wage rates; and that insofar as applicable, payments for labor and supervision may include amounts that would be due and paid under the Company's established performance incentive wage plan to the extent that such payments would not be in excess of the general average allowed in the district in which the mine is situated.

This amendment shall not be construed to increase the estimated total cost of the Project or the aggregate total of the Government's contribution or the percentage of the Government's contribution all as set forth in Article 11 of the Contract.

Executed in sextuplet the day and year first above written.

THE UNITED STATES OF AMERICA

GRIFF CONSIDERED MINERS COMPANY

By

Ernest J. Hoff
President

By

W. C. Schinder

Acting Administrator
Defense Minerals Administration

CGM
J.T.H.

Office Files continued

Delete Exhibit "A" in its entirety and substitute in lieu thereof the following:

Exploration work to be performed by operator and estimated cost thereof.

Project 1-4	3100 foot level	
Sink 18-411 winze, 1 compartment 400 feet @ \$350. foot at an estimated total cost of \$140,000. One-half of such cost only to constitute an allowable cost of the project.*		70,000
Drift North from Winze on 3100 foot level 600 feet @ \$30. foot		18,000
Drift East, North of Leadville Fault 800 feet @ \$30. foot		24,000
Drift West, North of Leadville Fault 400 feet @ \$30. foot		12,000
Raises North Drift	500 feet @ \$30. foot	15,000
Raises East Drift	500 feet @ \$30. foot	15,000
Raises West Drift	500 feet @ \$30. foot	15,000
	Total	\$169,000

Executed in sextuplet this 26 day of November, 1951.

THE UNITED STATES OF AMERICA

by COMITHEUDARY
ACTING ~~Assistant~~ Administrator
Defense Minerals Administration

15. MAY 62 6 09 29 AM '51

residex

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

EXPLORATION PROJECT CONTRACT¹

It is agreed this 13th day of June, 1951, between the United States of America, acting through the Department of the Interior, Defense Minerals Administration, hereinafter called the "Government," and² Chief Consolidated Mining Company, an Arizona corporation, with principal offices at 608 Dooly Building, Salt Lake City, Utah, and mine and mine offices in Eureka, Utah,

hereinafter called the "Operator," as follows:

1. *Authority for contract.* This agreement is entered into under the authority of the Defense Production Act of 1950, pursuant to Mineral Order 5, entitled "Regulations Governing Government Aid in Defense Exploration Projects."
2. *Operator's property rights.* The exploration project shall be conducted on that certain property situated in the State of Utah, Counties of Juab and Utah described as follows:³ 10,000 acres of mineral lands owned in fee simple

with respect to which the Operator represents and undertakes:⁴

- (a) That he is the sole owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached: No encumbrances

3. *Exploration project.* The Operator, within 10 days from the date of this contract shall commence work on a project of exploration for⁵ lead and zinc ores; shall prosecute the work efficiently, expertly, in a workmanlike manner, in accordance with good mining standards, with suitable and adequate equipment, materials, and labor, all properly designed to bring the project to completion within a period of⁶ 24 months from the date of this contract. The exploration project and the work to be performed are more fully described on Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, is made a part of this contract.

4. *Performance of the work.* The work shall be performed by the Operator, under his sole direction and control: *Provided*, That with the consent of the Government and its written approval of the contract or contracts, all or any part of the work may be performed by the Operator through contract or contracts with independent contractors. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

5. *Fixtures and improvements.* The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof. Attached hereto, marked "Exhibit 'B'," is a detailed list of additional facilities, buildings, and fixtures, to be purchased, installed, or erected by the Operator, with the estimated cost of each, to which the Government will contribute its agreed pro-rata share of the cost. The difference between the cost of such additional facilities, buildings, or fixtures, and the salvage value thereof at the conclusion of the work, shall be charged as a cost of the project to which the Government has contributed its pro-rata share.

6. *Operating equipment.* Attached hereto, marked "Exhibit 'C,'" is a detailed list of operating equipment divided into categories of items to be rented, purchased, or furnished by the Operator, with the allowable rental, purchase price, or rental value, as the case may be, annexed to each. As to equipment purchased for the project, the Government will contribute its agreed pro-rata share of the cost thereof, and the difference between the cost and the salvage value at the conclusion of the work shall be charged as a cost of the project to which the Government has contributed its pro-rata share.

¹ If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.

² State name, address, and nature of organization if any.

³ Give legal description or enough to identify the property.

⁴ Strike out the provision not applicable.

⁵ Name of mineral.

⁶ Not in excess of 2 years.

7. *Title to and disposition of property.* All facilities, buildings, fixtures, equipment, or other items costing more than \$50 each, paid for or purchased with funds contributed jointly by the Operator and the Government, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the termination of the contract, if they have any salvage value, shall be disposed of for their joint account unless the Government, in writing, waives its interest in any such items. The Government may require the dismantling, severance from land, and removal of any such items in order to realize its interest in the salvage value thereof, and the cost of any such removal and of the disposal of the items shall be for the joint account of the parties in proportion to their respective interests.

8. *Labor and supervision.* Attached hereto, marked "Exhibit 'D'," is an itemized schedule of labor, by numbers and classes (miners, muckers, millmen, etc.), and of supervisors, by numbers and positions, with the maximum wages or salaries that may be paid to each as an allowable cost of the project.

9. *Rehabilitation and repairs.* Attached hereto, marked "Exhibit 'E'," is a detailed schedule of existing facilities, buildings, installations, and fixtures, with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition, which cost shall be allowed as a cost of the project.

10. *Allowable costs of the project.* The allowable costs of the project in which the Government will participate are limited to the necessary, reasonable, direct costs of performing the exploration work, including the costs of materials, supplies, engineering, power, water, and utilities, including items of equipment costing less than \$50 each; and the costs referred to in Articles 5, 6, 8, and 9, and the exhibits annexed to and referred to in the contract. Although the Government may pay part of the cost of new or additional facilities, structures, buildings, and equipment, only the depreciation on such items, computed as indicated in Articles 5 and 6, will be charged as a cost of the project. No items of general overhead, corporate management, interest, or any other indirect costs not expressly allowed by these regulations, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

11. *Participation by the Government.* At the end of the first full calendar month after the Operator has commenced work under the project, and at the end of each succeeding calendar month, the Operator shall submit to the Government a voucher for payment with a detailed statement of work done and allowable costs (as defined in Article 10 of this agreement) incurred, in a form and with supporting data acceptable to the Government. After approving the voucher, the Government shall pay to the Operator 50 percent of the sum of such costs incurred; *Provided*, That the aggregate total of all sums paid by the Government under this agreement shall not exceed \$ 231,710, which is 50 percent of the agreed estimated total cost of this project, \$ 463,420.

12. *Accounts and audits.* The Operator shall keep suitable records and accounts of operations, which the Government may inspect and audit at any time. The Government may at any time require an audit of the Operator's records and accounts by a certified public accountant, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract.

13. *Progress reports.* The Operator shall provide the Government with monthly reports of progress in form and content satisfactory to the Government, and upon the completion of the project or termination of the contract shall provide the Government with a comprehensive geologic and engineering report, including an estimate of ore reserves, to the best of his ability. Four copies of all reports shall be furnished to the Government.

14. *Repayment by Operator.* If, upon the completion of the exploration project or termination of the contract, the Government considers that a discovery or development has resulted from the work from which commercial production of ore may be made, the Government, within 6 months thereafter shall so certify to the Operator, particularly describing and delimiting its estimate of the discovery or the development. Thereafter, if and as ore is produced as a result of such discovery or development, the Operator and his successor in interest shall be and become obligated to pay to the Government a percentage royalty on the net smelter returns or other net proceeds realized from such ore, concentrates, or metal produced within ten (10) years from the date of this contract, until the total amount contributed by the Government, without interest, is fully repaid or said 10 years have elapsed, whichever occurs first, as follows:

Of net smelter returns or other net proceeds not in excess of eight dollars (\$8.00) per ton of ore: One and one-half (1½) percent.

Of net smelter returns or other net proceeds in excess of eight dollars (\$8.00) per ton of ore: One and one-half (1½) percent, plus one-half (½) percent additional for each full fifty cents (\$0.50) in excess of eight dollars (\$8.00) per ton of ore, but not in excess of a maximum of five (5) percent.

This obligation to repay from net returns or proceeds shall be and remain a claim and lien upon the property which is the subject of the exploration project and upon any production resulting from such discovery or development, in favor of the Government, until fully paid, or until said 10-year period has elapsed; and this claim and lien and the Government's right to repayment shall survive any termination of the contract, whether by completion of the exploration project or otherwise. This article is not to be construed as imposing any obligation on the Operator or his successor in interest to produce ore from any such discovery or development. Appendix "A" attached hereto is made part of this contract.

15. *No assignment of contract.* Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder.

16. *Termination and completion.* The Government may, at any time, by written notice to the Operator, terminate this contract: (a) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (b) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (c) if in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worthwhile discovery and in the opinion of the Government further operations are not justified. Upon the completion of the project or any termination of the contract the Operator shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; shall dispose of any unused materials, supplies, and equipment for the joint account of the Operator and the Government in the proportion of their respective interests; and shall pay to the Government its pro-rata share of any money remaining.

Executed in triplicate the day and year first above written.

Chief Consolidated Mining Co.

(Operator)

By Benjamin Fitch, President

THE UNITED STATES OF AMERICA

By

James B. Boy
Administrator,

Defense Minerals Administration

ALTERNATE "A"

WHEREAS, a portion of the exploration work to be performed under this contract may result in opening to development and production of presently known bodies of ore situated south of the Leadville fault and below the 2,500-foot level of the 13-hill mine and which lies outside the limits of the exploration project described in this contract,

NOW THEREFORE, in consideration of the benefits which the Operator may obtain from the exploration work toward development of said ore bodies, Operator hereby agrees to pay to the Government the percentage royalty set forth in paragraph 11 of this contract on any reduced therefrom. The provision of said paragraph 11 of this contract shall apply to any production from said ore bodies--

EXHIBIT A

EXPLORATION WORK

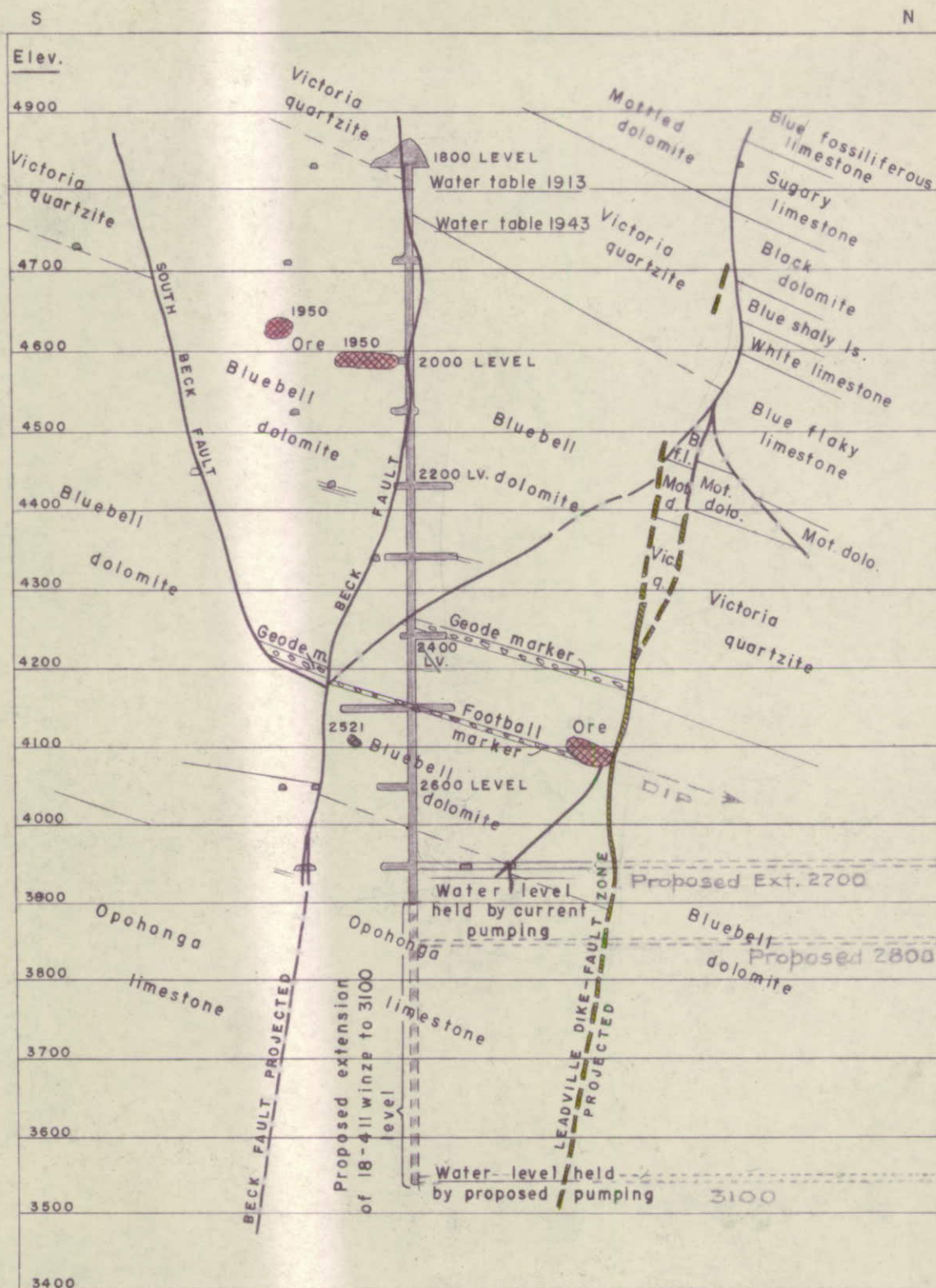
To Be Performed by Operator

Project 1 2700 Foot Level		Total Cost	DMA Funds
Drift North from the 18-411 Winze	600 feet @ \$30. foot	\$18,000	\$ 9,000
Drift East, North of the Leadville Fault	800 feet @ \$30. foot	24,000	12,000
Drift West, North of the Leadville Fault	400 feet @ \$30. foot	12,000	6,000
Raises, North Drift	100 feet @ \$30. foot	3,000	1,500
Raises East Drift	100 feet @ \$30. foot	3,000	1,500
Raises West Drift	100 feet @ \$30. foot	3,000	1,500
Totals		\$63,000	\$31,500

Project 1-A 3100 Foot Level		Total Cost	DMA Funds
Sinking 18-411 Winze, 4 Compartment	400 feet @ \$350. foot	\$140,000	\$35,000
Drift North from Winze on 3100 foot level	600 feet @ \$30. foot	18,000	9,000
Drift East, North of Leadville fault	800 feet @ \$30. foot	24,000	12,000
Drift West, North of Leadville fault	400 feet @ \$30. foot	12,000	6,000
Raises North Drift	500 feet @ \$30. foot	15,000	7,500
Raises East Drift	500 feet @ \$30. foot	15,000	7,500
Raises West Drift	500 feet @ \$30. foot	15,000	7,500
Totals		\$239,000	\$84,500

Summary:	Total Cost	DMA Funds	% DMA
Project 1	\$ 63,000	\$ 31,500	50%
Project 1-A	239,000	84,500	31.2%
Totals	\$302,000	\$116,000	38.4%

99
162
70
232
= 302.00



GEOLOGIC SECTION THROUGH CHIEF CONSOLIDATED
18-411 WINZE

Fig. 4

Exhibit B and C

Recapitulation of costs of new pumping system to handle 7000 gallons
per minute from 3100 Level to the 1800 Level drainage.

Exhibits B & C

Electrical System Installed \$78,900.00

Pumping Equipment Installed 126,020.00 ✓

Sumps, Extension of drainage
workings and enlargements 26,500.00

Total \$231,420.00

Chief Consolidated Mining
DMA 1-1A
E 4

ELECTRICAL SYSTEM REQUIRED TO SUPPLEMENT PRESENT SYSTEM

To be installed thru No. 2 Shaft

BILL OF MATERIAL

TRANSFORMERS LOCATED AT 2300 FT. LEVEL 4160 V SYSTEM FROM
SURFACE SWITCH HOUSE TO 2300 FT. SWITCH ROOM

ITEM	DESCRIPTION	AMOUNT
1.	Lightning Arrester, Station Type SV, Outdoor Single Pole Units, Type S-No-1533123 1 set	1,513.68
2.	Power Fuses, Mounting and Fuse Units, Type DBA-1 "DE-ION" Dropout - 46,000 Volts 3 ea.	260.00
3.	Transformer - 3,000 KVA, 44,000 Volt Primary, 4160 Volt Secondary, Type AOP3, 3 Phase, 60 Cycles, Class A, Insulated for 55° C Rise Above 40° C Ambient, with 4 2 1/2 full capacity taps below normal on High Voltage side, complete with all standard accessories in accordance with NEMA Standards for Power Transformers-Oil Filled 1 ea.	11,694.00
4.	Oil Circuit Breaker, 1200 Amp., 4160 Volt, 3 Pole, 3 Phase, 50,000 Amp.-RMS - Interrupting Capacity Type D-20 Main Breaker 1 ea.	740.00
5.	Oil Circuit Breaker, 800 Amp., 4160 Volt, 3 Pole, 3 Phase, 25,000 Amp. - RMS - Interrupting Capacity Type D-20 - Breaker on Feeder Cables at Surface Switch House 2 ea.	822.50
6.	Lightning Protection, Cable Type, S-No-1114725 Type FR Inerteen Capacitor, 3 Phase, 4160 Volt and 3-Type FD Special S-No-1533190 Lightning Arresters, on Cables at Surface Switchyard 2 sets	489.60
7.	Oil Circuit Breaker, 800 Amp., 4160 Volt, 3 Pole, 3 Phase, 25,000 KVA - 1c, Type E47 on Feeder Cables at 2300 ft. Level on High Voltage Side of Transformer Bank 2 ea.	580.00
8.	Transformers - 590 KVA, 4160 Volt Primary, 2400 Volt Secondary Single Phase, Pyranol insulated Auto-Transformer Type HS-60 full 590 KVA Output 6 ea.	10,829.00
9.	Oil Circuit Breaker, 600 Amp, 2400 Volt, 3 Pole, 3 Phase, 25,000 KVA-1c, Type E47, Manually Operated, at Low Voltage Side of Transformer - 2300 ft. Level 3 ea.	870.00
10.	Cable - Single Conductor 2/0 AWG, 5 KV, 10/64 Gencorone and 4/64 Neoprene Insulation, Non-Shielded 39,000 ft.	17,021.00

Chief Consolidated
Mining

ITEM	DESCRIPTION	AMOUNT
11.	Cable - Single Conductor, 1/0 AWG, 5 KV, 10/64 Gencorone and 4/64 Neoprene Insulation Non-Shielded 3600 ft.	DMA-1 -1A E4 1,087.20
12.	Cable - 3/8" Copperweld Messenger Cable 12400 ft.	1,041.60
13.	Oil Circuit Breakers - 600 Amp., 2400 Volt, 3 Pole, 3 Phase, 15,000 KVA 1-c. (600 HP Motor) 2 ea.	580.00
14.	Oil Circuit Breaker - 400 Amp., 2400 Volt, 3 Pole, 3 Phase, 10,000 KVA 1-c. (250 HP Motor) 1 ea.	180.00
15.	Oil Circuit Breaker - 400 Amp., 2400 Volt, 3 Pole, 3 Phase, 15,000 KVA 1-c. (450 HP Motor) 1 ea.	319.00
16.	Reduced Voltage Starters - Class 11-600, 2400 Volt, for 600 HP Motor 2 ea.	6,457.00
17.	Magnetic Starter - Across the Line Starters for 250 HP, 2400 Volt Motors 1 ea.	669.15
18.	Magnetic Starter - Across the Line Starters for 450 HP, 2400 Volt Motor 1 ea.	845.00
19.	Timing Relays - G. E. CR2820-1740, one for 600 HP Motor and one for 450 HP Motor 2 ea.	104.00
20.	Capacitors - 700 KVAR for Power Factor Correction - 1 Unit set	4,000.00
21.	Recloser on 44 KV Circuit Located in Switch House Surface 1 ea.	1,325.00
22.	Lightning Protection on Rotation Equipment 11 set	969.65
23.	Miscellaneous	<u>1,500.00</u>
Total Cost of Material		\$63,897.38
Cost of Installation of Above Electrical Equipment		<u>\$15,000.00</u>
Total Cost of Electrical System		\$78,897.38

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DMEA

DEPARTMENT OF THE INTERIOR

SEP 24 1956

REGION III

DENVER, COLORADO

LEASES AND UNIT AGREEMENT

By and Between

CHIEF CONSOLIDATED MINING COMPANY,
a corporation of the State of
Arizona,

TINTIC STANDARD MINING COMPANY,
a corporation of the State of
Utah,

EUREKA STANDARD CONSOLIDATED MIN-
ING COMPANY, a corporation of the
State of Utah,

EUREKA LILLY CONSOLIDATED MINING
COMPANY, a corporation of the
State of Utah,

SOUTH STANDARD MINING COMPANY,
a corporation of the State of
Utah,

LESSORS,

and

BEAR CREEK MINING COMPANY,
a corporation of the State
of Delaware,

LESSEE.

Dated August 29, 1956.

RECEIVED

SEP 27 1956

*Send to R. O. Brown 9/25/56
Return Material herein
furnished from W.O.
by C. L. L. 7/25/56*

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LEASES AND UNIT AGREEMENT.

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Tintic Standard Mining Company-----	(Utah)
Eureka Standard Consolidated Mining Company-----	(Utah)
Eureka Lilly Consolidated Mining Company-----	(Utah)
South Standard Mining Company-----	(Utah)

Lessee:

Bear Creek Mining Company-----	(Delaware)
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LEASES AND UNIT AGREEMENT

THESE LEASES AND THIS UNIT AGREEMENT, made as of the 29 day of August, 1956, by and between:

CHIEF CONSOLIDATED MINING COMPANY, a corporation organized under the laws of the State of Arizona with its principal office at 608 Dooly Building, Salt Lake City, Utah;

TINTIC STANDARD MINING COMPANY, a corporation organized under the laws of the State of Utah with its principal office at 1114 Walker Bank Building, Salt Lake City, Utah;

EUREKA STANDARD CONSOLIDATED MINING COMPANY, a corporation organized under the laws of the State of Utah with its principal office at 1114 Walker Bank Building, Salt Lake City, Utah;

EUREKA LILLY CONSOLIDATED MINING COMPANY, a corporation organized under the laws of the State of Utah with its principal office at 1114 Walker Bank Building, Salt Lake City, Utah;

SOUTH STANDARD MINING COMPANY, a corporation organized under the laws of the State of Utah with its principal office at 1114 Walker Bank Building, Salt Lake City, Utah;

hereinafter called LESSORS; and

BEAR CREEK MINING COMPANY, a corporation organized under the laws of the State of Delaware, LESSEE, hereinafter called "Bear Creek".

W I T N E S S E T H:

WHEREAS, Bear Creek desires to make geologic studies of a tract of mining ground in the East Tintic Mining District in Utah and Juab Counties, State of Utah, said tract being designated by Bear Creek as "East Tintic Exploration Unit", hereinafter referred to as the "Unit Tract", comprising approximately 10,000 acres held in some 5 separate ownerships and bounded in red on the plat attached hereto and marked Exhibit "A", and to that end desires to enter into leases and an agreement with the Lessors who are severally owners of mining ground within said Unit Tract, entitling Bear Creek to make such studies and, if satisfied with the results of its

investigation and exploration, to develop and mine said Unit Tract as though the lands therein were held in common ownership and upon the terms and conditions hereinafter set forth, and

WHEREAS, Lessors are desirous of having such geologic studies made and of providing for the development and mining of said Unit Tract and believe that such development and mining can most economically and efficiently be carried out by a unitized operation under which each of the Lessors shall participate in all production from the Unit Tract in the proportions set forth in paragraph 3 of Article V hereof and as though all such land were held in common ownership.

ARTICLE I

GRANT

NOW, THEREFORE, in consideration of the premises and of the sum of \$1.00 by Bear Creek paid to each of said Lessors, receipt whereof is hereby acknowledged, and other good and valuable consideration, including the faithful performance by Bear Creek of its undertakings hereinafter set forth, and subject to the reservations, limitations, covenants and conditions herein expressed, Lessors severally grant, demise and let unto Bear Creek the respective areas of mining ground lying within the Unit Tract and designated by tract numbers upon the plat attached hereto and marked Exhibit "A", and more particularly described upon the "List of Ownerships and Description of Properties Leased", hereto attached and marked Exhibit "B", which Exhibit "B" sets forth the names of the several Lessors, the description of the respective properties leased, their acreage and whether said properties are patented or unpatented - that is to say:

Leases:

There are hereby granted, demised and let by each of the following named Lessors the tracts of ground described by tract numbers set opposite their respective names, appearing upon the plat aforesaid:

	<u>Tract No.</u>	<u>Acreage</u>
Chief Consolidated Mining Company	1	2,720
"	2	1,226
"	3	787
Tintic Standard Mining Company	4	3,185
"	5	532
Eureka Lilly Consolidated Mining Company	6	870
South Standard Mining Company	7	1,019
Eureka Standard Consolidated Mining Company	8	372

Rights Reserved:

1. There is expressly reserved the right to make such use of the surface of the leased premises as may be made without interfering with Bear Creek's operation hereunder, and the further right, if its exercise shall result in no interference with Bear Creek's operation hereunder, to mine or quarry and remove limestone and dolomite from the leased premises; provided, however, that neither limestone nor dolomite may be mined, quarried or removed from the leased property by Lessors or anyone other than Lessee hereunder, its successors or assigns, which shall yield a greater return for its metallic content than for such limestone or dolomite.

2. There is further expressly reserved the right until June 30, 1961, but not thereafter, and only if its exercise shall result in no interference with Bear Creek's operation hereunder, to remove from the leased premises all or any part of the mine dumps presently located at the Tintic Standard No. 2 Shaft, the Eureka Standard Shaft, the Eureka Lilly Shafts, the Apex Standard No. 1 Shaft and the Apex Standard No. 2 Shaft.

TO HAVE AND TO HOLD said demised premises, except as hereinbefore reserved, unto Bear Creek for mining purposes, including the prospecting, development, mining, extraction, beneficiation, milling, processing, removal and sale of ores, metals, minerals, and all other materials of commercial value, and for all other purposes more particularly hereinafter set forth, for a term commencing as of September 1st, 1956, and expiring at noon on the first day of September 1st, 2006, unless sooner terminated or extended as hereinafter provided.

ARTICLE II

ASSIGNMENTS OF INTEREST IN LEASES

In consideration of the mutual benefits to accrue therefrom, each of

the Lessors hereby assigns, transfers and sets over to each of the other Lessors its lease hereby given to Bear Creek, together with its interest in and to all royalties payable pursuant to said lease and under this Unit Agreement, on account of production from the property of said Lessor, in the proportions set forth in paragraph 3 of Article V hereof; and each said Lessor does hereby covenant and agree with each other said Lessor, to make, execute and deliver any and all other instruments of assignment or transfer which may be deemed necessary or proper to evidence the fact that such several interests in said leases and rights to participate in such royalties have been so assigned and are so held and enjoyed.

ARTICLE III

DEFINITIONS

As used in this Agreement, the following terms have the meanings herein stated:

1. The term "production is begun" means either the date when Bear Creek has mined from the Unit Tract an average of 2,500 tons of ore per month for a six-months period, or the date when Bear Creek has been fully reimbursed for all pre-production expenditures, whichever first occurs.

2. The term "pre-production expenditures" (for which Bear Creek is entitled to be reimbursed) means all expenditures made by Bear Creek after the date of this Agreement, and before "production is begun", in connection with any and all investigation, exploration, development, mining, extraction, beneficiation, milling, processing, removal and sale of ores, metals, minerals and other materials within and from the Unit Tract, as authorized by these leases and this Agreement, except royalties paid to Lessors, income and franchise taxes, home office overhead expenses and supervisory salaries not directly related to operations under the Unit Tract, the acquisition cost of depreciable items, and allowance for depletion. Without limiting the generality of the foregoing, "pre-production expenditures" shall include depreciation on depreciable items acquired solely for use under this Agreement at a rate which will fully depreciate

such items over their estimated useful life; home office overhead expenses and supervisory salaries which are directly related to operations in the Unit Tract, including allocation in accordance with generally accepted accounting principles of insurance, rent, clerical salaries, supplies, telephone, telegram, and legal services; the acquisition cost of items used in connection with any of such operations of Bear Creek which by generally accepted accounting principles is expensed at the time of acquisition; reasonable rental charges for equipment owned and used by Bear Creek in connection with such operations, but not acquired solely for such use; reasonable transportation expenses of employees, professional staff, materials and equipment to the site of the work, and for the return of equipment and such employees and staff on completion of their work.

3. The term "Operating Costs" means all expenditures made by Bear Creek after "production is begun" in connection with any and all investigation, exploration, development, mining, extraction, beneficiation, milling, processing, removal and sale of ores, metals, minerals and other materials within and from the Unit Tract as authorized by these Leases and this Agreement, except royalties paid to Lessors, income and franchise taxes, home office overhead expenses and supervisory salaries not directly related to operations under the Unit Tract, the acquisition cost of depreciable items, and allowance for depletion. Without limiting the generality of the foregoing, "operating costs" shall include depreciation on depreciable items acquired solely for use under this Agreement at a rate which will fully depreciate such items over their estimated useful life; home office overhead expenses and supervisory salaries which are directly related to operations in the Unit Tract, including allocation in accordance with generally accepted accounting principles of insurance, rent, clerical salaries, supplies, telephone, telegram, and legal services; the acquisition cost of items used in connection with any of such operations of Bear Creek which by generally accepted accounting principles is expensed at the time of acquisition; reasonable rental charges for equipment owned and used by Bear Creek in connection with such operations, but not acquired solely for such use;

reasonable transportation expenses of employees, professional staff, materials and equipment to the site of the work, and for the return of equipment and such employees and staff on completion of their work.

4. The term "depreciable items" means items the acquisition cost of which by generally accepted accounting principles is recovered on a depreciation basis.

5. The term "net smelter returns" means all sums received by Bear Creek for ores or other products from the Unit Tract and/or products derived from such ores or products, and such additional amounts, if any, as are received by or accrue to Bear Creek from governmental subsidies, governmental purchase contracts or other like sources of revenue on account of the production, sale and/or disposal of any and all ores mined from the Unit Tract and/or products obtained therefrom less any freight, truck or treatment charges not deducted by the purchaser. In the event that Government regulations prohibit the payment of royalties on all or a part of such additional amounts, the amounts on which payment of royalties is prohibited shall not be included in Net Smelter Returns. The words "products derived from such ores or products" as used above are not intended to include products fabricated or manufactured from such products. In the event that the mill or smelter to which the aforesaid ores or products shall be delivered is owned or operated by Bear Creek or its assigns, the mill or smelter charges of such mill or smelter shall not be greater than those of other comparable mills or smelters for milling or smelting similar material.

ARTICLE IV

LESSORS COVENANT

1. Title Warranty. It is expressly understood that the several Lessors in granting the foregoing leases, and entering into this Agreement, do not agree with Bear Creek to warrant and defend the title to the claims and property severally leased by them as against claims and demands of third persons. Bear Creek takes such leases subject to any superior claims or demands, if any, the defense of its lessee rights to be at the expense of Bear Creek, but

Lessors severally declare that to the best of their knowledge and belief their several titles are clear subject in the case of unpatented mining claims to the paramount title of the United States. Lessors do not undertake or agree in any manner to acquire title or make good the title to any of the claims covered by the aforesaid leases, but each said Lessor agrees that should it hereafter acquire title or cure defects, if any, in the title existing at the time of the execution of this Agreement such later acquirement of title shall support and be subject to the rights herein granted. Each Lessor, however, warrants title to and agrees to defend the property covered by the aforesaid lease given by it to Bear Creek, and every part thereof, against all acts or claims of said Lessor. Should Bear Creek find it necessary in its judgment to cure any defect in the title of any Lessor, the expense incurred in curing such defect may be deducted from any royalties payable to such Lessor hereunder. The several Lessors covenant to fully cooperate with Bear Creek in any legal action or proceeding so deemed necessary or desirable by Bear Creek to acquire title or cure title defects.

2. Limitations in Surface Leases. Lessors severally promise and agree that any lease, permit or license to any other person, partnership or corporation for use of the leased premises for purposes other than those hereby granted to Bear Creek, shall contain a specific covenant that such Lessee, Permittee or Licensee shall make no use of the premises which shall interfere with Bear Creek's use thereof hereunder, and that such Lessee, Permittee or Licensee shall have no claim against Bear Creek for accidental damage to property of such Lessee.

Lessors shall promptly furnish Bear Creek copies of all existing and future lease, permit or license agreements for the quarrying or mining of limestone or dolomite or for the removal of mine dumps, or for any purpose other than those hereby granted to Bear Creek. Lessors shall furnish Bear Creek all geologic information available to Lessors whether under such leases, permits, licenses or agreements or otherwise, all assays, geologic maps, reports and opinions, logs of drill holes and surveys of surface

and underground workings and drill holes, in or pertaining to the Unit Tract. All leases, permits, licenses and agreements aforesaid shall require the lessees, permittees and licensees thereunder, to make available to Bear Creek, upon the latter's demand, copies of their assays and geologic maps and reports, logs of drill holes and surveys of surface, underground workings and drill holes in or pertinent to the Unit Tract or any part of it.

ARTICLE V

BEAR CREEK COVENANTS

In consideration of the foregoing leases, Bear Creek does hereby covenant and agree with the Lessors as follows:

1. Minimum Work Requirements. (a) During each of the first five years from the date hereof to expend on exploration, development and mining operations the sum of \$100,000 a year on such portions of the land in the Unit Tract as it shall deem advisable in order to determine the probability of the presence of merchantable ores therein and to develop and mine the same. The locations of such operations shall be determined by Bear Creek in its discretion, and so long as any operations shall be conducted during such period upon any of the lands lying in said Unit Tract, Bear Creek shall be under no obligation to engage in any such operations upon the premises embraced within any particular lease. Unless such exploration or other operations shall have been commenced by Bear Creek on lands within the Unit Tract prior to January 1, 1957, all such leases shall then terminate. If Bear Creek shall expend a sum in excess of \$100,000 in any of the first five years, the amount in excess thereof may be carried forward as a credit against the amount to be expended in any subsequent year of such five-year period. In the sixth year, Bear Creek's expenditures obligation shall be \$100,000 and no credit from an earlier year may be applied thereto, but Bear Creek shall have the right to credit any excess expenditure in the sixth year to expenditures in the succeeding five years. Beginning in the seventh year and continuing through the life of this lease and any extension thereof, unless waived by the application of the waiver clause in subparagraph

1(d) of this Article V, Bear Creek's minimum annual obligation to expend shall likewise be \$100,000, which may be satisfied to the extent of not more than \$50,000 by a credit carried forward equal in amount to not more than 50% of the excess expenditures during the preceding five years which have not already been applied as a credit.

(b) It is understood that the above work requirement will be fulfilled if performed on any of the tracts within the Unit Tract.

(c) Expenditures to be credited against the minimum work requirements shall include all expenditures made by Bear Creek in connection with any and all investigations, exploration, development, mining, extraction, beneficiation, milling, processing, removal and sale of ores, metals, minerals and other materials within and from the Unit Tract, as authorized by these leases and this Agreement, except royalties paid to Lessors, income and franchise taxes, home office overhead expenses and supervisory salaries not directly related to operations under this Unit Tract, the acquisition cost 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 under this Agreement at a rate which will fully depreciate such items over their estimated useful life; home office overhead expenses and supervisory salaries which are directly related to operations in the Unit Tract, including allocation in accordance with generally accepted accounting principles, of insurance, rent, clerical salaries, supplies, telephone, telegram, and legal services; the acquisition cost of items used in connection with any of such operations of Bear Creek which by generally accepted accounting principles is expensed at the time of acquisition; reasonable rental charges for equipment owned and used by Bear Creek in connection with such operations, but not acquired solely for such use; reasonable transportation expenses of employees, professional staff, materials and equipment to the site of the work, and for the return of equipment and such employees and staff on completion of their work.

(d) After production shall have been begun, if for a period of not

less than 30 days immediately prior to the commencement of a minimum work year hereunder, prevailing metal prices shall be such that ore available in adequate quantities in the Unit Tract would not yield net smelter returns greater than the operating costs as defined in this Agreement, the foregoing minimum work requirements for such succeeding work year shall be waived; provided, however, that during any such year of waiver Bear Creek shall at all times maintain the equipment and structures installed upon the Unit Tract in good condition, shall keep safely accessible all mine workings of a permanent nature used in or necessary to mining operations, and all unpatented mining claims in good standing, and shall maintain water rights as specified in Article V, paragraph 15(b) of this Agreement; provided further, that within 10 days from the commencement of such minimum work year, Bear Creek shall have given Lessors notice containing a certificate of the prevailing metal prices and other pertinent facts.

2. Reports to Lessors for Tax Purposes. To furnish annually to each Lessor upon whose property money shall have been expended during the year, such information as may be required to enable such Lessor to make its annual net proceeds tax return for such year.

3. Royalties. To pay royalties as follows:

(a) Before production is begun: To pay to Lessors 15% of any net smelter returns remaining after deducting operating costs, divided among them in the following proportions:

(i) On net smelter returns less costs attributable (in accordance with subparagraph (c) below) to ores and other products extracted from Tracts 1, 2 and 3, owned by Chief Consolidated Mining Company:

Chief Consolidated Mining Company-----	66-2/3%	of said 15%
Tintic Standard Mining Company-----	10-2/3%	thereof
Eureka Standard Consolidated Mining Company-----	6-2/3%	"
Eureka Lilly Consolidated Mining Company-----	4-2/3%	"
South Standard Mining Company-----	11-1/3%	"

(ii) On net smelter returns less costs attributable to ores and other products extracted from Tracts 4, 5, 6, 7 and 8, owned by the last four Lessors named above:

Chief Consolidated Mining Company-----	33-1/3%	of said 15%
Tintic Standard Mining Company-----	21-1/3%	thereof
Eureka Standard Consolidated Mining Company-----	13-1/3%	"
Eureka Lilly Consolidated Mining Company-----	9-1/3%	"
South Standard Mining Company-----	22-2/3%	"

The remaining 85% of any net smelter returns left after deducting operating costs shall be applied in reduction of pre-production expenditures of Bear Creek. The amount payable to Lessors shall be computed for each calendar month on the basis of smelter statements for ores shipped during such calendar month and shall be paid before the end of the next succeeding month, or as soon thereafter as possible.

(b) After production had begun:

(1) Until Bear Creek shall have been reimbursed for all pre-production expenditures, to pay to Lessors 15% of any net smelter returns remaining after deducting operating costs, divided among them as provided in subparagraph (a) above. The remaining 85% thereof shall be applied in reduction of such pre-production expenditures. The amount so payable to Lessors for any calendar year shall be paid on or before the 25th day of March of the next succeeding year.

(2) After Bear Creek shall have been reimbursed for all pre-production expenditures, to pay to Lessors 37-1/2% of any net smelter returns remaining after deducting operating costs, divided among them in the following proportions:

(i) On net smelter returns less costs attributable to ores and other products extracted from Tracts 1, 2 and 3, owned by Chief Consolidated Mining Company:

Chief Consolidated Mining Company-----	66-2/3%	of said 37-1/2%
Tintic Standard Mining Company-----	10-2/3%	thereof
Eureka Standard Consolidated Mining Company-----	6-2/3%	"
Eureka Lilly Consolidated Mining Company-----	4-2/3%	"
South Standard Mining Company-----	11-1/3%	"

(ii) On net smelter returns less costs attributable to ores or other products extracted from Tracts 4, 5, 6, 7 and 8, owned by the last four Lessors named above:

Chief Consolidated Mining Company-----	33-1/3%	of said 37-1/2%
Tintic Standard Mining Company-----	21-1/3%	thereof
Eureka Standard Consolidated Mining Company-----	13-1/3%	"
Eureka Lilly Consolidated Mining Company-----	9-1/3%	"
South Standard Mining Company-----	22-2/3%	"

The amount so payable to Lessors for any calendar year shall be paid on or before the 25th day of March of the next succeeding year.

(c) In determining, for the purposes of subparagraphs (a) and (b) above, the costs attributable to ores and other products extracted from the three

tracts owned by Chief Consolidated Mining Company and from the five tracts owned by the other four Lessors, the costs attributable to each Lessor's tracts or tract shall be an amount which bears the same relationship to the total operating costs incurred on all eight tracts as the net smelter returns realized on ore and other products extracted from such Lessor's tracts or tract bears to the total amount of the net smelter returns realized on the eight tracts.

(d) In determining the "net smelter returns remaining after deducting operating costs" under subparagraphs (a) and (b) above, only operating costs incurred in the calendar year may be deducted except that operating costs in excess of net smelter returns for the calendar year may be carried forward as a cost to any year in the first two years following such year.

4. Reports Relating to Royalties. To furnish reports as follows:

(a) Before production is begun: Before the end of each month following a month in which any net smelter returns have been received, or as soon thereafter as possible, to furnish to each Lessor a report of the net smelter returns so received, which report shall be accompanied by copies of mill or smelter settlement sheets.

(b) After production had begun: (i) Within 60 days after production had begun to furnish to each Lessor a detailed statement of all pre-production expenditures and net smelter returns as of the date production had begun, and the net amount of pre-production expenditures for which Bear Creek had not been reimbursed before production had begun.

(ii) Before the end of each month after the month in which production shall be begun, or as soon thereafter as possible, to furnish to each Lessor a complete report of its operations during the preceding calendar month, which report shall contain a statement of operating costs and net smelter returns and which shall be accompanied by copies of mill or smelter settlement sheets.

(iii) On or before the 25th day of March of each year after the year in which production shall be begun, to furnish to each Lessor a report of its operations during the preceding calendar year, which report shall con-

tain a statement of operating costs, net smelter returns, tonnage and grade of all ores and concentrates milled or shipped; provided, however, that the first report so furnished shall cover the period from the date production had begun until the end of the calendar year in which production had begun.

5. Quality of Work. To perform all exploration, development, and mining work in the premises leased herein in a minerlike fashion. All such work shall at all times be under the sole control of, and done in accordance with, the exercise of the discretion and judgment of Bear Creek as to time, place and method of operation.

6. Safety and Maintenance. To keep all tunnels, drifts, shafts, and other mine workings of a permanent nature which are used or necessary in mining operations, free and clear of loose rock and rubbish, except when prevented from so doing by mining casualty or other causes beyond its control; to make all workings, tunnels, drifts, and raises in the premises leased herein of such size as will meet all requirements of good mining practice; to timber, and keep in repair, all timbering necessary and proper to be done in the course of good mining, but Bear Creek shall not be obligated to maintain any mine workings in existence at the date hereof, nor to maintain abandoned tunnels, stopes, or sections which shall have been worked out, or which, in the opinion of Bear Creek, shall be no longer necessary to Bear Creek's mining operation; and any such workings may be allowed to cave, provided such caving shall not damage main shafts, entry adits or main mine arteries excavated after the date hereof.

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

8. Payment of Labor and Material Claims. To furnish, and pay for, all

labor, power, tools, equipment, powder, timber, and other materials and supplies which may be used by it in the prosecution of work under these leases, and not to allow any claim or lien for any such thing to be effectually made or asserted against said premises, or against any Lessor.

9. Indemnity Clause. To hold the several Lessors harmless and fully indemnify them against all claims and demands of any kind or nature which may be made upon them, or against any premises leased herein, for or on account of any debt or expense contracted or incurred by Bear Creek, and Bear Creek shall defend and save Lessors harmless, and fully indemnify them as to any liability or asserted liability for, or on account of, injury to or death of any person (except representatives of a Lessor upon the premises under permission granted pursuant to paragraph 12 below) or for damage to any property, sustained during the continuance of these leases, resulting from unsafe condition of any premises leased herein due to Bear Creek's negligence or default. However, the leased premises are mining property and will be operated as such, accompanied by the hazards attendant upon such operation; in the absence of negligence or breach of duty owing by Bear Creek, the latter guarantees the safety of neither person nor property of any kind or character or wherever situate.

10. Posting Notices. Upon entering into possession of the premises leased herein, to post forthwith, and thereafter keep posted, on the premises, such notices as may be necessary to adequately notify all persons who may come in or upon the leased premises that said premises are held by Bear Creek under lease from a named Lessor, and that Bear Creek shall be liable for the due compensation of all labor employed and the cost of all supplies and materials purchased and used by Bear Creek in or upon the leased premises, and that Bear Creek, and not said Lessor, will be responsible for any and all debts and expenses incurred by Bear Creek in mining operations within said premises. Bear Creek shall otherwise comply with the statutes of the State of Utah in that behalf, if such statutes should be enacted.

11. Statutory Compliances. To carry Workmen's Compensation Insurance and Occupational Disease Disability Insurance covering Bear Creek'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 Bear Creek may become obligated, and to comply with all other laws, rules and regulations of any duly constituted governmental authority affecting Bear Creek's operations in the premises leased hereby, and, on request of any Lessor, to furnish Lessor supporting evidence of compliance with the requirements of this paragraph.

12. Inspection by Lessor. To permit a Lessor, or a duly authorized representative of a Lessor, at all reasonable times to enter into any workings in the Unit Tract for the purpose of examining, inspecting, surveying or taking such samples as such Lessor or representative may desire, and of ascertaining whether the terms and conditions of these leases are being performed by Bear Creek, and Bear Creek's agent or representative may accompany such Lessor or its representative, but such Lessor or its representative shall enter upon said premises at its or his own risk. Such Lessor or its representative, authorized in writing, shall at all reasonable times have access to all records of production from the Unit Tract and such other records as will show compliance on the part of Bear Creek with the provisions of these leases and this Agreement.

13. Furnishing Information. To furnish Lessors 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.

To make available to any Lessor upon request a copy of Bear Creek'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.

14. Tax Payments.

(a) Upon timely receipt of notice of taxes due from the appropriate Lessor or other entity, Bear Creek shall make tax payments as follows:

- (i) Shall pay before delinquency all taxes upon personal property placed or installed by Bear Creek in or upon the leased premises and all taxes upon any structures and improvements so constructed or installed thereon and assessed to Bear Creek;

- (ii) Shall pay to each Lessor, not less than 15 days prior to the delinquency date, an amount equal to all taxes upon structures and improvements constructed or installed by Bear Creek and upon any other structure being occupied or used by Bear Creek, in or upon the premises covered by its lease and assessed to the Lessor;
- (iii) Shall pay to each Lessor, not less than 15 days prior to the delinquency date, an amount equal to the net proceeds taxes, occupation taxes and/or other taxes based upon production from its premises covered by its lease; and furnish to such Lessor information and data concerning the operations in its premises as shall be required to enable the Lessor to make returns for tax purposes; and
- (iv) Shall pay before delinquency all other general property taxes levied and assessed against the demised premises, and not specified in subparagraphs (a) i, ii and iii of this paragraph 14.

(b) Each Lessor promises and agrees to pay promptly the taxes for which Bear Creek is obligated under subparagraph (a) of this paragraph 14 upon receiving from Bear Creek the amount thereof.

15. (a) Unpatented Mining Claims. Except as herein otherwise provided, Bear Creek shall perform, or make upon, or for the benefit of, the unpatented mining claims embraced within the Unit Tract, any annual labor or improvements required to keep and maintain said mining claims in good standing, as unpatented lode mining claims, for each assessment year in which these leases shall be in force on the first day of the third month prior to the end of each such year; provided, that work performed by a Lessor on property adjoining an unpatented mining claim and applicable to such assessment work, and work done by Bear Creek in the ordinary course of its operations and so applicable may be applied thereon and shall be at the cost of the person performing such work; any work performed by Bear Creek solely for the purpose of maintaining such claim or claims in good standing shall be for the account of the Lessor of such claim and Bear Creek shall be entitled to reimbursement from such Lessor for the expenses so incurred. Any amount so due to Bear Creek may be deducted by Bear Creek from any moneys becoming payable to such Lessors hereunder. Unless a Lessor performing work on adjoining property applicable toward annual assessment work on unpatented claims within the Unit Tract shall notify Bear Creek of the performance of such work and of the amount so

applicable at least 45 days prior to the end of the assessment year, Bear Creek shall, upon timely notice of the Lessor's failure, perform or cause to be performed all work or make all improvements required to maintain such claim or claims in good standing. Bear Creek shall furnish to such Lessor information as to the work done by it to enable such Lessor to make proof of the performance of annual assessment work, and each Lessor shall make timely proof of the performance of annual assessment work; provided, however, that for any year or years in which assessment work on unpatented mining claims shall be suspended by act of Congress, the respective Lessors agree to file Notice of Intention to Hold unpatented mining claims or other papers required under any such law, and the Lessors do severally authorize Bear Creek to file such papers in its behalf in the event of its unavailability.

If at any time any Lessor shall desire to abandon any of its unpatented lode mining claims which are a part of the Unit Tract, such Lessor shall so notify Bear Creek in writing at least one hundred twenty (120) days prior to the end of the then current assessment year, naming and describing each claim that Lessor shall desire to abandon, and upon receipt by Bear Creek of such notice said claims shall thereafter be excluded from the Unit Tract, and the acreage of such claims shall be subtracted from the total acreage of the tract or tracts in which such claims shall be situated, said tracts and acreages being those set forth in Article I of this Unit Agreement. Bear Creek shall then have the right to have any or all of said claims conveyed to it by such Lessor, by so requesting in writing to Lessor prior to the end of said assessment year, and Lessor agrees upon receipt of such notice to forthwith convey to Bear Creek those claims so designated by Bear Creek.

(b) Water Rights. The sources of water supply hereinafter mentioned are essential to the successful conduct of the mining operation contemplated by this Leases and Unit Agreement and as such Bear Creek will to the best of its ability, consistent with the lawful conduct of its operations hereunder and the untrammelled exercise by it as said Lessee of the rights and privileges pertinent thereto, maintain the beneficial use of, and safeguard and protect said water sources, together with the pipe lines, storage

tanks and distribution lines pertinent thereto; but Bear Creek will not undertake to warrant, protect or defend Lessor's title to said water sources or the use thereof, or to any thereof, or to provide any warranty or assurance as to their continued existence, or as to the uninterrupted continuity of their flow, against diversion, interruption or destruction, howsoever caused.

Said water rights and sources of water supply are the following, to wit:

- (i) Those certain rights in and to the waters of Gough Springs, Big Lode Spring, Gold Bond Spring, and Silver Rock Spring, shown on the plat attached hereto and marked Exhibit "C", and more particularly described upon the list of Sources of Water Supply Near Dividend, Utah, hereto attached and marked Exhibit "D";
- (ii) Bear Creek shall have the right to use any or all waters issuing from, or obtainable from the South Standard Shaft, Aperdue Spring and/or Merriman (or Apex) Spring, also shown on Exhibit "C", and more particularly described in Exhibit "D"; but Bear Creek shall not be obligated to safeguard, protect or maintain these rights or sources of water supply or any of them, should their use, or the use of any of them, in Bear Creek's judgment, be unnecessary to the exploration or mining purposes of Bear Creek.

The expense of protecting and maintaining said water rights, or any of them, shall be a part of the pre-production expenditures or of the operating costs, whichever shall then apply; and any revenue derived from the sale by Bear Creek to others of water from any or all of the aforesaid sources shall be credited as income to the leased premises.

16. Mill on Land Outside Unit Tract. In the event Bear Creek shall construct a mill on land outside the Unit Tract, for use in connection with its operations in the Unit Tract, such mill shall in all respects and for all purposes of this Unit Agreement be considered and treated as though constructed on the Unit Tract and be subject to the same provisions respecting costs of operation, allowance for depreciation, profits and sale upon termination of this Unit Agreement, as any fixtures and equipment constructed or installed by Bear Creek within the Unit Tract. If upon termination of this Unit Agreement and after reimbursement of Bear Creek as provided in subparagraph (c) of paragraph 7 of Article VI of this Unit Agreement, such

mill or any part thereof, including equipment, and Bear Creek's interest in the land upon which the mill shall be located shall not have been so disposed of, upon request of Lessors, Bear Creek shall execute and deliver suitable instruments of conveyance to transfer to Lessors Bear Creek's remaining interest in such mill, including equipment, and the land upon which it shall be located.

17. Maintaining Insurance. Bear Creek shall maintain insurance policies issued by such insurers as shall be approved by it, upon all structures and equipment installed upon the Unit Tract, and upon any mill constructed on land outside the Unit Tract for use in connection with its operations in the Unit Tract, against fire and such other hazards as Bear Creek shall deem necessary, and in such amounts as shall in its judgment fully cover the insurable value thereof. The proceeds of any loss payable under such insurance policies shall be payable to Bear Creek. If any such proceeds received by Bear Creek be not used by it for replacement or repair of the damaged property within three years after receipt, or be not set aside for such use in connection with repairs or reconstruction commenced within such year, Bear Creek shall first reimburse itself out of such proceeds in a sum equal to the portion of the cost of the lost or damaged property for which it shall not have been reimbursed out of net smelter returns, and the balance if any of the insurance proceeds received on account of loss or damage of such property shall then be paid over to the Lessors, respectively, in proportion to the acreage of each as set forth in Article I of this Unit Agreement, as amended by paragraph 15 (a) of this Article V.

ARTICLE VI

FURTHER MUTUAL AGREEMENTS OF THE PARTIES

1. Operating and Subcontracts. Bear Creek may and shall have the right at any time to enter into any agreement or agreements not inconsistent with the terms of these leases and this Agreement, with substantial and reliable operating companies, for the performance of any of the rights or obliga-

tions of Bear Creek hereunder.

2. Subletting by Bear Creek. Bear Creek may block-lease portions of the leased premises.

3. Incidental Use of Property. Bear Creek may possess, occupy and use, in the course of and as pertinent to its operation upon or within the leased premises, all or any of the office, industrial, residential or other structures and their contents presently upon or within said premises, including any or all of the following at or in the vicinity of the Tintic Standard No. 1 Shaft:

Hoist house, headframe, change house, ore bins, and any other buildings and structures that are a part of these surface installations;

and the following at or in the vicinity of Tintic Standard No. 2 Shaft:

Mine office, machine shop, warehouse, sampling and bucking house, assay office, timber framing shed, dwellings and accompanying garages, switch houses and transformer racks, warehouses and other buildings.

Bear Creek shall maintain in reasonably good state of repair whatever it shall elect to retain and use, ordinary wear and tear and reasonable depreciation to result from Bear Creek's said use and possession alone excepted; and Bear Creek shall pay the taxes and insurance, power, light and miscellaneous costs on all such buildings and structures accruing over the period of their said retention and use. Such payments shall be a part of the pre-production expenditures or of the operating costs, whichever shall then apply.

Bear Creek shall have at least one responsible person living at the Tintic Standard property to discourage theft and be alert to prevent damage by fire. As soon as reasonably practical under the circumstances but not to exceed two years from the date hereof, Bear Creek shall advise Tintic Standard Mining Company, in writing, as to the said buildings and structures which Bear Creek shall not require, whereupon Tintic Standard Mining Company shall be at liberty to dispose of those not needed and Tintic Standard Mining Company, upon receipt of such notice, shall assume the maintenance cost and pay taxes and insurance on those buildings and structures not needed by

Bear Creek.

Bear Creek may purchase all or any part of the machinery, tools, instruments and equipment now on hand at the Tintic Standard, provided that commitment to purchase such items be made by Bear Creek within 90 days from the date hereof. All items not desired by Bear Creek may be disposed of by Tintic Standard, but Bear Creek shall have first refusal of any such items and may purchase them for the price offered Tintic Standard.

Bear Creek shall take over from Tintic Standard on a consignment basis for a period of one year from the date hereof, the supplies which are covered by Tintic Standard's Stores Inventory. Any items not purchased by Bear Creek by the end of the year shall at that time be returned to Tintic Standard.

Tintic Standard may have a representative on its leased property to supervise the disposal of buildings, structures, machinery, tools and equipment which Bear Creek elects not to use or purchase.

In connection with the investigation, exploration, development and mining of the Unit Tract, Bear Creek may remove specimens of rock and ore for study or analysis, may deposit excavated soil and rock upon the premises covered by any of the foregoing leases, may drain water from any such premises and may use in connection with its operations any water and timber upon or from any such premises, and make full use of all roads, cartways and trails upon any such premises. Lessors shall grant easements, permits and licenses for power lines and railroad spurs over and upon the leased premises or any part thereof as requested by Bear Creek.

Bear Creek may also possess, occupy and use in the course of its said operation any or all mine workings within the Unit Tract.

4. Acceptance of Reports and Settlements. Any report required to be rendered by Bear Creek, and any settlement made shall be deemed to have been finally accepted as an adequate and final statement and settlement, and shall be conclusive between all parties hereto unless exception thereto in writing be taken within 60 days after such report shall have been rendered

or settlement made.

5. Vertical Mining Rights. The several Lessors covenant and agree with Bear Creek, and with each other, that the boundary lines between and separating any mining claims and portions of mining claims and properties of Lessors lying either within or without the Unit Tract shall be and the same are hereby extended downward vertically, and vertical planes as thus described extended downward on and along the courses of said boundary line shall, for the purposes of the aforesaid leases and of this Agreement, constitute the fixed boundary lines between the aforesaid adjoining mining claims and portions of mining claims and properties, cutting off and terminating at said vertical planes all existing, or hereafter claimed dip, or extralateral mining rights; and each said Lessor agrees not to claim, and hereby waives any right to claim mining rights beyond said boundary lines extended downward into the earth vertically, during the continuance of this Agreement and with respect to any work done or ores mined hereunder.

6. Termination by Lessors for Cause. If there shall be a violation by Bear Creek of any covenant, or covenants, or agreements herein contained, and Lessors owning 75% or more of the total acreage covered by these leases shall send by registered mail addressed to Bear Creek at 161 East 42d Street, New York, N. Y., written notice specifying such violation and demanding possession of the premises covered by such leases, and if at the expiration of 90 days after the date of mailing said notice and demand the violation still continues, the terms of all these leases shall then at the option of Lessors owning such per cent of the total acreage covered by these leases, terminate and expire and the leasehold rights of Bear Creek in all such premises shall become forfeited, and without further demand or notice the several Lessors, by their agents or attorneys, may enter upon and into the respective premises leased by them and dispossess all persons occupying the same, with or without force, and with or without process of law, or at their option, Bear Creek and all persons found in occupation of any such leased premises may be proceeded against as guilty of unlawful detainer; and

failure by such Lessors to exercise for any length of time any right of forfeiture for such cause shall in no event 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. Surrender of Premises on Termination. Bear Creek will deliver to the several Lessors the premises leased herein, 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; provided, however:

(a) Broken Ores. That all broken ores on surface or underground not shipped prior to such expiration or earlier termination may be removed by Bear Creek within 90 days after termination and accounted for as herein provided as if shipped and sold prior to termination, but if not so removed within said 90 day period such ores shall become the property of the Lessor in whose premises located.

(b) Track, Pipe, Etc. All tracks, pipe and ventilating tubing shall remain in place at the termination of the lease and become the property of the Lessor in whose premises installed.

(c) Removal of Equipment. Upon termination of these leases Bear Creek shall have the right within 120 days from the date of such termination to remove from said premises and sell sufficient fixtures and equipment (other than track, pipe and ventilating tubing) constructed or installed by it either on the surface or underground and not necessary for access to shafts, main levels and adits and main haulage-ways as will fully reimburse it for any undepreciated portion of the cost of such fixtures and equipment, provided that any Lessor shall have the option to purchase at as favorable a price and upon as favorable terms as can be obtained by Bear Creek from any other person, any such fixtures or equipment located on its leased property, by giving Bear Creek written notice of its election to purchase such fixtures or equipment within 30 days after the date of such termination. All such

fixtures and equipment not required to be disposed of to so reimburse Bear Creek and any such equipment remaining on the premises 120 days after the date of termination of such leases shall become the property of the Lessors and be held by them in proportion to the acreage of each as set forth in Article I of this Unit Agreement, as amended by paragraph 15 (a) of this Article V.

8. Delay Due to Causes Beyond Control of Bear Creek. If Bear Creek shall be delayed, or interrupted in, or prevented from, performing its obligations, as herein provided, by Acts of God, fires, floods, 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 all such cases Bear Creek 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 these leases and this Agreement shall again come into full force and effect immediately upon the termination of the period of prevention, delay or disability resulting from any of the causes aforesaid.

9. Integration of Agreement - Amendments. This Agreement constitutes the whole agreement between the parties. There are no terms, obligations, covenants or conditions other than contained herein. No variation thereof shall be deemed valid unless signed by the parties representing 75% or more of the total acreage of the Unit Tract with the same formality as this Agreement.

10. Termination by Bear Creek. Anything in this Leases and Unit Agreement contained to the contrary notwithstanding, continuance of these leases shall be optional with Bear Creek, and no penalty shall accrue or be asserted against Bear Creek by reason of such termination or for failure thereafter to perform any of the conditions, terms and agreements hereof; and Bear Creek may terminate all such leases (but not less than all) and this Agreement, at any time upon giving to Lessors 60 days written notice

of intention to terminate; thereupon any liability of Bear Creek hereunder shall immediately cease and terminate, except liability on account of any obligation arising out of its operations in the leased premises, incurred and owing at the time of such termination.

11. Renewal. Bear Creek shall have the right to extend these leases and this Agreement at the end of the first 50-year term for an additional term of 50 years on the same terms and conditions as shall then be in effect, upon giving Lessors written notice of renewal at least one year prior to the date of expiration of the original term.

12. Notices. All notices herein provided to be given to Bear Creek shall be given in writing delivered by registered mail to Bear Creek Mining Company, 161 East 42d Street, New York, N. Y., and to Lessors by registered mail at the addresses stated at the beginning of this Leases and Unit Agreement or at such other addresses as they may from time to time designate.

13. Agreement Binding on Assigns. Bear Creek may assign this "Leases and Unit Agreement" to any corporate affiliate or subsidiary with joint responsibility on Bear Creek's part for the faithful performance of Lessee's obligation hereunder; this instrument may not be otherwise assigned, unless and until Lessors holding not less than 75% of the acreage included in said Unit Tract shall have consented thereto in writing. Each and every clause and covenant of this Agreement shall extend to, benefit and bind the successors and assigns of the parties hereto respectively.

14. Release. Should this Agreement be placed on record, and the foregoing leases be surrendered or terminated under any provision hereof prior to the end of the term, Bear Creek shall execute and deliver to Lessors an instrument of surrender and release.

15. Conflicting Title Claims. In the event that it shall appear that any person or corporation other than a Lessor shall have an interest in any land within the Unit Tract and such person or corporation shall consent to the terms of these leases and this Agreement or join herein as co-lessor with the Lessor leasing such land or any interest therein, all payments due the owners of such land shall be apportioned on the basis then or from time to time thereafter agreed upon between such parties or in the absence of such

agreement upon the basis of their respective legal interest in such land, as such interest may be judicially determined.

16. DMEA Contract. Lessor, Chief Consolidated Mining Company, shall assume and perform all of the obligations imposed upon it by that certain contract with the United States of America, acting through the Department of the Interior, being Defence Minerals Exploration Administration Project Contract, Docket No. DMEA-1 and 1A, Commodity lead, zinc, (original contract No. IDM-E4), dated June 13, 1951; First Amended Contract No. IDM-E4, dated June 16, 1953; Second Amended Contract No. IDM-E4, dated June 16, 1953. The area of the leased premises affected by said contract is embraced within Tracts Nos. 2 and 3 owned by Chief Consolidated Mining Company and shown upon the plat attached hereto, marked Exhibit "E", and described upon Exhibit "F", also hereto attached.

Should convenience be the better served and Chief Consolidated Mining Company so request, Bear Creek will pay, for Chief Consolidated Mining Company's account, all royalties due the United States under said contract; for such payments Chief Consolidated Mining Company shall reimburse Bear Creek monthly as billed.

17. Accuracy of Exhibits Confirmed. There are appended to this agreement exhibits identified respectively as Exhibits A, B, C, D, E, and F, each of which has been examined by Lessors, and the accuracy of said exhibits or parts thereof is hereby confirmed by the Lessors, respectively, to the interest of which the same shall pertain.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be signed by their respective corporate officers thereunto duly

authorized and their several corporate seals to be hereunto affixed,
duly attested, all as of the day and year first hereinabove written.

ATTEST:

Secretary.

CHIEF CONSOLIDATED MINING COMPANY,

By _____
President.

ATTEST:

Secretary.

TINTIC STANDARD MINING COMPANY,

By _____
President.

ATTEST:

Secretary.

EUREKA STANDARD CONSOLIDATED MIN-
ING COMPANY,

By _____
President.

ATTEST:

Secretary.

EUREKA LILLY CONSOLIDATED MIN-
ING COMPANY,

By _____
President.

ATTEST:

Secretary.

SOUTH STANDARD MINING COMPANY,

By _____
President.

(L E S S O R S)

ATTEST:

Secretary.

BEAR CREEK MINING COMPANY,

By _____
President.

(L E S S E E)

STATE OF UTAH)
) ss.
COUNTY OF SALT LAKE)

On the _____ day of _____, 1956, personally appeared before me _____, who, being by me duly sworn, did say that he is the President of CHIEF CONSOLIDATED MINING COMPANY, and that the foregoing instrument was signed in behalf of said corporation by authority of a resolution of its Board of Directors, and said _____ acknowledged to me that said corporation executed the same.

My commission expires:

Notary Public, residing
at Salt Lake City, Utah.

STATE OF UTAH)
) ss.
COUNTY OF SALT LAKE)

On the _____ day of _____, 1956, personally appeared before me _____, who, being by me duly sworn, did say that he is the President of TINTIC STANDARD MINING COMPANY, and that the foregoing instrument was signed in behalf of said corporation by authority of a resolution of its Board of Directors, and said _____ acknowledged to me that said corporation executed the same.

My commission expires:

Notary Public, residing
at Salt Lake City, Utah

STATE OF UTAH)
) ss.
COUNTY OF SALT LAKE)

On the _____ day of _____, 1956, personally appeared before me _____, who, being by me duly sworn, did say that he is the President of EUREKA STANDARD CONSOLIDATED MINING COMPANY, and

My commission expires:

STATE OF UTAH

COUNTY OF SALT LAKE

)
(SS.
)

My commission expires:

STATE OF UTAH

COUNTY OF SALT LAKE

$$\left. \begin{array}{l}) \\ (\\) \end{array} \right\} \text{SS.}$$

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acknowledged to me that said corporation executed the same.

My commission expires:

Notary Public, residing
at Salt Lake City, Utah.

STATE OF

COUNTY OF

)
(ss.
)

On the _____ day of _____, 1956, personally appeared before me
_____, who, being by me duly sworn, did say that
he is the President of BEAR CREEK MINING COMPANY, and that the foregoing
instrument was signed in behalf of said corporation by authority of a
resolution of its Board of Directors, and said _____
acknowledged to me that said corporation executed the same.

My commission expires:

Notary Public, residing at

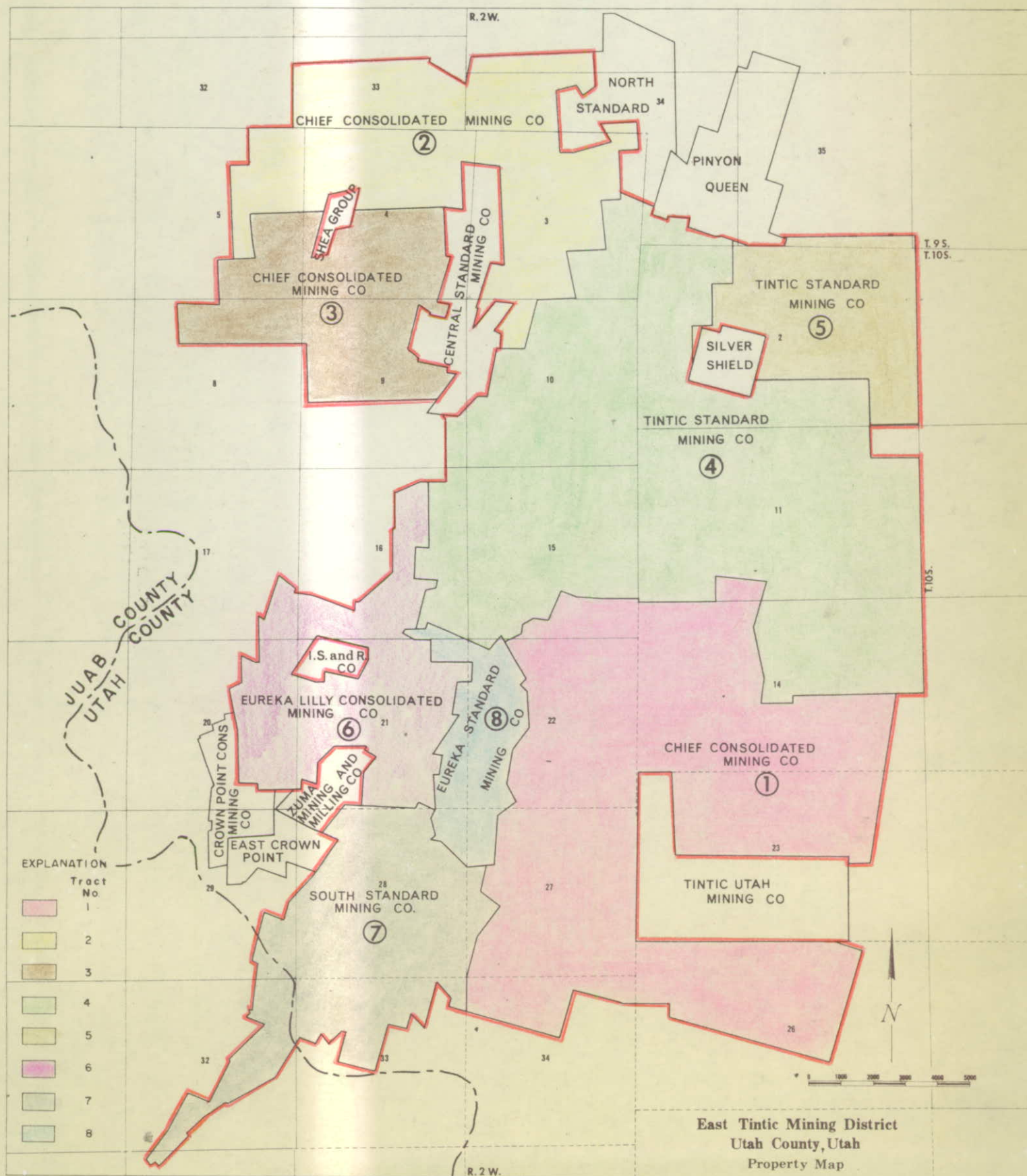


EXHIBIT "B"

List of Ownerships and Descriptions of Properties Leased.

TRACT NO. 1 A tract of land owned by Chief Consolidated Mining Company, includes parts of secs. 11, 14, 15, 22, 23, 26, 27 and 34 of T. 10 S., R. 2 W., Salt Lake Base and Meridian, in the Tintic Mining District, Utah County, Utah, contains 2,720 acres more or less, and is more particularly described as follows:

- (a) The following patented claims, as patented, except as affected by compromise agreements, hereinafter described:

SURVEY NO. 6560. Detective No. 2, Amended; Detective No. 5; Detective No. 7; Sunny Side Fraction, Amended; Sunny Side No. 3, Amended; Sunny Side No. 2, Amended; Sunny Side No. 1; Christmas and Christmas No. 1 lode mining claims.

SURVEY NO. 6563. Sunny Side No. 5; Sunny Side No. 6; Sunny Side No. 7; Sunny Side No. 8; Zenith Fraction; Karren Fraction; Karren No. 1; Karren No. 2; Karren No. 3; Karren No. 4; Sundown and Sundown #2 lode mining claims.

SURVEY NO. 6767. Nevada and Nevada No. 1 lode mining claims.

SURVEY NO. 6752. Zenith No. 1; Zenith No. 2; Zenith No. 3; Zenith No. 5; Zenith No. 7; Zenith No. 9; Zenith No. 11; Zenith No. 13; Zenith No. 15; Zenith No. 16; Zenith No. 17; Zenith No. 18 and Zenith No. 19 lode mining claims.

SURVEY NO. 6757. South Standard No. 1; South Standard No. 3; South Standard No. 5; South Standard No. 7; South Standard No. 8; South Standard No. 9; South Standard No. 10; South Standard No. 11; Cameo #34; Hill Top; Bank Note No. 12; Bank Note No. 13; Bank Note No. 14; Bank Note No. 15 and Bank Note No. 16 lode mining claims.

SURVEY NO. 6800. Hill Top No. 1; Hill Top No. 2; Hill Top No. 3; Hill Top No. 4; Hill Top No. 5; Hill Top No. 6 and Hill Top No. 7 lode mining claims.

SURVEY NO. 6737. Cedar No. 5, Amended lode mining claim.

TRACT NO. 1 (CONT)

SURVEY NO. 6759. Gold Bond No. 12; Gold Bond No. 13, Amended; Gold Bond No. 14; Gold Bond No. 15; Gold Bond No. 16; Hill Top Number 1; Hill Top Number 2; Hill Top Number 3; Hill Top Number 4; Hill Top Number 5; Hill Top Number 6 and Hill Top Number 7 lode mining claims.

SURVEY NO. 6805. Robert #14; Robert #15; Robert #16; Robert #17; Robert #18; Robert #19; Robert #20; Robert #21; Robert #22; Robert #23; Robert #24; Robert #25; Robert #26 and Robert #27 lode mining claims.

SURVEY NO. 6806. Robert; Robert #1; Robert #2; Robert #3; Robert #4; Robert #5; Robert #6; Robert #7; Robert #8; Robert #9; Robert #10; Robert #11; Robert #12 and Robert #13 lode mining claims.

SURVEY NO. 6784. Eastern No. 2; Eastern No. 3; Eastern No. 4; Eastern #5; Eastern #6; Eastern #7; Eastern #8; Eastern #9, Eastern #10; Eastern #11; Climax #1 and Climax #2 lode mining claims.

SURVEY NO. 6785. Eastern #12; Eastern #13; Eastern #14; Eastern #15; Eastern #16; Eastern #17; Eastern #18; Eastern #19 and Eastern #20 lode mining claims.

SURVEY NO. 6801. Inez No. 1; Inez No. 2; Inez No. 3; Inez No. 4; Inez No. 5; Inez No. 6; Inez No. 7; The Lamb No. 2 and Lamb No. 4 lode mining claims.

SURVEY NO. 6802. Rattle Snake No. 1; Rattle Snake No. 2; Rattlesnake No. 3; Rattlesnake No. 4; Lamb No. 6; Lamb No. 8; Lamb No. 20; Lamb No. 21 and Lamb No. 22 lode mining claims.

SURVEY NO. 6803. The Lamb No. 1; Lamb No. 3; Lamb No. 5; Lamb No. 7; The Lamb No. 9; Lamb No. 10; Lamb No. 11; Lamb No. 12; Lamb No. 13; Lamb No. 14; Lamb No. 15; Lamb No. 16; Lamb No. 17 and Lamb No. 19 lode mining claims.

SURVEY NO. 6804. Rattlesnake No. 5; Rattlesnake No. 6; Rattlesnake No. 7; Rattlesnake No. 8; Rattlesnake No. 9; Rattlesnake No. 10; Rattlesnake No. 11; Rattlesnake No. 12 and Rattlesnake No. 13 lode mining claims.

TRACT NO. 1 (CONT)

- (b) The following unpatented claim locations filed in County Recorder's Office, Utah County:

Ash lode mining claim, recorded in Book 422, pages 226-7, bounded on the north by Inez No. 6, Survey No. 6801, and on the east by Inez No. 7, Survey No. 6801.

Nadir lode mining claim, recorded in Book 422, pages 227-8, bounded on the north by Zenith No. 18, Survey No. 6752; on the east by Hilltop No. 4, Hilltop No. 5, and Hilltop No. 7, Survey No. 6800; on the south by Bank Note No. 14, Survey No. 6757; and on the west by South Standard No. 11, Survey No. 6757.

Merriman lode mining claim, recorded in Book 422, page 228, bounded on the north by Inez No. 7, Survey No. 6801, and on the east by The Lamb No. 9, Survey No. 6803.

- (c) Boundary lines based on compromise agreements between Apex Standard Mining Company and Eureka Standard Consolidated Mining Company, January 27, 1920; Chief Consolidated Mining Company and Tintic Standard Mining Company, June 25, 1930; Tintic Union Mining Company and Eureka Standard Consolidated Mining Company and South Standard Mining Company, October 15, 1920; Tintic Standard Mining Company and Apex Standard Mining Company, January 26, 1920, and Joint Surveys by engineers acting for the several companies more accurately determining certain courses and distances between turning points designated in the said compromise agreements:

NORTH BOUNDARY OF TRACT NO. 1: Begin at intersection of south boundary line of Survey No. 6848, Blak Eagle lode with line 2-3 of Survey No. 6767, Nevada No. 4 lode, and run thence N. 64°06' E. 584.1 feet, thence N. 75°50' E. 19.6 feet, thence N. 3°55' E. 293.2 feet, thence N. 58°32' E. 423.7 feet, thence S. 84°22' E. 513.7 feet, thence N. 20°24' E. 907.6 feet, thence S. 71°20' E. 571.2 feet (To Cors. Nos. 2 and 3, Survey No. 6466, Jamison Hill and Wonderer No. 6X Amended lodes), thence S. 87°56' E. 611.2 feet, thence East 1186.3

TRACT NO. 1 (CONT)

feet, thence S. 1° W. 97.7 feet (To southwest corner of sec. 11, T. 10 S., R. 2 W.), thence N. 88°32' E. 2396.1 feet, thence North 744.3 feet, thence S. 83°52' E. 1569.5 feet (To corner No. 3, Survey No. 6785, Eastern #18 lode), thence S. 15°41' W. 1500 feet, thence S. 13°16' E. 1500 feet, thence S. 8°14' W. 823.4 feet, thence N. 88°32' E. 969.2 feet (To corner No. 2, Survey No. 6790, East Contact No. 67 lode), thence North 267.8 feet, thence N. 88°32' E. 2979.3 feet (To intersection of line 3-4, Survey No. 6790, East Contact No. 68 lode, with line 1-2 of Survey No. 6804, Rattlesnake No. 5 lode.)

WEST BOUNDARY OF TRACT NO. 1: Begin at the intersection of south boundary line of Survey No. 6848, Blak Eagle lode, with line 2-3 of Survey No. 6767, Nevada No. 4 lode (as above) and run thence S. 29°42' E. 1282 feet, thence S. 42°39' W. 212.2 feet, thence S. 46°42' E. 340.4 feet, thence S. 0°56' E. 1075.1 feet, thence S. 22°17' W. 54.5 feet, thence N. 27°33' W. 26.5 feet, thence S. 36°34' W. 800 feet, thence S. 8°23' W. 1073.3 feet, thence S. 27°33' E. 612.1 feet, thence S. 48°32' W. 969.7 feet, thence S. 3°12' W. 1411.3 feet, thence S. 81°35' W. 261 feet, thence S. 10°50' W. 868.8 feet, thence S. 53°47' E. 763.1 feet, thence S. 36°13' W. 1094.1 feet, thence S. 15°16' W. 868.8 feet (To corner No. 1, Survey No. 6759, Hill Top Number 6 lode), thence S. 10°25' W. 507.7 feet (To corner common to secs. 27, 28, 33 and 34, T. 10 S., R. 2 W.), thence S. 1°39' W. 1035 feet, more or less, along section line between said secs. 33 and 34 to its intersection with line 3-4 of Survey No. 6759, Hill Top Number 4 lode.

- (d) The following described area is the property of Tintic Standard Mining Company, within the above named Survey 6560, and should be excluded therefrom:

Beginning at corner No. 3, Survey No. 6393, Greyhound No. 2 Amended lode, and run thence N. 71°20' W. 177.0 feet, thence

TRACT NO. 1 (CONT)

N. 69°48' E. 193.3 feet, thence S. 6°20' W. 124.1 feet,
to the place of beginning.

Reference is hereby made to records in the office of the Bureau of
Land Management and to the records in the office of the Recorder of
Utah County, State of Utah.

TRACT NO. 2 A tract of land owned by Chief Consolidated Mining Company,
includes parts of secs. 27, 32, 33 and 34 of T. 9 S., R. 2 W., and parts
of secs. 3, 4, 5 and 10 of T. 10 S., R. 2 W., Salt Lake Base and Meridian,
in the Tintic and North Tintic Mining Districts, Utah County, Utah, con-
tains 1,226 acres more or less, and consists of the following patented
claims, as patented:

SURVEY NO. 6402. Limit; W. Pinyon No. 4; W. Pinyon No. 3; W. Pinyon
No. 2; N. S. No. 18; N. S. No. 19; Summit No. 7; Summit No. 8;
Summit No. 9; Summit No. 4; Summit No. 5; Summit No. 6 and S. S.
lode mining claims, as patented.

SURVEY NO. 6513. Getup lode mining claim, as patented.

SURVEY NO. 6430. N. S. No. 16; N. S. No. 17; Summit No. 1; Summit
No. 2; Summit No. 3 and Bend No. 3 lode mining claims, as patented.

SURVEY NO. 6629. Lucky Boy and Lucky Boy No. 2 lode mining claims,
as patented.

SURVEY NO. 6633. Christmas Lode No. 1; Christmas Lode No. 2; Christ-
mas Lode No. 3; Christmas Lode No. 4; Christmas Lode No. 5; Christ-
mas Lode No. 6 and Christmas Lode No. 7 lode mining claims, as patented.

SURVEY NO. 6459. Loop No. 7 lode mining claim, as patented.

SURVEY NO. 6457. Water Lillie lode mining claim, as patented.

SURVEY NO. 6017. That part of Midnight Extension lode (patented)
which is west of the east side lines of Survey No. 6516, E. Pinyon
No. 12 and E. Pinyon No. 15 lode mining claims.

SURVEY NO. 6516. That part of the patented portions of Contact and
Contact No. 1 lode mining claims lying south of a plane described

TRACT NO. 2 (CONT)

as: Begin at a point on line 4-1 of said Contact No. 1 lode S. 3°26' E. 689.4 feet from its corner No. 4, and run thence S. 87°49' W. 1125.7 feet to line 1-2 of Survey No. 6017, Midnight lode; ALSO, those patented portions of E. Pinyon No. 10 and E. Pinyon No. 12 lode mining claims, which are west of a line described as: Begin at corner No. 1 of said E. Pinyon No. 12 lode and run thence S. 87°49' W. 227.1 feet, thence N. 31°47' W. 1346.5 feet, thence N. 75°23' E. 265.9 feet to corner No. 4 of Survey No. 6017, Midnight Extension lode; ALSO, those patented portions of Peak, E. Pinyon No. 3 and E. Pinyon No. 5 lode mining claims lying west, south and east of lines described as: (1) Begin at a point on line 1-2 of said Peak lode, N. 87°49' E. 357.2 feet from its corner No. 1 and run thence S. 11°14' W. 87.9 feet, thence S. 59°50' E. to intersection with line 4-1 of Survey No. 6633, Christmas Lode No. 4 lode mining claim, and (2) Begin at a point on line 3-4, said E. Pinyon No. 5 lode, N. 87°49' E. 393.5 feet from its corner No. 3, and run thence S. 11°14' W. to intersection with line 1-2 of Survey No. 6633, Christmas Lode No. 4 lode mining claim, thence north to corner No. 1 of Christmas Lode No. 4 lode, thence west to end of line (1), above; ALSO, W. Pinyon No. 8, W. Pinyon No. 9, W. Pinyon, Thumb Tack, E. Pinyon, E. Pinyon No. 9, E. Pinyon No. 11, E. Pinyon No. 15, Contact No. 2, Contact No. 3, Summit No. 10, Pinyon, E. Pinyon No. 2, E. Pinyon No. 4, S. S. No. 6, E. Pinyon No. 6, E. Pinyon No. 8, and E. Pinyon No. 14 lode mining claims, as patented.

SURVEY NO. 6515. S. S. No. 5 and R. R. Fraction lode mining claims, as patented.

SURVEY NO. 6730. Peace and Peace Fraction lode mining claims, as patented.

SURVEY NO. 6448. Canyon No. 3; Canyon No. 4 and Canyon No. 5 lode mining claims, as patented.

SURVEY NO. 6463. S. S. No. 1; S. S. No. 2; S. S. No. 3; N. Tunnel;

TRACT NO. 2 (CONT)

N. Tunnel No. 1; N. Tunnel No. 2; N. Tunnel No. 3; N. Tunnel No. 4; N. Tunnel No. 5; Trestle, Railroad No. 4; Railroad No. 5; Railroad No. 10; Railroad No. 12; Railroad No. 13; Railroad No. 14; Railroad No. 6; Railroad No. 7; Railroad No. 8; Railroad No. 9 and Railroad No. 11 lode mining claims, as patented.

Reference is hereby made to records in the office of the Bureau of Land Management and to the records in the office of the Recorder of Utah County, State of Utah.

TRACT NO. 3 A tract of patented land owned by Chief Consolidated Mining Company, includes parts of secs. 4, 5, 8, and 9, T. 10 S., R. 2 W., Salt Lake Base and Meridian, in the Tintic and North Tintic Mining Districts, Utah County, Utah, contains 787 acres more or less, and is more particularly described as follows:

All of Survey No. 4126, Rossie, Golden Eagle, Eagle Lode Mining Claim No. 1 and Tunnel Site Mining Claim lode mining claims; all of Survey No. 6430, Bend No. 1 and Bend No. 2 lode mining claims; all of Survey No. 6402, Bend Fraction, Fraction No. 1, Hill Side, Good Luck, Limestone, Bertha, Good Will, Hill Top No. 2, Nashville No. 4, Nashville No. 1 lode mining claims; and that portion of Coyote lode mining claims of same survey, which is in sec. 9, as patented; all of Survey No. 6631, Helen and Helen No. 2 lode mining claims; all of Survey No. 6463, Hill Side No. 1, Hill Side No. 2, Railroad, Railroad No. 1 and Tunnel No. 2 lode mining claims, as patented; Survey No. 6643, Tunnel No. 3 lode mining claim, as patented and west of "Compromise Line", described below; all of Survey No. 6467, Matilda Lode mining claim; all of Survey No. 5974, Oxen, Venius, Tip Top No. 2 and Tip Top No. 1 lode mining claims; all of Survey No. 6448, Canyon and Goshen lode mining claims, as patented, and the patented portion of Canyon No. 1 lode mining claim west of the following described "Compromise Line"; Begin at a point on line 4-1

TRACT NO. 3 (CONT)

of Survey No. 6420, Helen lode mining claim, S. 76°02' E. 464.8 feet from its corner No. 4, and run thence N. 13°58' E. 500.3 feet; those portions of Survey No. 6000, Baltimore No. 3, Cedar No. 2 and Cedar No. 4 lode mining claims, and Survey No. 6473, Last Chance and Last Chance No. 1 lode mining claims, and Survey No. 6775, Alpine lode mining claim, which are north of a "Deed Line" described as: Begin at corner No. 2 of said Survey No. 6402, Coyote lode mining claim, and run thence N. 86°43' E. 1478.3 feet, thence S. 89°34' E. 727.7 feet to corner No. 1 of Survey No. 6436, Cedar No. 10 lode mining claim, thence along line 4-1 of said Cedar No. 10 lode N. 87°44' E. 1500.0 feet to its corner No. 4, thence N. 87°44' E. 290.4 feet to intersection with line 2-3 of said Survey No. 6775, Alpine lode mining claim; that part of Lot No. 52, Wyoming Silver Mining Company's Millsite which lies within the NE 1/4 of NE 1/4 of said sec. 8; all of Lot 1 of said sec. 8; all of the S 1/2 of SE 1/4 of said sec. 5, and all of the NW 1/4 of NE 1/4 and NE 1/4 of NW 1/4 of said sec. 8.

Reference is hereby made to the records of the U. S. Bureau of Land Management and those on file in the office of the Recorder of Utah County, State of Utah.

TRACT NO. 4 A tract of land owned by Tintic Standard Mining Company, includes part of sec. 34, T. 9 S., R. 2 W., and parts of secs. 2, 3, 9, 10, 11, 14, 15, 16, and 22, T. 10 S., R. 2 W., Salt Lake Base and Meridian, in the Tintic Mining District, Utah County, Utah, contains 3,185 acres more or less, and is more particularly described as follows:

(a) The following patented claims and lots, as patented, except as affected by compromise agreements, hereinafter described:

SURVEY NO. 4104. Little Silver King lode mining claim.

SURVEY NO. 4178. Last Hope (Amended) lode mining claim.

SURVEY NO. 4323. Love Wanderer lode mining claim.

SURVEY NO. 4654. White Stallion No. 2 lode mining claim.

SURVEY NO. 4668. Hedwig (Amended) lode mining claim and Fraction Gold Hill lode mining claim.

SURVEY NO. 5480. Vega lode mining claim.

SURVEY NO. 5550. Fraction Victory No. 1 lode mining claim.

SURVEY NO. 5559. Union B lode mining claim.

SURVEY NO. 5878. Golden Horse Shoe lode mining claim.

SURVEY NO. 6204. Union No. 2; Great Carbonate Queen A; Contact; Copper Queen; Copper Queen No. 2; Copper Queen No. 3; Copper Queen No. 4 lode mining claims.

SURVEY NO. 6392. Ice King lode mining claim.

SURVEY NO. 6393. Greyhound; Greyhound No. 2 (Amended); Greyhound No. 3 and Greyhound No. 4 lode mining claims.

SURVEY NO. 6465. Greyhound No. 5 lode mining claim.

SURVEY NO. 6466. Surprise; Surprise #2; Hidden Treasure No. 4; White Wing Lode Amended; Tintic Standard No. 2; Tintic Standard Number 3 Amended; Hidden Treasure No. 3; White Wing No. 7; White Wing No. 9; Hidden Treasure; White Wing No. 6; White Wing No. 8; Wonderer #1; Wonderer #2; Wonderer #3; Wonderer No. 8; Wonderer #4; Wonderer No. 7; Amended; Jamison Hill; Wonderer Number 6-X Amended; Wonderer Number 5-X Amended and Wonderer Amended lode mining claims.

SURVEY NO. 6527. White Wing #2; Last Chance and Hidden Treasure #2

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lode mining claims. .

SURVEY NO. 6560. Detective No. 2; Detective No. 5 and Detective No. 7 lode mining claims.

SURVEY NO. 6582. Bluff lode mining claim.

SURVEY NO. 6611. Tintic Standard No. 4 Amended; Tintic Standard No. 5 Amended; Tintic Standard No. 6 Amended; Tintic Standard No. 7; Tintic Standard No. 8; Tintic Standard No. 11 Amended, Tintic Standard No. 37; Tintic Standard No. 38; Tintic Standard No. 39; Tintic Standard No. 21; Tintic Standard No. 9 Amended; Tintic Standard No. 12; Tintic Standard No. 13; Tintic Standard No. 15 and Tintic Standard No. 16 lode mining claims.

SURVEY NO. 6612. Tintic Standard No. 10; Tintic Standard No. 31; Tintic Standard No. 32 Amended; Tintic Standard No. 33 Amended, Tintic Standard No. 34, Amended; Tintic Standard No. 35 Amended; Tintic Standard No. 36 Amended; Tintic Standard No. 44 Amended lode mining claims.

SURVEY NO. 6763. Tintic Standard No. 48; Tintic Standard No. 50; Tintic Standard No. 51 Amended; Tintic Standard No. 28 Amended; Tintic Standard No. 29 Amended; Tintic Standard No. 30 Amended; Tintic Standard No. 46; Tintic Standard No. 47; Tintic Standard No. 49; Tintic Standard No. 24 Amended; Tintic Standard No. 52; Tintic Standard No. 45; Tintic Standard No. 17; Tintic Standard No. 18; Tintic Standard No. 19; Tintic Standard No. 22 Amended and Tintic Standard No. 40 lode mining claims.

SURVEY NO. 6786. Judge lode mining claim.

SURVEY NO. 6787. Wanderer Number 9 Amended lode mining claim.

SURVEY NO. 6788. East Contact No. 19; East Contact No. 21; East Contact No. 23; East Contact No. 26; East Contact No. 29; East Contact No. 32; East Contact No. 35; East Contact No. 20; East Contact No. 22; East Contact No. 24; East Contact No. 27; East Contact No. 30; East Contact No. 33; East Contact No. 36; East

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Contact No. 60; East Contact No. 61; East Contact No. 62 and East Contact No. 63 lode mining claims.

SURVEY NO. 6789. East Contact No. 1; East Contact No. 5; East Contact No. 8; East Contact No. 11; East Contact No. 14; East Contact No. 17; East Contact No. 2; East Contact No. 6; East Contact No. 9; East Contact No. 12; East Contact No. 15; East Contact No. 18; East Contact No. 4; East Contact No. 7; East Contact No. 10; East Contact No. 13; East Contact No. 16; East Contact No. 59 and East Contact No. 3 lode mining claims.

SURVEY NO. 6790. East Contact No. 67; East Contact No. 55; East Contact No. 56; East Contact No. 57; East Contact No. 58; East Contact No. 68; East Contact No. 69; East Contact No. 70; East Contact No. 53; East Contact No. 54; East Contact No. 48; East Contact No. 47; East Contact No. 49; East Contact No. 50; East Contact No. 51; East Contact No. 52; East Contact No. 43; East Contact No. 44; East Contact No. 45; East Contact No. 25; East Contact No. 28; East Contact No. 31; East Contact No. 34; East Contact No. 46 lode mining claims.

SURVEY NO. 6793. East Contact No. 40; East Contact No. 41; East Contact No. 42; East Contact No. 37 and East Contact No. 66 lode mining claims.

SURVEY NO. 6848. Blak Eagel, Blak Eagel #1 and Gatley Lode mining claims.

SURVEY NO. 7021. Shield No. 1; Shield No. 2; Shield No. 3; Shield No. 4; Shield No. 5; Shield No. 6; Shield No. 26; Shield No. 27 and Shield No. 28 lode mining claims.

SURVEY NO. 7024. Shield No. 7; Shield No. 8; Shield No. 9; Shield No. 10; Shield No. 11 and Shield No. 12 lode mining claims.

SURVEY NO. 7025. Shield No. 29; Shield No. 30; Shield No. 31; Shield No. 32; Shield No. 52; Shield No. 53; Shield No. 54; Shield No. 55 and Shield No. 56 lode mining claims.

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SURVEY NO. 7156. Wedge lode mining claim.

SURVEY NO. 7171. Surprise Fraction lode mining claim.

ALSO, Lots 15, 16, 17, sec. 11, and the SE 1/4 NE 1/4 sec. 15,
T. 10 S., R. 2 W.

- (b) The following unpatented claim locations filed in the County
Recorder's Office, Utah County:

Wonderer Fraction, in SW 1/4 SE 1/4 sec. 15, a small
triangular fraction lying between Wonderer No. 7 Amended
6466, Detective No. 2 6560, and Jamison Hill 6466. Located
May 23, 1930. Entry No. 4372 recorded June 9, 1930 in Book
280 of Mining, Page 498. Amended July 16, 1935. Entry No.
6784 recorded August 5, 1935 in Book 287 of Mining, Page
405.

Tintic Standard No. 70, in NE 1/4 NW 1/4 sec. 10, lying
between Tintic Standard No. 21 6611, Canyon No. 5 6448,
Railroad No. 9 6463, Tintic Standard No. 52. Located
July 1, 1931. Entry No. 4804 recorded July 6, 1931 in
Book 283 of Mining, Page 69.

Tintic Standard No. 71, in SW 1/4 SE 1/4 sec. 3, covering
a triangle between Tintic Standard No. 46 6763, Railroad
No. 11 6463, and Railroad No. 13 6463. Located July 1,
1931. Entry No. 4805 recorded July 6, 1931 in Book 283 of
Mining, Page 69.

Tintic Standard No. 72, in C NW 1/4 sec. 10, covering a
very narrow strip between Tintic Standard No. 21 6611,
Tintic Standard No. 3 Amended 6466, and Canyon No. 5
6448. Located July 10, 1929. Entry No. 1642 recorded
March 11, 1929 in Book 277 of Mining, Page 360.

T. S. No. 73, in SE 1/4 sec. 34, T. 9 S., R. 2 W., covering
a narrow strip between Tintic Standard No. 30 Amended 6763,
Tintic Standard No. 29 Amended 6763, Morning Star 6558.

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Located July 1, 1931. Entry No. 4802 recorded July 6, 1931 in Book 283 of Mining, Page 68.

T. S. No. 74, in NE 1/4 sec. 3, T. 10 S., R. 2 W., and in SW 1/4 sec. 34, T. 9 S., R. 2 W., lying along north end lines of Tintic Standard No. 48 6763, Tintic Standard No. 50 6763, Tintic Standard No. 51 Amended 6763, and along south end line of Morning Star No. 6 6618. Located in July 1, 1931. Entry No. 4803 recorded July 6, 1931 in Book 283 of Mining, Page 69. Amended July 16, 1935. Entry No. 6783 recorded August 5, 1935 in Book 287 of Mining, Page 405.

T. S. No. 75, in NE 1/4 and SE 1/4 sec. 3, T. 10 S., R. 2 W., an irregular fraction adjoining east side line of Railroad No. 14 6463, south end of Trestle 6463, and west side line and north end line of Tintic Standard No. 48 6763. Located July 2, 1935. Entry No. 6219 recorded July 13, 1935 in Book 287, Page 385.

T. S. No. 76, in SE 1/4 NE 1/4 sec. 3, T. 10 S., R. 2 W., adjoining west end line of T. S. No. 74 (described above) and east side line of T. S. No. 75 (described above).

Located August 30, 1935. Entry No. 8243 recorded September 6, 1935 in Book 283 of Mining, Page 516.

(c) Boundary lines based on compromise agreements and affecting hereinbefore described patented claims as patented are more particularly described as follows:

(i) Description of compromise line based on a Boundary Line Agreement, dated June 25, 1930, by and between Eureka Lilly and Eureka Standard Consolidated Mining Companies, recorded February 2, 1931 in Utah County, Utah, as Entry No. 622, in Book 283 of Mining, Page 14, and a Boundary Line Agreement, dated June 25, 1930, by and between Eureka Lilly Mining Company and Tintic Standard Mining Company, recorded February 2, 1931 in

TRACT NO. 4 (CONT)

the records of Utah County, Utah, as Entry No. 623, in Book 283 of Mining, Page 17: Beginning at the south end of a compromise line between Eureka Lilly Mining Company and Tintic Standard Mining Company, which is a point on line 3-4 of Survey No. 4104 Little Silver King lode, and also a point on line 1-2 of Survey No. 4668, Fraction Hedwig lode, Amended, whence corner No. 3 of the said Little Silver King lode bears N. $84^{\circ}50'$ E. 139.0 feet, and from the said corner No. 3 of the Little Silver King lode, the quarter section corner on the south boundary of sec. 16, T. 10 S., R. 2 W., S. L. B. & M., bears S. $72^{\circ}38'30''$ W. 1152.0 feet, thence along said compromise line N. $13^{\circ}33'$ E. 1339.7 feet to the north end of said compromise line, a point on line 1-6 of Survey No. 4104, Little Silver King lode, whence the quarter section corner on the south boundary of sec. 16, T. 10 S., R. 2 W., S. L. B. & M., bears S. 38° W., 2069.6 feet; thence N. $85^{\circ}07'$ E. 317.03 feet to the intersection of line 1-6 of said Little Silver King lode with line 1-2 of Survey No. 4100, Ralph Amended lode; thence N. $8^{\circ}37'$ E. 275.4 feet to corner No. 1 of said Ralph lode, thence N. $85^{\circ}37'$ W. 177.16 feet to the intersection of line 4-1 of said Ralph lode with line 3-4 of Lot No. 39, Sarah lode.

- (ii) Description of compromise line based on an agreement between Eureka Lilly Mining Company and Tintic Standard Mining Company, described in a Warranty Deed, dated February 2, 1921, a Boundary Line Agreement, dated February 7, 1933, by and between Chief Consolidated Mining Company and Eureka Lilly Mining Company, recorded in Utah County, Utah, Book 287, Page 143, and a Contract, dated December 14, 1920, by and between Chief Consolidated Mining Company and Tintic Standard Mining Company: Beginning at a point on line 4-1, the northerly end line of Lot No. 39, Sarah lode, which point is N. 85° W. 138.2 feet

TRACT NO. 4 (CONT)

from corner No. 4 of said Sarah lode, thence North 1242.4 feet to the north end of Survey No. 4323, Love Wanderer lode, thence North 246.75 feet to the north end of Golden Horseshoe; thence North 599.3 feet to the north side line of Last Chance, Survey No. 6527, which point is N. 89°57' W. 710.8 feet from corner No. 1 of said Last Chance lode, thence S. 89°57' E. 528.35 feet; thence North 1442.4 feet to corner No. 4, the northwest corner, of Survey No. 6466, Surprise lode, thence northerly 500 feet, more or less, to corner No. 3, the southeast corner, of Survey No. 6436, Cedar No. 10 lode, thence N. 45° W. 163 feet, more or less, to the point of intersection of line 3-4 of said Cedar No. 10 lode and line 2-3 of Survey No. 6420, Copperleaf No. 2 lode, thence along southerly end lines of said Copperleaf No. 2 lode and of Survey No. 6420 Copperleaf No. 3 lode, S. 83°42' E. 558.3 feet, more or less, to corner No. 2 of said Copperleaf No. 3 lode.

- (iii) Description of compromise line based on a Boundary Line Agreement, dated June 25, 1930, by and between Chief Consolidated Mining Company and Tintic Standard Mining Company: Beginning at the point of intersection of line 4-3 of Survey No. 6448, Canyon No. 4 lode with line 1-2, the easterly side line of Survey No. 6420, Copperleaf No. 1 lode; thence N. 87°49' E. 755.8 feet to corner No. 3 of Survey No. 6448, Canyon No. 5 lode; thence N. 13°42' E. 1449.5 feet to corner No. 2 of said Canyon No. 5 lode, identical with corner No. 4 of Survey No. 6463, Railroad No. 8 lode, and with corner No. 1 of Survey No. 6463 Railroad No. 9 lode, whence the corner to secs. 3, 4, 9, 10, T. 10 S., R. 2 W., S. L. B. & M., bears N. 89°16' W. 2052.4 feet; thence N. 87°49' E. 1200 feet to corner No. 4 southeast corner, of Survey No. 6463 Railroad No. 11 lode; thence N. 10°41' W. 1482.5 feet to corner No. 3 of said

TRACT NO. 4 (CONT)

Railroad No. 11 lode, identical with corner No. 4 of Survey No. 6463, Railroad No. 12 lode, and with corner No. 3 of Survey No. 6463, Railroad No. 13 lode; thence N. 87°49' E. 1200 feet to corner No. 2 of Survey No. 6463, Railroad No. 14 lode; thence N. 6°30' W. 561.4 feet to the intersection of line 1-2 of said Railroad No. 14 lode, with line 2-3 of Survey No. 6763, Tintic Standard No. 48 lode; thence N. 6°30' W. 938.3 feet to corner No. 1 of said Railroad No. 14 lode, identical with corners No. 2 and 3, Survey No. 6463, N. Tunnel No. 5 and Trestle lodes, respectively.

- (iv) Description of a compromise line based on an agreement dated January 26, 1920, by and between Tintic Standard Mining Company and Eureka Standard Consolidated Mining Company, recorded June 18, 1920, in Utah County, Utah, as Entry No. 4813, in Book 192 of Mining, Page 356: Beginning at a point on line 4-5, the easterly side line of Greyhound No. 5 lode, Survey No. 6465, which point is N. 37°27' E. 300.6 feet, more or less, from the southeast corner of said Greyhound No. 5 lode; thence along said compromise line, N. 65°47' W. 2037.5 feet, more or less, to corner No. 2, the southeast corner of Survey No. 4178, Last Hope (Amended) lode; thence along line 2-3 of said Last Hope (Amended) lode, N. 86°23' W. 205.4 feet, to corner No. 3, the southwest corner of said Last Hope (Amended) lode, identical with corner No. 4 Survey No. 4668, Weller Fraction lode; thence along line 4-3, the westerly side line of said Weller Fraction lode, S. 29°17' W. 186.4 feet to corner No. 3, the southwest corner of said Weller Fraction lode, identical with corner No. 3, the southeast corner of Survey No. 4104, Little Silver King lode.

- (v) Description of Separate Tract in the S 1/2 of SE 1/4 of SW 1/4 of sec. 15, T. 10 S., R. 2 W., S. L. B. & M. according to a

TRACT NO. 4 (CONT)

Boundary Line Agreement, dated June 25, 1930, by and between Chief Consolidated Mining Company and Tintic Standard Mining Company; Beginning at southeast corner No. 3 of Survey No. 6393, Greyhound No. 2 Amended lode, and running thence N. 71°20' W. to the intersection of line 3-4 of said Greyhound No. 2 Amended lode with the south boundary line of said Blak Eagel #1 lode; thence N. 69°48' E. to the intersection of the south boundary line of the said Blak Eagel #1 lode, Survey No. 6848, with line 2-3 of said Greyhound No. 2 Amended lode; thence S. 6°20' W. to corner No. 3 of said Greyhound No. 2 Amended lode, the place of beginning.

Reference is hereby made to records in the office of the Bureau of Land Management and to the records in the office of the Recorder of Utah County, State of Utah, and to that part of the description of Tract No. 1 of this Exhibit "B" titled "North Boundary of Tract No. 1."

TRACT NO. 5 A tract of land held by the Tintic Standard Mining Company in unpatented mining claim locations, filed in the County Recorder's office, Utah County, includes a part of sec. 35, T. 9 S., R. 2 W., and a part of sec. 2, T. 10 S., R. 2 W., Salt Lake Base and Meridian, in the Tintic Mining District, Utah County, Utah, contains 532 acres more or less, and is more particularly described as follows:

Shield No. 13, in SE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5453 recorded July 17, 1926 in Book 240 of Mining, Page 364.

SHIELD NO. 14, in SE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5454 recorded July 17, 1926 in Book 240, Page 365.

Shield No. 15, in SE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5455 recorded July 17, 1926 in Book 240 of Mining, Page 365.

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Shield No. 16, in SE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5456 recorded July 17, 1926 in Book 240, Page 366.

Shield No. 17, in SE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5457 recorded July 17, 1926 in Book 240 of Mining, Page 366.

Shield No. 18, in SE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5458 recorded July 17, 1926 in Book 240 of Mining, Page 367.

Shield No. 19, in SE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5459 recorded July 17, 1926 in Book 240 of Mining, Page 367.

Shield No. 20, in SW 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5460 recorded July 17, 1926 in Book 240 of Mining, Page 368.

Shield No. 21, in SW 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5461 recorded July 17, 1926 in Book 240 of Mining, Page 368.

Shield No. 22, in SW 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5462 recorded July 17, 1926 in Book 240 of Mining, Page 369.

Shield No. 23, in SW 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5463 recorded July 17, 1926 in Book 240 of Mining, Page 369.

Shield No. 24, in SW 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5464 recorded July 17, 1926 in Book 240 of Mining, Page 370.

Shield No. 25, in SW 1/4 sec. 2, T. 10 S., R. 2 W. Located July 2, 1926. Entry No. 5465 recorded July 17, 1926 in Book 240 of Mining, Page 370.

Shield No. 33, in NW 1/4 sec. 2, T. 10 S., R. 2 W. Located September 1, 1926. Entry No. 6800 recorded September 15, 1926 in

TRACT NO. 5 (CONT)

Book 240 of Mining, Page 436.

Shield No. 34, in NW 1/4 sec. 2, T. 10 S., R. 2 W. Located September 1, 1926. Entry No. 6801 recorded September 15, 1926 in Book 240 of Mining, Page 436.

Shield No. 35, in NW 1/4 sec. 2, T. 10 S., R. 2 W. Located September 1, 1926. Entry No. 6802 recorded September 15, 1926 in Book 240 of Mining, Page 437.

Shield No. 36, in NW 1/4 sec. 2, T. 10 S., R. 2 W. Located September 1, 1926. Entry No. 6803 recorded September 15, 1926 in Book 240 of Mining, Page 438.

Shield No. 37, in NW 1/4 sec. 2, T. 10 S., R. 2 W. Located September 1, 1926. Entry No. 6804 recorded September 15, 1926 in Book 240 of Mining, Page 438.

Shield No. 38, in NW 1/4 sec. 2, T. 10 S., R. 2 W. Located July 1, 1926. Entry No. 5469 recorded July 17, 1926 in Book 240 of Mining, Page 372.

Shield No. 39, in NE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 1, 1926. Entry No. 5470 recorded July 17, 1926 in Book 240 of Mining, Page 373.

Shield No. 40, in NE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 1, 1926. Entry No. 5471 recorded July 17, 1926 in Book 240 of Mining, Page 373.

Shield No. 41, in NE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 1, 1926. Entry No. 5472 recorded July 17, 1926 in Book 256 of Mining, Page 147.

Shield No. 42, in NE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 1, 1926. Entry No. 5473 recorded July 17, 1926 in Book 256 of Mining, Page 148.

Shield No. 43, in NE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 1, 1926. Entry No. 5474 recorded July 17, 1926 in Book 256 of Mining, Page 148.

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Shield No. 44, in NE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 1, 1926. Entry No. 5475 recorded July 17, 1926 in Book 256 of Mining, Page 149.

Shield No. 45, in NE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 1, 1926. Entry No. 5476 recorded July 17, 1926 in Book 256 of Mining, Page 149.

Shield No. 46, in NE 1/4 sec. 2, T. 10 S., R. 2 W. Located July 1, 1926. Entry No. 5477 recorded July 17, 1926 in Book 256 of Mining, Page 150.

Shield No. 47, in NW 1/4 sec. 2, T. 10 S., R. 2 W. Located July 1, 1926. Entry No. 5478 recorded July 17, 1926 in Book 256 of Mining, Page 150.

Shield No. 48, in NW 1/4 sec. 2, T. 10 S., R. 2 W. Located September 2, 1926. Entry No. 6805 recorded September 15, 1926 in Book 256 of Mining, Page 174.

Shield No. 49, in NW 1/4 sec. 2, T. 10 S., R. 2 W. Located September 2, 1926. Entry No. 6806 recorded September 15, 1926 in Book 256 of Mining, Page 174.

Shield No. 50, in NW 1/4 sec. 2, T. 10 S., R. 2 W. Located September 2, 1926. Entry No. 6807 recorded September 15, 1926 in Book 256 of Mining, Page 175.

Shield No. 51, in NE 1/4 sec. 2, T. 10 S., R. 2 W. Located September 2, 1926. Entry No. 6808 recorded September 15, 1926 in Book 256 of Mining, Page 175.

Said Tract No. 5 is bounded on the south by the following patented lode mining claims:

SURVEY NO. 7021. Shield No. 4; Shield No. 5 and Shield No. 6 lode mining claims.

SURVEY NO. 7024. Shield No. 7; Shield No. 8; Shield No. 9; Shield No. 10; Shield No. 11 and Shield No. 12 lode mining claims.

Said Tract No. 5 is bounded on the west by the following patented lode

TRACT NO. 5 (CONT)

mining claims.

SURVEY NO. 7021. Shield No. 26 lode mining claim.

SURVEY NO. 7025. Shield No. 32 and Shield No. 52 lode mining claims.

The northern and eastern boundaries of said Tract No. 5 are more particularly described as follows:

Beginning at corner No. 2 of Morning Star No. 4 lode, Survey No. 6558, thence along line 2-3 of said Morning Star No. 4, S. 72°04' E. 449 feet, more or less, to its intersection with the north boundary of sec. 2, T. 10 S., R. 2 W., S. L. B. & M., thence along the said north boundary of sec. 2, easterly 1100 feet, more or less, to its intersection with line 3-4, the easterly end line of said Morning Star No. 4 lode; thence along said line 3-4 of Morning Star No. 4 lode, N. 17°00' E. 270 feet, more or less, to corner No. 4 of said Morning Star No. 4 lode; thence along line 4-1 the northerly side line, of said Morning Star No. 4 lode, N. 72°04' W. 200 feet, more or less, to its intersection with the north end line of Shield No. 49 lode; thence along north end lines of said Shield No. 49, Shield No. 48, Shield No. 47, Shield No. 46, Shield No. 45, Shield No. 44 and Shield No. 43, East 4020 feet, more or less, to the northeast corner of said Shield No. 43 lode, a point on the east boundary of sec. 35, T. 9 S., R. 2 W., S. L. B. & M., approximately North 280 feet from the southeast corner of said sec. 35; thence South 5770 feet, more or less, to the point of intersection of the easterly side line of Shield No. 14 with line 1-2, the northerly side line of Survey No. 7129, Alta No. 2 Amended lode; thence S. 88°28' W. 960 feet, more or less, to corner No. 2 of said Alta No. 2 Amended lode, identical with corner No. 1, the northeast corner of Survey No. 7129, Alta No. 3 Amended lode; thence S. 88°35' W. 229.7 feet to the point of intersection of line 1-2 of said Alta No. 3 Amended lode with line 4-1 of Survey No. 7024, Shield No. 12 lode, which point is N. 0°12' W. 186.3 feet

TRACT NO. 5 (CONT)

from corner No. 1 of said Shield No. 12 lode.

The following patented lode mining claims, as patented, are excluded from the area of Tract No. 5, and are not a part of the Unit Tract:

SURVEY NO. 6583. Copper Glance #1; Copper Glance Extension No. 1;

Copper Glance Extension No. 2 and Crescent #6 lode mining claims.

Reference is hereby made to records in the office of the Bureau of Land Management and to the records in the office of the Recorder of Utah County, State of Utah.

TRACT NO. 6 A tract of land owned by Eureka Lilly Consolidated Mining Company, includes parts of secs. 16, 17, 20, 21 and 28, T. 10 S., R. 2 W., Salt Lake Base and Meridian, in the Tintic Mining District, Utah County, Utah, contains 870 acres more or less, and is more particularly described as follows:

(a) The following patented claims as patented, except as affected by compromise agreements hereinafter described:

SURVEY NO. 37. Caroline lode mining claim.

SURVEY NO. 38. Highland Mary lode mining claim.

SURVEY NO. 39. Sarah lode mining claim.

SURVEY NO. 4100. Ralph (Amended) lode mining claim.

SURVEY NO. 4104. Little Silver King lode mining claim.

SURVEY NO. 4105. Side Extension Little Silver King lode mining claim.

SURVEY NO. 4282. Lilley of the West, Auroria and Sampson lode mining claims.

SURVEY NO. 4323. Love Wanderer lode mining claim.

SURVEY NO. 4984. Fraction of Grutli Number 3 and Grutli No. 3 lode mining claims.

SURVEY NO. 5466. Golden Chariot Mine No. 1, Golden Chariot No. 2 and Golden Chariot No. 3 lode mining claims.

SURVEY NO. 5533. Golden Chariot No. 4 lode mining claim.

SURVEY NO. 5708. Goshen No. 4 lode mining claim.

SURVEY NO. 5714. Clipper, Arrow, Clinton and Castle lode mining claims.

SURVEY NO. 5740. Kidnapping; East Fraction; Great Eastern No. 8; Sunbeam No. 4; Great Eastern #1; Great Eastern No. 2; Great Eastern No. 3; Great Eastern #4; Great Eastern #5; Great Eastern #6; Great Eastern #7; Sunbeam #1; Sunbeam #2; Sunbeam #3; September; Snowbird and Great Irish Change lode mining claims.

SURVEY NO. 5854. Angle lode mining claim.

SURVEY NO. 5878. Golden Horse Shoe lode mining claim.

SURVEY NO. 5883. September Fraction lode mining claim.

SURVEY NO. 6091. East Point #1; East Point #2; East Point #3;

TRACT NO. 6 (CONT)

East Point #4; East Point #5; Golden Fissure; Horse Shoe; Horse Shoe A and Horse Shoe #1 lode mining claims.

SURVEY NO. 6402. Desert No. 9 lode mining claim.

SURVEY NO. 6433. Andy Amended and Comet Amended lode mining claims.

SURVEY NO. 6439. Attair and Climax lode mining claims.

SURVEY NO. 6527. Last Chance lode mining claim.

SURVEY NO. 6807. Iron King No. 1 Amended lode mining claim.

SURVEY NO. 6808. Iron King Amended and Shawnee lode mining claims.

SURVEY NO. 6931. Lily Sliver lode mining claim.

SURVEY NO. 6933. Lily Fraction lode mining claim.

ALSO, No. 1 Iron Placer and No. 2 Iron Placer.

- (b) The following unpatented claim location, filed in the County Recorder's office, Utah County:

Ben, in SW 1/4 sec. 21, T. 10 S., R. 2 W., a small triangle bounded by Eleanore No. 1 6585, East Point #3 6091 and Eleanore #2 6595, located August 5, 1928; Entry No. 7760, recorded August 29, 1928, in Book 277, page 271.

- (c) Boundary lines based on compromise agreements and affecting hereinbefore described patented claims as patented are more particularly described as follows:

- (i) Description of compromise line based on a Boundary Line Agreement dated June 25, 1930, between East Tintic Consolidated Mining Company and South Standard Mining Company, recorded February 2, 1931, in the records of Utah County, Utah, as Entry No. 615, in Book 277 of Mining, Page 587, and a Boundary Line Agreement dated June 25, 1930, between East Tintic Consolidated Mining Company and Eureka Standard Consolidated Mining Company, recorded February 2, 1931 in the records of Utah County, Utah, as Entry No. 614 in Book 277 of Mining, Page 584: Beginning at the southwest corner, corner No. 4, of Survey No. 6091, East Point #3 lode and running thence

TRACT NO. 6 (CONT)

S. $84^{\circ}51\frac{1}{2}'$ E. 599.25 feet to corner No. 1 of said East Point #3 lode, identical with corner No. 1 of Survey No. 6091, East Point #4 lode, whence the quarter section corner on the south boundary of sec. 21, T. 10 S., R. 2 W., S. L. B. & M., bears S. $63^{\circ}22'$ E. 173.18 feet; thence S. $84^{\circ}48\frac{1}{2}'$ E. 599.37 feet to corner No. 4 of said East Point #4 lode, identical with corner No. 1 of Survey No. 6091, East Point #5 lode; thence S. $84^{\circ}44\frac{1}{2}'$ E. 560.11 feet to corner No. 4 of said East Point #5 lode; thence N. $3^{\circ}26'$ W. 83 feet to the intersection of line 3-4 of said East Point #5 lode with line 4-1 of Survey No. 6456, Vern No. 2 lode; thence N. $3^{\circ}26'$ W. 1067 feet to corner No. 3 of said East Point #5 lode, on line 4-1 of Survey No. 6091, East Point #2 lode; thence S. $84^{\circ}46'$ E. 825.17 feet to corner No. 4 of said East Point #2 lode; thence N. $9^{\circ}34\frac{1}{2}'$ E. 599.39 feet to corner No. 3 of said East Point #2 lode; thence N. $84^{\circ}49'$ W. 371.60 feet to corner No. 4 of Survey No. 6091, Horse Shoe #1 lode, on line 2-3 of said East Point #2 lode; thence N. $36^{\circ}45'$ E. 700.5 feet to corner No. 3 of said Horse Shoe #1 lode, identical with corner No. 4 of said Survey No. 6091, Horse Shoe lode; thence N. $34^{\circ}24\frac{1}{2}'$ E. 205.51 feet to corner No. 3 of said Horse Shoe Lode, identical with corner No. 4 of Survey No. 6091, Horseshoe A lode; thence N. $31^{\circ}52'$ E. 612.8 feet to corner No. 3 of said Horseshoe A lode, whence the quarter section corner on the east boundary of sec. 21, T. 10 S., R. 2 W., S. L. B. & M., bears S. $55^{\circ}33'$ E. 424.16 feet, and the northeast corner of said sec. 21 bears N. $9^{\circ}58\frac{1}{2}'$ E. 2397.4 feet, and the quarter section corner on the north boundary of said sec. 21 bears N. $42^{\circ}46\frac{1}{2}'$ W. 3221.7 feet; thence S. $87^{\circ}26'$ W. 240.07 feet to the intersection of line 2-3 of said Horseshoe A lode with line 3-4 of Survey No. 6091, Golden Fissure lode; thence N. $11^{\circ}15'$ E. 1089.59 feet to the intersection of line 3-4

TRACT NO. 6 (CONT)

of said Golden Fissure lode with the south boundary of the NE 1/4 of the NE 1/4 of said sec. 21, which is also the south boundary of No. 2 Iron Placer; thence easterly 400 feet, more or less, to corner No. 12 of No. 2 Iron Placer, which point is the southeast corner of the NE 1/4 of the NE 1/4 of said sec. 21.

- (ii) Description of compromise line based on a Boundary Line Agreement between East Tintic Consolidated Mining Company and Eureka Standard Consolidated Mining Company, dated June 25, 1930, recorded February 2, 1931, in the records of Utah County, Utah, as Entry No. 613 in Book 277 of Mining, Page 581: Beginning at a point at the intersection of the north boundary line of sec. 21 with line 4-1 of Side Extension of Hedwig lode, Survey No. 4668, which point is westerly 760 feet, more or less, from the northwest corner of NE 1/4 of NE 1/4 of said sec. 21; thence N. 11°16' W. 194.07 feet to corner No. 1 of said Side Extension of Hedwig lode, on line 3-4 of Survey No. 4668, Fraction Hedwig lode, Amended; thence N. 62°16' W. 9.98 feet to corner No. 3 of said Fraction Hedwig lode amended; thence N. 36°12 $\frac{1}{2}$ ' E. 126.12 feet to corner No. 2 of said Fraction Hedwig lode Amended; thence N. 84°50' E. 223.91 feet to corner No. 4, Survey No. 4105, Side Extension of L. Silver King lode, identical with corner No. 4, Survey No. 4104, Little Silver King lode, which point is also on line 1-2 of said Fraction Hedwig lode (Amended).
- (iii) Description of compromise line based on a Boundary Line Agreement dated June 25, 1930, by and between Eureka Lilly Mining Company and Eureka Standard Consolidated Mining Company, recorded February 2, 1931, in the records of Utah County, Utah, as Entry No. 622, in Book 283 of Mining, Page 14, and a Boundary Line Agreement, dated June 25, 1930, by and between Eureka

TRACT NO. 6 (CONT)

Lilly Mining Company and Tintic Standard Mining Company, recorded February 2, 1931 in the records of Utah County, Utah, as Entry No. 623, in Book 283 of Mining, Page 17: Said compromise line is identical with that compromise line described in Tract No. 4, paragraph (c), subparagraph (i), of this Exhibit "B", and reference is hereby made to said description.

- (iv) Description of compromise line based on an agreement between Eureka Lilly Mining Company and Tintic Standard Mining Company described in a Warranty Deed, dated February 2, 1921: Said compromise line is identical with that compromise line described in Tract No. 4, paragraph (c), subparagraph (ii), of this Exhibit "B" and reference is hereby made to said description.
- (v) Description of compromise line based on a Boundary Line Agreement, dated March 22, 1927, by and between Eureka Lilly Mining Company and North Lily Mining Company, recorded in Utah County, Utah, Book 256, Page 252; a Boundary Line Agreement, dated February 7, 1933, by and between Eureka Lilly Mining Company and Eureka Bullion Mining Company, recorded March 28, 1933 in Utah County, Utah, as Entry No. 1668, in Book 287 of Mining, Page 140; a Boundary Line Agreement, dated December 14, 1931, by and between East Tintic Consolidated Mining Company and Eureka Bullion Mining Company; and a Boundary Line Agreement, dated August 7, 1928, by and between East Tintic Consolidated Mining Company and the Big Hill Mining Company, recorded September 11, 1928, in Utah County, Utah, as Entry No. 8030, Book 280 of Mining, Page 64: Beginning at the point of intersection of line 6-1 of Last Chance lode, Survey No. 6527 with line 1-2 of Weber lode, Survey No. 6438, which point is S. 69°42' W. 161.26 feet from corner No. 1 of said Weber lode; thence S. 69°37' W. 396.6 feet

TRACT NO. 6 (CONT)

to corner No. 2 of said Weber lode mining claim, identical with corner No. 1 Survey No. 6438, Natrona lode mining claim; thence S. 63°20' W. 282.5 feet to intersection of line 1-2 of said Natrona lode mining claim with line 5-6 Survey No. 6527, said Last Chance lode mining claim; thence along line 6-5 of said Last Chance lode, S. 10°51' W. 136.94 feet, to the point of intersection of said line 6-5 of said Last Chance lode, with line 2-3 of Survey No. 4984, Grutli No. 3 lode; thence along line 2-3 of said Grutli No. 3 lode N. 69°13' W. 173.8 feet, more or less, to corner No. 3 of said Grutli No. 3 lode; thence S. 2°44' W. 30.3 feet to intersection of line 3-4, said Grutli No. 3 lode mining claim with line 1-2 of said Natrona lode mining claim; thence S. 63°20' W. 6.1 feet to intersection of line 1-2 of said Natrona lode mining claim with line 4-1 of the Horton Amended lode mining claim, Survey No. 6523; thence S. 89°13' E. 5.3 feet to corner No. 1 of said Horton Amended lode mining claim, Survey No. 6523; thence S. 2°44' W. 992.7 feet to the intersection of line 1-2 of said Horton Amended lode mining claim with line 2-3, Survey No. 6402, Desert No. 9 lode mining claim; thence S. 24°53' W. 57.6 feet to intersection of line 2-3 of said Desert No. 9 lode mining claim with line 4-1, Survey No. 4984, Fraction of Grutli Number 3 lode mining claim, thence N. 84°45' W. 21.2 feet to corner No. 4 of said Fraction of Grutli Number 3 lode mining claim; thence S. 3°18' W. 54.2 feet to intersection of line 3-4 of said Fraction of Grutli No. 3 lode mining claim with line 2-3 of said Desert No. 9 lode mining claim; thence S. 24°53' W. 20.6 feet to intersection of line 2-3 of said Desert No. 9 lode mining claim with line 2-3 of said Horton Amended lode mining claim; thence N. 89°13' W. 4.0 feet to corner No. 4 of the Grutli lode mining claim, Survey No. 5795; thence S. 2°59' W. 1385.4 feet,

TRACT NO. 6 (CONT)

to corner No. 4 of Survey No. 5795, Clara lode mining claim, identical with corner No. 1 of said Grutli lode mining claim, identical with corner No. 3 of said Fraction of Grutli Number 3 lode mining claim; thence S. 50°16' W. 1443.3 feet to corner No. 1 of said Clara lode mining claim; thence S. 87°22' W. 143.3 feet to the point of intersection of line 1-2 of said Clara lode with line 3-2, Survey No. 6433, Andy Amended lode mining claim, thence S. 4°22' W. 333.1 feet to the point of intersection with line 4-1 of Survey No. 5740, Great Eastern #5 lode mining claim, whence the southwest corner of sec. 16, T. 10 S., R. 2 W., S. L. B. & M., bears S. 60°11' W. 1768.9 feet, thence N. 69°05' W. 191.9 feet to corner No. 1 of said Great Eastern #5 lode, identical with corner No. 4 of Survey No. 5740, Great Eastern #4 lode, whence the southwest corner of sec. 16, T. 10 S., R. 2 W., S. L. B. & M., bears S. 54°55' W. 1654.1 feet; thence N. 69°05' W. 337.8 feet to corner No. 2 of Survey No. 5795, Clara No. 2 lode; identical with corner No. 4 of Survey No. 6558, Clara No. 2 Extension lode, and on line 4-1 of said Great Eastern #4 lode; thence N. 69°05' W. 265.3 feet to corner No. 1 of said Great Eastern #4 lode, identical with corner No. 4 of Survey No. 5740, Great Eastern #3 lode, thence N. 69°05' W. 584.0 feet to corner No. 1 of said Great Eastern #3 lode, identical with corner No. 4 of Survey No. 5740, Great Eastern #2 lode, whence the corner of sec. 16, 17, 20, 21, T. 10 S., R. 2 W., S. L. B. & M., bears S. 10°06' W. 1396.1 feet, thence N. 69°05' W. 118.2 feet to the point of intersection of line 4-1 of said Great Eastern #2 lode with line 4-1 of Survey No. 5734, Bavarian Girl lode, thence N. 80°09' W. 467.7 feet to corner No. 1 of said Bavarian Girl lode, thence N. 21°06' E. 89.8 feet to the point of intersection of line 1-2 of said Bavarian Girl lode with line

TRACT NO. 6 (CONT)

4-1 of said Great Eastern #2 lode, thence N. 69°05' W.

23.0 feet to corner No. 1 of said Great Eastern #2 lode,
identical with corner No. 4 of Survey No. 5740, Great Eastern
#1 lode.

- (d) Description of an area known as the "20th Century Claim Group," that
is excluded from this Tract No. 6, and also from the Unit Tract:

Beginning at corner No. 4 of Survey No. 5740, Sunbeam #3 lode,
thence S. 76°38' E. 1005.3 feet to a point on line 4-5 of
said Sunbeam #3 lode, thence N. 29°32' E. 765.9 feet to a
point on the west boundary of No. 2 Iron Placer, thence along
said west boundary N. 1°26' E. 270.8 feet, thence N. 77°47' W.
464.2 feet, thence N. 78°05' W. 588.0 feet, thence N. 74°48' W.
600 feet, to the northwest corner of 20th Century lode mining
claim (not officially surveyed), whence the corner of sec.
16-17-20-21, T. 10 S., R. 2 W., S. L. B. & M., bears S. 74°42' W.
373.2 feet, thence S. 30°14' W. 1428.9 feet, thence S. 74°48' E.
605.0 feet, thence S. 78°05' E. 41.9 feet, to a point on the
south boundary of NW 1/4 of NW 1/4 of said sec. 21, which is
also on the north boundary of No. 1 Iron Placer, thence along
said boundary S. 89°42' E. 330 feet, more or less, to its
point of intersection with line 3-4, the easterly side line,
of Survey No. 5740 Sunbeam #2 lode, thence along said easterly
side line N. 0°55' E. 346.3, more or less, to said corner No. 4
of Sunbeam #3 lode, the place of beginning.

Reference is hereby made to records in the office of the Bureau of Land
Management and to the records in the office of the Recorder of Utah
County, State of Utah.

TRACT NO. 7 A tract of land owned by South Standard Mining Company, includes parts of secs. 21, 27, 28, 29, 32, and 33, T. 10 S., R. 2 W., and part of sec. 5, T. 11 S., R. 2 W., Salt Lake Base & Meridian, in the Tintic Mining District, Utah and Juab Counties, Utah, contains 1,019 acres more or less, and is more particularly described as follows:

(a) The following patented mining claims as patented, except as affected by compromise agreements hereinafter described:

SURVEY NO. 4141. Burgler lode mining claim.

SURVEY NO. 6052. Sunrise; Burgler Extension; America ; Alma; Evelynne; Shaft; Fraction; Sage Brush; Flower; Nevada Tunnell No. 5 and Nevada Tunnell No. 4 lode mining claims.

SURVEY NO. 6073. Trump lode mining claim.

SURVEY NO. 6456. Vern No. 1; Vern No. 2; Vern No. 3; Vern No. 4; Vern No. 5 and Vern No. 6 lode mining claims.

SURVEY NO. 6462. Big Spring lode mining claim.

SURVEY NO. 6559. Silver Rock #1; Silver Rock #2 and Silver Rock #3 lode mining claims.

SURVEY NO. 6574. Cedar; Cedar No. 1; Cedar No. 2; Cedar No. 3; Paul; Paul No. 1; Paul No. 2; Paul No. 3; Paul No. 4; Paul No. 5; Gold Bond No. 17; Gold Bond No. 18; Gold Bond No. 19; Gold Bond No. 20 and Gold Bond No. 21 lode mining claims.

SURVEY NO. 6595. Eleanore #2; Klenzo; Klenzo No. 2; Rexall; Rexall No. 2 lode mining claims.

SURVEY NO. 6606. Nevada Tunnell Extension No. 2 and Grace lode mining claims.

SURVEY NO. 6737. Cedar No. 4 and Cedar No. 5 Amended lode mining claims.

SURVEY NO. 6739. Gold Bond No. 22 lode mining claim.

SURVEY NO. 6847. Slim; Giles; Carl; Nevada Tunnel No. 3; Summit; Acorn Amended; Nevada Tunnel No. 2 Amended; Ledge; House; Buzzard; Old Rose Amended; Old Rose No. 1 Amended; Blue Ribbon Amended; Blue Ribbon No. 1 Amended; Blue Ribbon No. 2 Amended; Blue Ribbon

TRACT NO. 7 (CONT)

No. 3 Amended and Nevada Tunnell Extension lode mining claims.

- (b) Description of compromise line based on a Boundary Line Agreement, dated June 25, 1930, between East Tintic Consolidated Mining Company and South Standard Mining Company, recorded February 2, 1931, Book 277 of Mining, Page 587, of the records of Utah County, Utah: Beginning at southwest corner No. 4 of Survey No. 6091, East Point #3 lode, and running thence S. $84^{\circ}51\frac{1}{2}'$ E. 599.25 feet to corner No. 1 of said East Point #3 lode, identical with corner No. 1 of Survey No. 6091, East Point #4 lode, whence the quarter section corner on the south boundary of sec. 21, T. 10 S., R. 2 W., S. L. B. & M., bears S. $63^{\circ}22'$ E. 173.18 feet; thence S. $84^{\circ}48\frac{1}{2}'$ E. 599.37 feet to corner No. 4 of said East Point #4 lode, identical with corner No. 1 of Survey No. 6091, East Point #5 lode; thence S. $84^{\circ}44\frac{1}{2}'$ E. 560.11 feet to corner No. 4 of said East Point #5 lode; thence N. $3^{\circ}26'$ W. 83 feet to the intersection of line 3-4 of said East Point #5 lode with line 4-1 of Survey No. 6456, Vern No. 2 lode; thence northeasterly along the west side line of said Vern No. 2 lode to corner No. 1 of said Vern No. 2 lode and thence southeasterly along the northerly end line of said Vern No. 2 lode to corner No. 2 of said Vern No. 2 lode.

- (c) A separate isolated part of Tract No. 7 is described as follows:

Beginning at corner No. 1, the southeast corner, of U. S. Mineral Survey No. 4189, Rothchild lode, whence the southwest corner of sec. 32, T. 10 S., R. 2 W., S. L. B. & M., bears S. $70^{\circ}25'$ W. 5809.8 feet, thence along line 1-2 of said Rothchild lode, N. $64^{\circ}14'$ W. 578.4 feet, to corner No. 1 of said Rothchild lode, which is identical with corner No. 3, U. S. Mineral Survey No. 4136 Golden Key lode, thence along line 3-4 of said Golden Key lode, S. $46^{\circ}24'$ E. 596.6 feet, to corner No. 4 of said Golden Key lode, thence along line 1-4, U. S. Mineral Survey No. 6052, Shaft lode, S. $87^{\circ}05'$ E. 403.1 feet,

TRACT NO. 7 (CONT)

to corner No. 4 of said Shaft lode, thence along 4-3 of said Shaft lode, N. 25°46' E. 217.7 feet, to the point of intersection with line 1-2, U. S. Mineral Survey No. 4189 Rothchild No. 2 lode, thence along line 1-2 of said Rothchild No. 2 lode, N. 33°16' W. 272.9 feet, to corner No. 2 of said Rothchild No. 2 lode, thence along line 4-1 of said Rothchild lode, S. 29°30' W. 393.5 feet, to corner No. 1 of said Rothchild lode, the place of beginning.

Reference is hereby made to records in the office of the Bureau of Land Management, to the records in the office of the Recorder of Utah County, and to the records in the office of the Recorder of Juab County, State of Utah.

TRACT NO. 8 A tract of land owned by Eureka Standard Consolidated Mining Company, includes parts of secs. 15, 16, 21, 22, 27 and 28, T. 10 S., R. 2 W., Salt Lake Base and Meridian, in the Tintic Mining District, Utah County, Utah, contains 372 acres more or less, and is more particularly described as follows:

(a) The following patented claims as patented, except as affected by compromise agreements hereinafter described:

SURVEY NO. 4668. Fraction Gold Hill, Hedwig (Amended), Fraction Hedwig (Amended), Weller Fraction, lode mining claims.

SURVEY NO. 5740. Kidnapping lode mining claim.

SURVEY NO. 6073. Trixy lode mining claim.

SURVEY NO. 6204. Great Carbonate Queen A lode mining claim.

SURVEY NO. 6465. Greyhound No. 5 lode mining claim.

SURVEY NO. 6439. Atair and Climax lode mining claims.

SURVEY NO. 6560. Sunnyside Fraction (Amended) lode mining claim.

SURVEY NO. 6737. Cedar No. 4 and Cedar No. 5 Amended lode mining claims.

SURVEY NO. 6757. South Standard No. 7; South Standard No. 9 and Cameo #34 lode mining claims.

SURVEY NO. 6766. Nevade No. 3; Nevada No. 6; Withe Rose; Withe Rose Fraction; Withe Rose #1; Withe Rose #2; Withe Rose #3; White Rose No. Four; White Rose No. 5 Amended; White Rose No. Six; White Rose No. Seven; White Rose No. 10 Amended; Cameo #27 and Cameo #33 lode mining claims.

SURVEY NO. 6767. Nevada; Nevada No. 1; Nevada No. 2; Nevada #4; Idaho Fraction; Eagel; Sunrise Fraction; Side Extension of Sunrise lode Amended; Montana and Montana No. 2 lode mining claims.

SURVEY NO. 7138. Rose lode mining claim.

SURVEY NO. 7140. Cedar No. 6 lode mining claim.

SURVEY NO. 7141. Sally lode mining claim.

SURVEY NO. 7157. Rhombus lode mining claim.

SURVEY NO. 6563. Sundown No. 2 lode mining claim.

TRACT NO. 8 (CONT)

- (b) The following unpatented claim location, filed in the County Recorder's office, Utah County:

Blair, Survey No. 7170, in SW 1/4 sec. 22, T. 10 S., R. 2 W., a small triangle bounded by Nevada No. 1 6767, Sundown #2 6563, Sundown 6563; located August 16, 1928; Entry No. 7756, recorded August 29, 1928 in Book 277, page 270.

- (c) Boundary lines based on compromise agreements and affecting hereinbefore described patented claims as patented are more particularly described as follows:

- (i) Description of compromise line based on a Boundary Line Agreement between East Tintic Consolidated Mining Company and Eureka Standard Consolidated Mining Company, dated June 25, 1930, recorded February 2, 1931, in the records of Utah County, Utah, in Book 277 of Mining, Page 584: Beginning at corner No. 4 of Survey No. 6091, East Point #5 lode, and running thence N. 3°26' W. 1150.3 feet to corner No. 3 of said East Point #5 lode, on line 4-1 of Survey No. 6091, East Point #2 lode; thence S. 84°46' E. 825.17 feet to corner No. 4 of said East Point #2 lode; thence N. 9°34½' E. 599.39 feet to corner No. 3 of said East Point #2 lode; thence N. 84°49' W. 371.60 feet to corner No. 4 of Survey No. 6091, Horse Shoe #1 lode, on line 2-3 of said East Point #2 lode; thence N. 36°45' E. 700.5 feet to corner No. 3 of said Horse Shoe #1 lode, identical with corner No. 4 of said Survey No. 6091, Horse Shoe lode; thence N. 34°24½' E. 205.51 feet to corner No. 3 of said Horse Shoe lode; identical with corner No. 4 of Survey No. 6091, Horse Shoe A lode; thence N. 31°52' E. 612.8 feet to corner No. 3 of said Horseshoe A lode, whence the quarter section corner of the east boundary of sec. 21, T. 10 S., R. 2 W., S. L. B. & M., bears S. 55°33' E. 424.16 feet, and the northeast corner of said sec. 21 bears N. 9°58½' E. 2397.4 feet, and the

TRACT NO. 8 (CONT)

quarter section corner on the north boundary of said sec. 21 bears N. $42^{\circ}46\frac{1}{2}'$ W. 3221.7 feet; thence S. $87^{\circ}26'$ W. 240.07 feet to the intersection of line 2-3 of said Horseshoe A lode with line 3-4 of Survey No. 6091, Golden Fisure lode; thence N. $11^{\circ}15'$ E. 1089.59 feet to the intersection of line 3-4 of said Golden Fisure lode with the south boundary of the NE $1/4$ of the NE $1/4$ of said sec. 21, which is also the south boundary of No. 2 Iron Placer.

- (ii) Description of a compromise line based on a Boundary Line Agreement between East Tintic Consolidated Mining Company and Eureka Standard Consolidated Mining Company, dated June 25, 1930, recorded in the records of Utah County, Utah, February 2, 1931, as Entry No. 613, in Book 277 of Mining, Page 581: Said compromise line is identical with that compromise line described in Tract No. 6, paragraph (c), subparagraph (ii), of this Exhibit "B", and reference is hereby made to said description.
- (iii) Description of a compromise line based on a Compromise Line Agreement, dated January 26, 1920, by and between the Tintic Standard Mining Company and the Eureka Standard Consolidated Mining Company, recorded June 18, 1920 in Utah County, Utah, as Entry No. 4813, in Book 192 of Mining, Page 356: Said compromise line is identical with that compromise line described in Tract No. 4, paragraph (c), subparagraph (iv) of this Exhibit "B", and reference is hereby made to said description.

Reference is hereby made to records in the office of the Bureau of Land Management and to the records in the Office of the Recorder of Utah County, State of Utah.

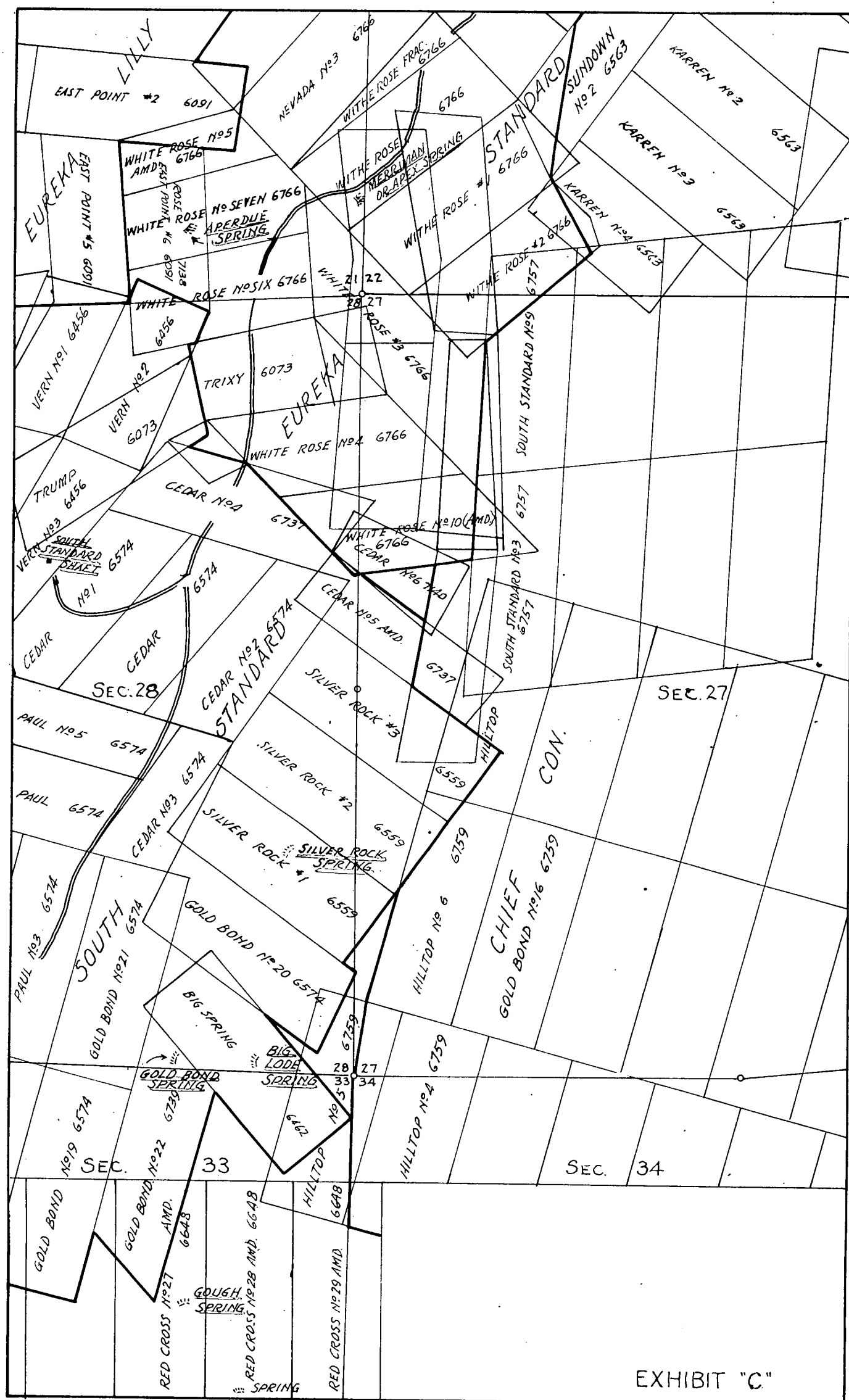


EXHIBIT "C"

EXHIBIT "D"

List of Sources of Water Supply near Dividend, Utah

Gough Springs

Application to State Engineer, No. 8547.

Certificate of Appropriation No. 1487, dated August 23, 1926, issued to Sioux Consolidated Mines Company. Purchased by Tintic Standard Mining Company October, 1930, recorded February 27, 1931 in Book 107 of Water, Page 14, Juab County. (The Springs are in Utah County.)

Point of Issuance, N. 47°50' E. 5488 feet from the southwest corner of sec. 33, T. 10 S., R. 2 W., on Red Cross No. 27 Amended lode mining claim, U. S. Mineral Survey No. 6648.

Big Lode Springs

Situated on South Standard Mining Company ground.

Big Spring lode mining claim, U. S. Mineral Survey No. 6462.

Records of appropriation have disappeared, could not be found in County Recorder's Office or in State Engineer's Office, but water has been used for many years, flowing into same supply line as water from Gough, Silver Rock, and Gold Bond Springs.

Gold Bond Spring

Application to State Engineer, No. 9482, dated March 6, 1924.

Certificate of Appropriation No. 1544, dated October 25, 1927, issued to Tintic Standard Mining Company, recorded November 3, 1927 in Book 256 of Mining, Page 419, Utah County.

Point of Issuance, N. 89°51' E. 1392.18 feet from the south quarter corner of sec. 28, T. 10 S., R. 2 W., on Gold Bond No. 22 lode mining claim, U. S. Mineral Survey No. 6739, near the northerly end thereof.

Silver Rock Spring

Application to State Engineer No. 9481, dated March 6, 1924.

Certificate of Appropriation No. 1545, dated October 25, 1927, issued

to Tintic Standard Mining Company, recorded November 3, 1927 in Book 256 of Mining, Page 420, Utah County.

Point of Issuance, S. 23°16' W. 1248 feet from east quarter corner of sec. 28, T. 10 S., R. 2 W., near the center of Silver Rock #1 lode mining claim, U. S. Mineral Survey No. 6559.

The Gough, Big Lode, Gold Bond and Silver Rock springs are the ones currently connected to the pipe line and supplying water for the two 100,000-gallon storage tanks at the camp of Dividend.

South Standard Shaft

Water from this shaft is utilized by pumping. Not covered by appropriation under State law. Situated on Cedar No. 1 lode mining claim, U. S. Mineral Survey No. 6574.

Leased by Tintic Standard Mining Company from South Standard Mining Company, for a term of 99 years beginning June 16, 1924. Lease recorded June 9, 1938 in Book 325, Page 160, Utah County.

Aperdue (or A. Purgue) Spring

Application No. 9483, dated March 6, 1924.

Certificate of Appropriation No. 1543, dated October 25, 1927, issued to Eureka Standard Mining Company, recorded November 3, 1927, in Book 256 of Mining, Page 419, Utah County.

Point of Issuance, N. 69°27' W. 1280.95 feet from southeast corner of sec. 21, T. 10 S., R. 2 W., Salt Lake Base and Meridian.

The Aperdue Spring is connected to a pipe line which formerly supplied water to the Eureka Standard shaft, but this water is not at present being utilized.

Merriman (or Apex) Spring

Application No. 7207, dated March 14, 1917.

Certificate of Appropriation No. 895, dated December 17, 1919, was issued to Lewis Merriman and Ed. Lewis, recorded January 2, 1920. in Book 191 of Deeds, Page 302, Utah County, Utah.

Point of Issuance, 631 feet north and 66 feet west of the southeast corner of sec. 21, T. 10 S., R. 2 W., on Withe Rose lode mining

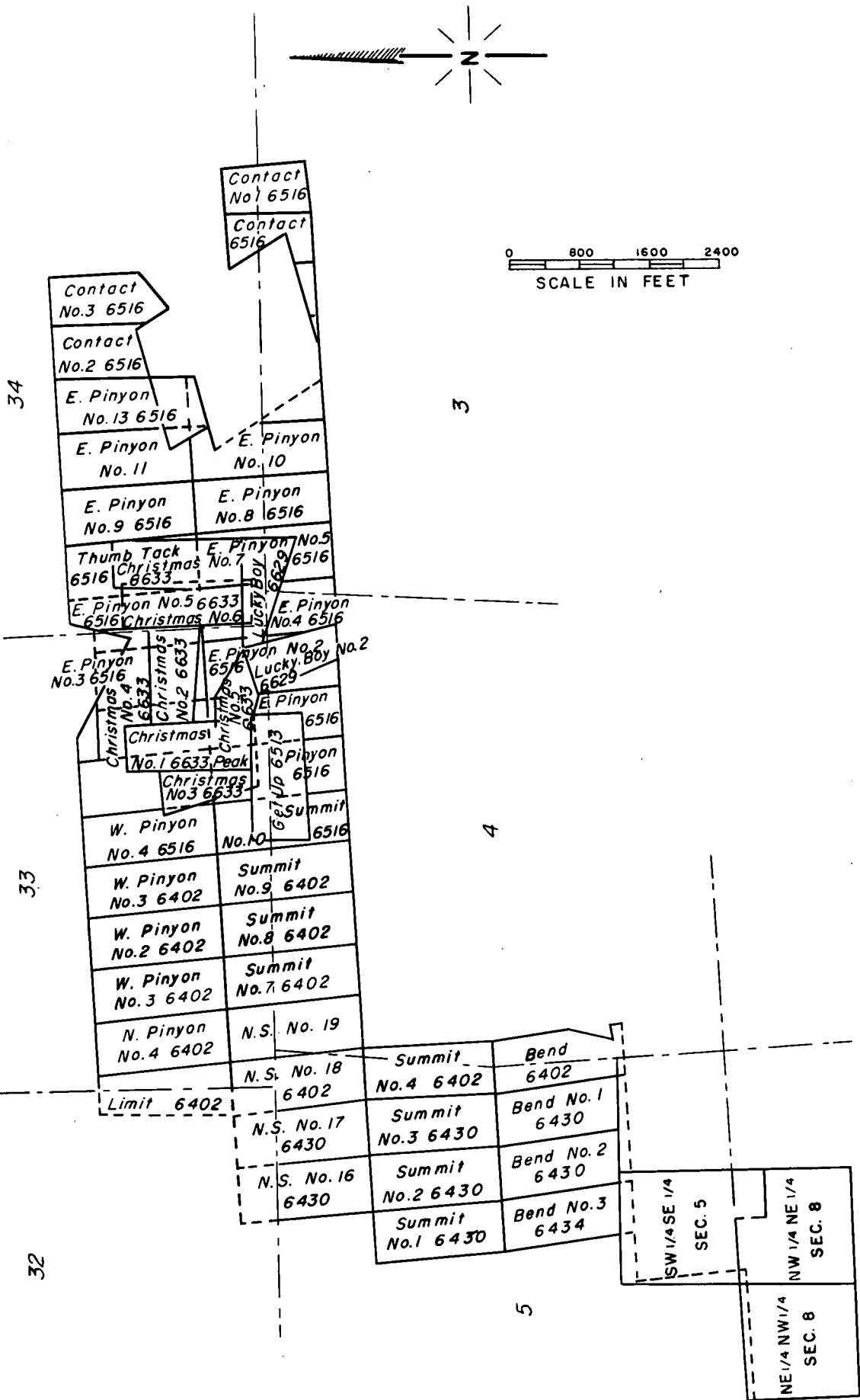
claim, U. S. Mineral Survey No. 6766.

Deeded July, 1938 to Tintic Standard Mining Company, recorded in Utah
County, Book 336 of Deeds, Pages 599-600.

This spring flows only intermittently in seasons of abnormal precipitation and is not at present known to be productive.

T. 9 S., R. 2 W.
S. L. B. & M.

T. 10 S., R. 2 W.



CLAIM MAP
SHOWING PART OF
CHIEF CONSOLIDATED CO. PROPERTY
COVERED BY
DMEA LOAN DOCKET NO. DMEA - 1 & 1A

Exhibit "E"

EXHIBIT "F"

Description of That Part of Unit Tract Covered by United States Department of Interior DMEA Exploration Project Contract, Docket No. DMEA-1 and 1A (lead, zinc), Original Contract No. IDM-E4, dated June 13, 1951; First Amended Contract No. IDM-E4, dated June 16, 1953; Second Amended Contract No. IDM-E4, dated June 16, 1953.

Patented land owned by Chief Consolidated Mining Company that is a part of the Unit Tract and that is also covered by DMEA Contract, Docket No. DMEA-1 and 1A (lead, zinc) includes parts of secs. 32, 33, and 34, T. 9 S., R. 2 W., and parts of secs. 3, 4, 5, and 8, T. 10 S., R. 2 W., Salt Lake Base and Meridian, in the Tintic and North Tintic Mining Districts, Utah County, Utah, and is more particularly described as follows:

SURVEY NO. 6430. Bend No. 1, Bend No. 2, Bend No. 3, Summit No. 1, Summit No. 2, Summit No. 3, N. S. No. 16, and N. S. No. 17 patented lode mining claims.

SURVEY NO. 6402. Bend, Summit No. 4, Summit No. 7, Summit No. 8, Summit No. 9, N. S. No. 18, N. S. No. 19, Limit, W. Pinyon No. 2, W. Pinyon No. 3, and W. Pinyon No. 4 patented lode mining claims.

SURVEY NO. 6513. Get Up patented lode mining claim.

SURVEY NO. 6516. West Pinyon, W. Pinyon No. 8, W. Pinyon No. 9, Pinyon, E. Pinyon, E. Pinyon No. 2, E. Pinyon No. 3, E. Pinyon No. 4, E. Pinyon No. 5, E. Pinyon No. 6, E. Pinyon No. 8, E. Pinyon No. 9, E. Pinyon No. 10, E. Pinyon No. 11, E. Pinyon No. 12, E. Pinyon No. 14, E. Pinyon No. 15, Contact, Contact No. 1, Contact No. 2, Contact No. 3, Thumb Tack, and Peak patented lode mining claims.

SURVEY NO. 6629. Lucky Boy and Lucky Boy No. 2 patented lode mining claims.

SURVEY NO. 6633. Christmas Lode No. 1, Christmas Lode No. 2, Christmas Lode No. 3, Christmas Lode No. 4, Christmas Lode No. 5, Christmas No. 6 and Christmas Lode No. 7 patented lode mining claims.

ALSO, all of NW 1/4 of NE 1/4 and NE 1/4 of NW 1/4 of sec. 8; and all of SW 1/4 of SE 1/4 of sec. 5.

Reference is hereby made to the records of the U. S. Bureau of Land Management and to the records in the office of the Recorder of Utah County,

Utah, and to Article 2 of DMEA Exploration Project Contract, Docket No.

DMEA-1 and 1A, Contract No. IDM-E4, dated June 13, 1951.

CONTRACT NO. DMP-87

Between

UNITED STATES OF AMERICA

and

CHIEF CONSOLIDATED MINING COMPANY

DMP-87
CONTRACT

THIS CONTRACT, entered into between the UNITED STATES OF AMERICA, acting by and through the DEFENSE MATERIALS PROCUREMENT AGENCY, its successors, assigns and duly authorized representatives (hereinafter called the "Government"), pursuant to the authority contained in the Defense Production Act of 1950, as amended, and Executive Order 10161, as amended and supplemented, and CHIEF CONSOLIDATED MINING COMPANY, a corporation organized and existing under the laws of the State of Arizona (hereinafter called the "Contractor"),

WITNESSETH:

In consideration of the mutual promises herein contained, the parties hereto agree as follows:

ARTICLE I. CONTRACTOR'S PROPERTY RIGHTS

A. With respect to that certain land situated in the Tintic Mining District in the State of Utah, County of Juab, including in whole or in part the Contractor's Chief No. 1 Mine and Plutus Mine, outlined on a map as a rectangle 3,000 feet long by 2,900 feet wide, which map is designated Schedule A and is attached hereto and made a part hereof, the legal description of which is set forth in Schedule A-1 attached hereto and made a part hereof, the Contractor represents and undertakes that it is the owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder will be forwarded to the Government (except that no subordination agreement is required with respect to any claims, liens, or encumbrances held by the United States of America or any agency or instrumentality thereof, including wholly owned corporations):

Interest of Plutus Mining Company, a Utah corporation,
Salt Lake City, Utah, in the Plutus Mine.

B. The Contractor agrees to devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the development program described in Article II hereof without any allowances for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof.

ARTICLE II. DEVELOPMENT PROGRAM

The Contractor shall commence work on or before August 15, 1953 on a program of development for zinc and lead ores in or upon the land described in

Schedule A hereof; and shall bring the program (hereinafter called "Development Program") to completion within a period of three (3) years from the date of this Contract. The work to be performed is more fully described in Schedule B attached hereto, which, with any maps or drawings thereto attached or therein listed, is made a part of this Contract. The Government will participate in the cost of this work as hereinafter provided. The work shall be performed by the Contractor, or by independent contractor or contractors, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmen's compensation and employers' liability insurance, and with suitable and adequate equipment, materials, and labor to bring the project to completion within the time fixed. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Contractor shall provide the Government with all available means for doing so. The Government may consult with and advise the Contractor on all phases of the work. Development work may proceed at the same time but not in the same immediate area as exploration work under the contract between the Contractor and the United States of America, acting through the Defense Minerals Exploration Administration, under its Contract No. IDM-El₄, dated June 13, 1951, and any amendments, extensions, or supplements thereto, except that, below the 2700 foot level, development work under this Contract may commence on any level when all such exploration work at that level has been substantially completed beyond the point of commencement of the development work.

ARTICLE III. COST OF THE PROJECT

A. The agreed costs of performing the work, expressed in terms of units of work to be performed (e.g., per foot of drifting, per foot of diamond drilling, etc.), are as follows:

	<u>Below 1800' Level</u>	<u>At and above 1800' Level</u>
Drifting, crosscutting & raising per foot	\$34.00	\$30.67
Diamond drilling, per foot	2.50	3.50

The Government shall pay twenty-five percent (25%) of these agreed costs, as they accrue, for units of work actually performed that conform with the description or specifications for the work set forth in this Contract, in an aggregate total amount not in excess of Two Hundred Eighty Three Thousand Three Hundred and Seventy Three Dollars (\$283,373), which is twenty-five percent (25%) of One Million One Hundred Thirty Three Thousand Four Hundred and Ninety Two Dollars (\$1,133,492), exclusive of general overhead or corporate management expenses of any kind, interest on capital employed or on borrowed money, Federal, State or local taxes other than payroll and sales taxes, or any other indirect costs, or costs of any nature incurred before the date of this Contract, which shall be the agreed total cost of the Development Program in which the Government will participate; provided, however, that until the Contractor's final report and final accounting have been rendered to the Government and any final check or auditing required by the Government has been made, and a final settlement of the Contract has been consummated, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten percent (10%) of the maximum total which the Government might have been called upon to pay under the terms of the Contract. The Government may, as it sees fit, make payments

direct to the Contractor's independent contractors and suppliers, if any, for the account of the Contractor, rather than to the Contractor.

B. Development Ore, as defined hereinafter, is to be credited against development cost, and the amount that the Government is required to pay the Contractor each month shall be reduced by an amount equal to twenty-five percent (25%) of the net value of the Development Ore produced and hoisted to the surface during the month, less twenty-five percent (25%) of all the assay costs and the Contractor's overhead and administrative expense allocable to such ore in accordance with the Contractor's usual accounting methods. The monthly "net value" of the Development Ore shall be the net smelter return, determined in accordance with standard trade practices, which is paid for the ore by the concentrating plants or smelters concerned. Five (5) copies of the net smelter return statements for Development Ore shall be furnished to the Government together with the reports required by Article IV.

Development Ore, which is economically marketable to the extent that it will produce a net smelter return when raised to the surface of the mine, shall be completely segregated and shall be separately shipped to concentrating plants or smelters. Development Ore shall be shipped to concentrating plants or smelters monthly in minimum carload lots.

Credits for Development Ore shall be applied to the Contractor's invoices to the Government when, and as, net smelter return statements are available. Each invoice will include a certification as to the amount of Development Ore produced during the month of the invoice.

C. When each of the eight (8) projects comprising the Development Program is completed, the total cost of each project (excluding costs in which the Government does not herein agree to participate), will be determined and calculated on a per foot basis, as set forth in Article III hereof, for drifting, cross cutting, raising and diamond drilling within the limits for each as provided in Schedule B. If the actual cost of the project is less than the cost determined on said per foot basis, then the amount of the Government's participation will be reduced to twenty-five percent (25%) of the actual cost and any overpayment made by the Government shall be promptly paid by the Contractor to the Government; provided, however, that such overpayment may be paid by crediting such overpayment against other invoices of the Contractor to the Government.

D. For the purposes of paragraph B of this Article, mining shall be defined as commencing when a normal drift, crosscut or raise is enlarged beyond approximately five feet by eight feet (5' x 8') in the case of a drift or a crosscut and beyond approximately six feet by six feet (6' x 6') in the case of a raise. Development Ore is defined as ore which is extracted from normal drifts, crosscuts and raises made under the Development Program.

E. The Government shall not be required to pay any part of the cost of the Development Program until it has received satisfactory evidence of the Contractor's ability to meet its obligation to pay seventy-five percent (75%) of the cost of the development work on each level within each project of the Development Program as such cost accrues during the term of this Contract.

ARTICLE IV. REPORTS, ACCOUNTS, AUDITS

A. Progress Reports. The Contractor shall provide the Government with monthly reports (5 copies) of units of work performed (indicating footages of drifting, crosscutting, raising and diamond drilling by levels and project numbers), actual costs of performing the work (excluding costs in which the Government does not herein agree to participate), and unit prices of work performed, under the Contract, in form satisfactory to the Government. These progress reports shall constitute both the Contractor's invoice of work performed on the project during the period covered by the report and its voucher for payment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. They shall be certified by the Contractor as follows:

"I certify that all costs of the work covered in this report have been paid, that this bill is correct and just, that payment therefor has not been received, and that this report is made in order to obtain payment of said bill."

Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the development, with assay reports on samples taken concurrently with the advance in mineralized ground.

B. Final Report. Upon completion of the development work or termination of the Contract, the Contractor shall provide the Government with an adequate geological and engineering report (5 copies), including an estimate of ore reserves resulting from the development work.

C. Compliance with Requirements. If, in the opinion of the Government, any of the Contractor's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as a cost of the development work; and the Government may withhold approval and payment of any vouchers if it deems the report insufficient or incomplete.

D. Accounts and Audits. The Contractor shall keep suitable records and accounts of the work performed, which the Government may inspect and audit at any time. The Government may, at any time, require a check of the work performed and an audit of the Contractor's records and accounts by a certified public accountant or otherwise, the cost thereof to be treated as a cost of the development work. The Contractor shall keep and preserve said records and accounts for at least three (3) years after the completion of the program or termination of the Contract. Upon completion of the program or termination or cancellation of the Contract, the Contractor shall render a final account and statement of work performed to accompany the final report.

ARTICLE V. REPAYMENT BY THE CONTRACTOR

A. Any minerals mined or produced from the land and properties referred to hereinafter in this Article shall be subject to a percentage royalty, which the Contractor or its successor in interest shall pay the Government, in the amount of five percent (5%) of the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until

the total amount disbursed by the Government, with interest at the rate of five percent (5%) per annum from the date of the first production of the minerals referred to in Article V-A-1 hereof on the outstanding balance of the Government's disbursements, is fully repaid, which percentage royalty shall be paid in the following order and manner:

1. Upon any minerals mined or produced as a result of the Development Program from the land described in Article I, except Development Ores.

2. In the event reserves of the minerals referred to in Article V-A-1 hereof have been depleted to the extent that, in the opinion of the Government, production from that source will be insufficient to repay the Government's disbursements, with interest, then, upon written notice by the Government to the Contractor of such opinion, any minerals mined or produced from the land described in Article I (except Development Ores), whether or not produced as a result of the Development Program, and from the said land upwards to the surface and downwards to and including the lowest level at which minerals are at any time produced, shall also be subject to the percentage royalty.

3. In the event production of minerals from the sources referred to in Article V-A-1 and V-A-2 hereof are insufficient to repay the Government's disbursements, with interest, at the end of fifteen (15) years from the date of this Contract, then any minerals mined or produced from the properties referred to in Article V-D hereof shall also be subject to the percentage royalty.

B. As used in this Contract, "net smelter returns", "net concentrator returns", and "other net amounts realized from the sale or other disposition", mean gross revenue from sales, or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be the gross income from mining operations for percentage depletion purposes in income-tax determination.

C. The Contractor shall have the right at any time or from time to time to repay all or any part of the amounts disbursed by the Government hereunder, together with interest thereon, and its obligation hereunder shall thereupon be reduced accordingly.

D. To secure the payment of the Government's percentage royalty, the Contractor shall deliver to the Government its note or notes, payable in accordance with the provisions of paragraph A of this Article, which shall be secured by a valid first and paramount mortgage lien upon all ores in place in or upon the properties listed in Schedule C, attached hereto and made a part hereof, such properties being delineated on the map designated as Schedule C-1, attached hereto and made a part hereof, which mortgage shall be subject only to the lien which the United States of America, acting through the Defense Minerals Exploration Administration, may have under its Contract No. IDM-E4, dated June 13, 1951, and any

amendments, extensions or supplements thereto, with the Contractor, and to the lien which the Reconstruction Finance Corporation may have in connection with a loan to the Contractor authorized on April 14, 1952 in the amount of \$120,000. Said note and mortgage shall be in form and substance satisfactory to the Government.

E. The Contractor shall have the right to determine whether and when to mine ores which have been developed as a result of the Development Program; provided, however, that, subject to the provisions of Article VIII hereof, such mining by the Contractor shall commence within six (6) years from the date of this Contract if such mining by the Contractor at any time within said six (6) years, in the opinion of the Government, is economically feasible. Such mining by the Contractor, once commenced, shall be continued as long as it is, in the opinion of the Government, economically feasible to do so. If such mining by the Contractor at the end of said six (6) years, in the opinion of the Government, is economically feasible, the Government shall render such opinion to the Contractor in writing, and if, notwithstanding such opinion, mining by the Contractor is not commenced at such time, the outstanding balance of the Government's disbursements hereunder, together with interest thereon, shall become immediately due and payable.

ARTICLE VI. ASSIGNMENT, TRANSFER, OR LOSS OF CONTRACTOR'S INTEREST

Without the written consent of the Government, the Contractor shall not assign or otherwise transfer or hypothecate this Contract or any rights hereunder. The Contractor shall not make any voluntary, or permit any involuntary, assignment, transfer, or conveyance of the Contractor's rights in the land described in Article I and in the properties referred to in Article V-D hereof without making suitable provisions for the preservation of the Government's right to a percentage royalty on production and a valid lien for the payment thereof satisfactory to the Government. Should the Contractor make or permit any assignment, transfer, or conveyance in violation of this Article, the Contractor shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If, for any reason, the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Contractor's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Materials Procurement Agency or by its successor shall be final and binding upon the Contractor.

ARTICLE VII. TERMINATION

The Government may, at any time, by written notice to the Contractor, terminate this Contract, if, in the opinion of the Government, operations up to the time of the notice have not indicated the probability of obtaining any worth-while production and if, in the opinion of the Government, further operations are not justified; provided, however, that notwithstanding any other provision hereof, this Contract shall automatically terminate without penalty as to any portion hereof remaining uncompleted after three (3) years from the date hereof; except that the following rights and obligations shall survive the termination of the Contract:

A. The percentage royalty and the security for the payment thereof, provided for hereunder, shall remain in effect until discharged by payment in full of the royalty claim.

B. The Contractor's obligation to commence and to continue to mine, as provided in Article V-E hereof.

ARTICLE VIII. FORCE MAJEURE

If the performance of any part of this Contract by either the Contractor or the Government is prevented, hindered or delayed by reason of any cause or causes beyond the respective control of the Contractor or the Government, and which cannot be overcome by due diligence, then the Contractor or the Government, as the case may be, shall be excused from such performance during the continuance of any such happenings or events; provided, however, that in no event shall the Contractor be excused from completing the Development Program within four (4) years from the date of this Contract. To become operative, the Contractor or Government, as the case may be, shall give to the other, within ten (10) days after the occurrence of such happenings or events, written notice thereof, together with a statement setting forth the facts in evidence, and, upon the conclusion of such happenings or events, shall notify the other in writing of such termination within ten (10) days.

ARTICLE IX. COMPLIANCE WITH APPLICABLE LAWS

In the performance of this Contract, Contractor shall comply with and give all stipulations and representations required by any applicable Federal, State, Municipal or local law, or Executive Order, or any applicable rules, orders, regulations or requirements of any government department or bureau, but nothing herein contained shall be considered as preventing Contractor from contesting in good faith the validity of such law, rule, order, regulation or requirement or any charge that Contractor has not complied therewith.

ARTICLE X. WALSH-HEALEY ACT

There are hereby incorporated by reference all representations and stipulations required by the Walsh-Healey Public Contracts Act, as amended (41 U. S. Code 35-45), and regulations issued thereunder by the Secretary of Labor, such representations and stipulations being subject to all applicable rulings and interpretations of the Secretary of Labor which are now or may hereafter be in effect.

ARTICLE XI. ANTI-DISCRIMINATION

In connection with the performance of work under this Contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, creed, color, or national origin; and further agrees to insert the foregoing provision in all subcontracts hereunder except subcontracts for standard commercial supplies or for raw materials.

ARTICLE XII. CONTINGENT FEES

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this Contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty, the Government shall have the right to annul this Contract without

liability or in its discretion to deduct from the Contract price or consideration the full amount of such commission, percentage, brokerage, or contingent fee.

ARTICLE XIII. INTEREST OF MEMBER OF CONGRESS

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 XIV. NON-WAIVER

The failure of either the Contractor or the Government to insist in any one or more instances upon the performance of any of the terms, covenants or conditions of this Contract, shall not be construed as a waiver or relinquishment of the future performance of any such term, covenant or condition by the other party hereto, but the obligation of such other party with respect to such future performance shall continue in full force and effect.

ARTICLE XV. MODIFICATIONS

No oral statement of any person shall modify or otherwise affect the terms, conditions or specifications of this Contract.

ARTICLE XVI. ADDRESSES

Unless otherwise specified:

(a) Notices by the Government to the Contractor provided for in this Contract shall be addressed to:

Chief Consolidated Mining Company
608 Dooly Building
Salt Lake City, Utah

(b) Notices by the Contractor to the Government shall be addressed to:

Administrator
Defense Materials Procurement Agency
Washington 25, D. C.

or such other address as either party for itself may specify to the other in writing.

ARTICLE XVII. CANCELLATION

Notwithstanding any other provision of this Contract, the Government may, by notice in writing to the Contractor, cancel this Contract or any part thereof at any time, without payment by the Government of damages or penalty of any kind for such cancellation in the event:

(a) The Contractor becomes insolvent, or makes an assignment for the benefit of creditors, or a petition is filed by or against the Contractor for the

appointment of a receiver, liquidator, or trustee for the Contractor or its property, or pursuant to any of the provisions of the United States Bankruptcy Act, as amended, and such petition is not dismissed within sixty (60) days;

(b) Of the liquidation or dissolution of the Contractor, whether voluntary or involuntary;

(c) Of default by the Contractor in the performance of any of the terms, conditions, or covenants of the Contract or any amendment or supplement thereto, and of the failure by the Contractor to cure the default within thirty (30) days from the date of written notice of such default, which notice shall be given to the Contractor by the Government;

(d) Of the determination by the Government that the Contractor obtained this Contract for the purpose of speculation;

(e) The Contractor fails to provide ~~its~~ share of the money necessary to prosecute operations pursuant to the terms of the Contract; or

(f) The Contractor, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the Contract; provided, however, that the percentage royalty and the security for the payment thereof, provided for hereunder, shall remain in effect until discharged by payment in full of the royalty claim.

In the event this Contract is cancelled by the Government pursuant to the terms of this Article, the balance of any disbursements made by the Government hereunder, including accrued interest, shall be immediately due and payable by the Contractor to the Government.

IN WITNESS WHEREOF, the parties hereto have caused this document to be duly executed on the _____ day of _____, 1953.

UNITED STATES OF AMERICA
Acting by and through
Defense Materials Procurement Agency

Administrator

CHIEF CONSOLIDATED MINING COMPANY

By _____

Title _____

ATTEST:

By _____

Title _____

(CORPORATE SEAL)

CHIEF CONSOLIDATED MINING COMPANY
SCHEDULE A

**LARGE
FORMAT
DOCUMENTS
AT END OF
FILE**

SCHEDULE A-1
to
CONTRACT NO. DMP-87
between
UNITED STATES OF AMERICA
and
CHIEF CONSOLIDATED MINING COMPANY

UNDERGROUND MINING RIGHTS: 197.329 Acres, "net area," property of the Chief Consolidated Mining Company, a corporation of Arizona, in Section 18, Township 10 South, Range 2 West, Sale Lake Base & Meridian, in Tintic Mining District, Juab County, State of Utah, bounded and described as follows, to-wit:-

The underground mining rights below 1100 foot level, elevation 4831 ft.; Begin at the northwest corner of the tract, which is 1000. feet West and 2000 feet North of the "18/411 Winze" in the Chief No. 1 Mine, whence the $\frac{1}{4}$ Section Corner, common to Sections 7 and 18, T. 10 S., R. 2W., S.L.B. & M., bears N. $82^{\circ} 38'$ E. 1943.2 feet, and run thence East 3000. feet, thence South 2900. feet, thence West 3000. feet, thence North 2900. feet to the place of beginning, not including, however, the following described areas which are not the property of the said Company:

(1) Part of Lot 10 and all of Lots 7, 11 and 12 in Block 3, Plat C, Eureka Townsite Survey: Begin at the northwest corner of said Lot 7, whence the said $\frac{1}{4}$ Section Corner, common to said Sections 7 and 18, bears N. $17^{\circ} 59'$ E. 2608.2 feet, and run thence N. $63^{\circ} 52'$ E. 65.23 feet, thence N. $61^{\circ} 20'$ E. 51.36 feet, thence N. $60^{\circ} 09'$ E. 43.10 feet, thence S. $25^{\circ} 40'$ E. 189.28 feet, thence N. $68^{\circ} 43'$ E. 250. feet, thence S. $26^{\circ} 10'$ E. 169.8 feet, thence S. $68^{\circ} 49'$ W. 481.97 feet, thence N. $14^{\circ} 51'$ W. 80.26 feet, thence N. $85^{\circ} 10'$ E. 1.65 feet, thence N. $13^{\circ} 50'$ W. 261.48 feet to the place of beginning, containing 2.521 acres.

(2) Part of Lot 16, Block 1, Plat C. Eureka Townsite Survey (0.022 acres) described as beginning at the southeast corner of said Lot 16 and running thence N. $6^{\circ} 59'$ W. 87.93 feet, thence S. $79^{\circ} 23'$ W. 5. feet, thence S. $10^{\circ} 37'$ E. 12. feet, thence S. $79^{\circ} 23'$ W. 10. feet, thence S. $10^{\circ} 37'$ E. 75 feet, thence N. $79^{\circ} 23'$ E. 8.64 feet to the place of beginning.

(3) Part of Lot 25, Block 3, Plat C, Eureka Townsite Survey (0.023 acres) described as beginning at a point N. $61^{\circ} 04'$ E. 20. feet from the northwest corner of Lot 5, Block 3, Plat C, E. T. S., and running thence N. $61^{\circ} 04'$ E. 111. feet, thence S. $69^{\circ} 23'$ W. 116. feet, thence S. 29° E. 16.5 feet to the place of beginning.

Also excluding a sub-surface block of said "net area," now under long time lease to one Jeremiah Milbank, described as follows: A sub-surface block of mining ground (21.52 acres), extending from the sill of the 1000 Ft. Level (elevation 5620') to the sill of the 2000 Ft. Level (elevation 4585') of the Chief No. 1 Mine (elevation of the collar of Chief No. 1 Shaft is 6577') with vertical exterior boundaries: Begin at the northwest corner of said sub-surface block, whence the northwest corner of the "net area" tract bears North 953.9 feet, and run thence East 719.94 feet, thence South 1100. feet, thence S. $60^{\circ} 38\frac{1}{2}'$ W. 826.02 feet, thence North 1505. feet to the place of beginning.

The "net area" herein above described includes the following patented lands: Parts of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$, NW $\frac{1}{4}$ of NE $\frac{1}{4}$, SW $\frac{1}{4}$ of NE $\frac{1}{4}$ and Lots 2, 3 and 6, and all of Lot 5 of Section 18, T. 10 S., R. 2 W., S.L.B. & M., less those excluded areas described above; also part of Survey No. 4800, Climax Placer; also part of Survey No. 4536, Tamarack, Curacoa, Aurora and Aurora No. 1 lode mining claims; also part of Lot No. 163-B, W. W. C. Mill Site; also all of Lot No. 247-B, Boom Mill Site; also part of Survey No. 6400, Oro lode mining claim; also part of Survey No. 5308, Topsy lode mining claim; also part of Survey No. 3896, Crusader lode mining claim; also part of Survey No. 5307, Smuggler No. 2 lode mining claim; and

Part of Wigwam lode location, un-patented, located by Chief Consolidated Mining Company, March 26, 1919, and recorded April 1st, 1919, in Book 89 at page 190 in the office of the Recorder of Juab County at Nephi, Utah.

Reference is made to the official plats and records of Eureka Townsite Survey, and to the records of mining claims, on file in the said office of the said Recorder of Juab County.

SCHEDULE B
to
CONTRACT NO. DMP-87
between
UNITED STATES OF AMERICA
and
CHIEF CONSOLIDATED MINING COMPANY

Proposed Development Projects No. 1 thru No. 8 in Chief
Consolidated Mining Company's Chief No. 1 Mine and
Plutus Mine

LIST OF REFERENCE MAPS (in DMPA Files)

Exhibit	A	Plan Map of 2700 ft. level - Millionaire Row Ore Channel.
"	B	Plan Map of 2800 ft. level - Ore Channel North of Leadville Fault.
"	C	Plan Map of 2900 ft. level - Millionaire Row and North of Leadville Fault Ore Channels.
"	D	Plan Map of 3000 ft. level - Ore Channel North of Leadville Fault.
"	E	Plan Map of 3100 ft. level - Millionaire Row Ore Channel.
"	F	Cross-Section through Millionaire Row Fissure.
"	G	Longitudinal Cross-Section - Millionaire Row Ore Channel.
"	H	Plan Map of 1350 ft. level - American Star Ore Channel.
"	I	Plan Map of 1200 ft. level - American Star Ore Channel.
"	J-1	Plan Map of 1400 ft. level - Taylor Ore Channel.
"	K	Two Interlay Sheets showing Stopping between 1400 ft. and 1600 foot. level.
"	L	Section No. 3 - American Star Project.
"	M	Plan of Plutus Mine Workings.
"	N	Projection of Plutus Mine Workings.
"	O	Plan Map of 1400 ft. level - Plutus Ore Channel.
"	P	Plan Map of 1600 ft. level - Plutus Ore Channel.
"	Q	Plan Map of 1800 ft. level - 18-252 Ore Channel and Meilich Ore Channel.
"	R	Plan Map of 2500 ft. level - 2350-33 Ore Channel.
"	S	Projection on Plane - Beck Fault Zone - 2350-33 Ore Channel.

Chief Consolidated Mining Company
Schedule B (Cont'd)
Page 2

Summary of Drifting, Cross-cutting, Raising and Diamond Drill Footages
essential to proposed Development Projects No. 1 thru No. 8 in Chief
Consolidated Mining Company's No. 1 Mine and Plutus Mine

	Plan Map Symbol	Drifting	Cross-Cuts	Raising	Diamond Drilling
<u>Development Project No. 1:</u>					
<u>Ore Channels North of Leadville Fault:</u>					
2800 ft. Level	B	2400 ft.	500 ft.	1000 ft.	4000 ft.
2900 ft. Level	C	3000 ft.	350 ft.	1000 ft.	4000 ft.
3000 ft. Level	D	<u>3200</u> ft.	<u>500</u> ft.	<u>1000</u> ft.	<u>4000</u> ft.
<u>Total Project No. 1</u>		8600 ft.	1350 ft.	3000 ft.	12000 ft.
<u>Development Project No. 2:</u>					
<u>Millionaire Row Ore Channels:</u>					
2700 ft. Level	A	1800 ft.	500 ft.	1000 ft.	1000 ft.
2900 ft. Level	C	2200 ft.	150 ft.	1000 ft.	1000 ft.
3100 ft. Level	E	<u>2760</u> ft.	<u>500</u> ft.	<u>1000</u> ft.	<u>1000</u> ft.
<u>Total Project No. 2</u>		6760 ft.	1150 ft.	3000 ft.	3000 ft.
<u>Development Project No. 3:</u>					
<u>American Star Ore Channel:</u>					
1350 ft. Level	H	500 ft.	250 ft.	250 ft.	3000 ft.
1200 ft. Level	I	500 ft.	250 ft.	300 ft.	5000 ft.
1400 ft. Level	J	<u>500</u> ft.	<u>250</u> ft.	<u>300</u> ft.	<u>9700</u> ft.
<u>Total Project No. 3</u>		1500 ft.	750 ft.	850 ft.	17700 ft.
<u>Development Project No. 4:</u>					
<u>Taylor Ore Channel:</u>					
1400 ft. Level	J - 1	250 ft.	200 ft.	250 ft.	1000 ft.
<u>Development Project No. 5:</u>					
<u>Plutus Ore Channel:</u>					
1600 ft. Level	P	400 ft.	250 ft.	400 ft.	6000 ft.

Chief Consolidated Mining Company
Schedule B (Cont'd)
Page 3

Summary of Drifting, Cross-cutting, Raising and Diamond Drill Footages
essential to proposed Development Projects No. 1 thru No. 8 in Chief
Consolidated Mining Company's No. 1 Mine and Plutus Mine (Cont'd)

	Plan Map Symbol	<u>Drifting</u>	<u>Cross-cuts</u>	<u>Raising</u>	Diamond <u>Drilling</u>
<u>Development Project No. 6:</u>					
<u>18-852 Ore Channel:</u>					
1800 ft. Level	Q	100 ft.	100 ft.	100 ft.	1000 ft.
<u>Development Project No. 7:</u>					
<u>Meilich Ore Channel:</u>					
1800 ft. Level	Q	100 ft.	100 ft.	100 ft.	1000 ft.
<u>Development Project No. 8:</u>					
<u>2350-33 Ore Channel:</u>					
2500 ft. Level	R	<u>300 ft.</u>	<u>200 ft.</u>	<u>100 ft.</u>	<u>1500 ft.</u>
<u>Total of all Projects</u>		<u>18010 ft.</u>	<u>4100 ft.</u>	<u>7800 ft.</u>	<u>43200 ft.</u>

Chief Consolidated Mining Company
Schedule B (Cont'd)
Page 4

Development Project No. 1

Ore Channels North of Leadville Fault on 2800, 2900 and 3000 Foot Levels

	<u>PROPOSED FOOTAGES</u>			
	<u>Total</u>	<u>2800 Level</u>	<u>2900 Level</u>	<u>3000 Level</u>
Drifting	8600 ft.	2400 ft.	3000 ft.	3200 ft.
Cross-cutting	1350 ft.	500 ft.	350 ft.	500 ft.
Raising	3000 ft.	1000 ft.	1000 ft.	1000 ft.
Diamond Drilling	12000 ft.	4000 ft.	4000 ft.	4000 ft.
Estimated Total Cost	\$470,300.00	\$142,600.00	\$157,900.00	\$169,800.00
Anticipated Minimum Tonnage of Marketable Ore	300,000	100,000	100,000	100,000
	<u>Au.</u>	<u>Ag.</u>	<u>Pb.</u>	<u>Zn.</u>
Average Grade of Ore	.018 oz.	9.46 oz.	8.05%	10.34%

DEVELOPMENT OBJECTIVE

To drift directly to the ore channel areas at the proposed elevations (See Exhibits B, C, D, Plan Maps of 2800, 2900 and 3000ft. levels.) If the ore channel areas are not intersected by drifting and cross-cutting to proceed with diamond drilling until located.

Development Project No. 2

Millionaire Row Ore Channel

	PROPOSED FOOTAGES			
	<u>Total</u>	<u>2700 Level</u>	<u>2900 Level</u>	<u>3100 Level</u>
Drifting	6760 ft.	1800 ft.	2200 ft.	2760 ft.
Cross-cutting	1150 ft.	500 ft.	150 ft.	500 ft.
Raising	3000 ft.	1000 ft.	1000 ft.	1000 ft.
Diamond Drilling	3000 ft.	1000 ft.	1000 ft.	1000 ft.
Estimated Total Cost	\$378,440.00	\$114,700.00	\$116,400.00	\$147,340.00
Anticipated Minimum Tonnage of Marketable Ore	118,000			
	<u>Au.</u>	<u>Ag.</u>	<u>Cu.</u>	<u>Pb.</u> <u>Zn.</u>
Average Grade of Ore	.027 oz.	14.77 oz.	---	12.74% 8.17%

DEVELOPMENT OBJECTIVE

To drive southeasterly from the present northeast 27/27 face to the Millionaire Row fissure, thence, northeasterly along the fissure to our respective ore channels. (See Exhibit A, Plan Map of 2700 level).

To drift directly to the ore channel areas at the 2900 level elevation north of 18/411 winze and to drift southeasterly to the Millionaire Row fissure, thence northeasterly along the fissure to the ore channel areas on Millionaire Row. If ore channel areas are not located, diamond drilling will precede further development drifting. (See Exhibit C, 2900 level plan map).

To drift southeasterly from the 3100 level to the Millionaire Row Fissure, thence northeasterly along the fissure to the ore channel areas. (See Exhibit E, 3100 level plan map). A similar plan for development of these ore channels will be pursued as on the 2700 and 2900 levels.

Chief Consolidated Mining Company
Schedule B (Cont'd)
Page 6

Development Project No. 3

American Star Ore Channel

	PROPOSED FOOTAGES				
	<u>Total</u>	<u>1350 Level</u>	<u>1200 Level</u>	<u>1400 Level</u>	
Drifting	1500 ft.	500 ft.	500 ft.	500 ft.	
Cross-cutting	750 ft.	250 ft.	250 ft.	250 ft.	
Raising	850 ft.	250 ft.	300 ft.	300 ft.	
Diamond Drilling	17700 ft.	3000 ft.	5000 ft.	9700 ft.	
Estimated Total Cost	\$157,027.00	\$41,170.00	\$49,703.50	\$66,153.50	
Anticipated Minimum Tonnage of Marketable Ore	40,000				
	<u>Au.</u>	<u>Ag.</u>	<u>Cu.</u>	<u>Pb.</u>	<u>Zn.</u>
Average Grade of Ore	.056 oz.	32.50 oz.	.36%	2.19%	---

DEVELOPMENT OBJECTIVE

To diamond drill for the upward continuation and development of the American Star ore channel. (See Exhibit H, 1350 plan map, Exhibit I, 1200 level plan map, Exhibit J, 1400 Level south plan map, and Exhibit J-1, the 1400 Level north plan map.

Chief Consolidated Mining Company
Schedule B (Cont'd)
Page 7

Development Project No. 4

Taylor Ore Channel

PROPOSED FOOTAGES

1400 Level

Drifting	250 ft.
Cross-cutting	200 ft.
Raising	250 ft.
Diamond Drilling	1000 ft.

Estimated Total Cost	\$24,969.00
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Anticipated Minimum Tonnage of Marketable Ore	13,000
--	--------

	<u>Au.</u>	<u>Ag.</u>	<u>Cu.</u>	<u>Pb.</u>	<u>Zn.</u>
Average Grade of Ore	.021 oz.	38.10 oz.	---	.83%	---

DEVELOPMENT OBJECTIVE

To diamond drill for the continuation and development of the Taylor ore channel on 1400 level. (See Exhibit J-1, 1400 level plan map).

Chief Consolidated Mining Company
Schedule B (Cont'd)
Page 8

Development Project No. 5

Plutus Ore Channel

PROPOSED FOOTAGES

1600 Level

Drifting	400 ft.
Cross-cutting	250 ft.
Raising	400 ft.
Diamond Drilling	6000 ft.

Estimated Total Cost	\$53,203.50
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Anticipated Minimum Tonnage of Marketable Ore	7000
--	------

	<u>Au.</u>	<u>Ag.</u>	<u>Cu.</u>	<u>Pb.</u>	<u>Zn.</u>
Average Grade of Ore	.041 oz.	26.74 oz.	.37%	9.15%	---

DEVELOPMENT OBJECTIVE

To drive northeasterly from the southeasterly Plutus face on 1600 level to the Plutus fissure, thence cross cut on Plutus fissure to ore channel. If ore channel is not located, proceed to locate by diamond drilling. (See Exhibit M, 200 scale plan map, showing stoping and drifting; Exhibit N, 200 scale longitudinal section through the Plutus Ore channel; Exhibit O, 1400 plan map showing geology, and Exhibit P, 1600 level geologic map showing curving Plutus fissure.)

Chief Consolidated Mining Company
Schedule B (Cont'd)
Page 9

Development Project No. 6

18-852 Ore Channel

PROPOSED FOOTAGES

1800 Level

Drifting	100 ft.
Cross-cutting	100 ft.
Raising	100 ft.
Diamond Drilling	1000 ft.

Estimated Total Costs \$12,701.00

Anticipated Minimum Tonnage of
Marketable Ore 3,000

	<u>Au.</u>	<u>Ag.</u>	<u>Cu.</u>	<u>Pb.</u>	<u>Zn.</u>
Average Grade of Ore	.043 oz.	9.55 oz.	--	5.87%	4.22%

DEVELOPMENT OBJECTIVE

To develop the 18-852 ore channel on the 1800 level. This ore channel to be developed by diamond drilling followed by direct development drifting. (See Exhibit Q, 1800 level plan map showing ore channel area).

Development Project No. 7

Meilich Ore Channel

PROPOSED FOOTAGES

	<u>1800 Level</u>				
Drifting				100 ft.	
Cross-cutting				100 ft.	
Raising				100 ft.	
Diamond Drilling				1000 ft.	
Estimated Total Cost				\$12,701.00	
Anticipated Minimum Tonnage of Marketable Ore				1,500	
	<u>Au.</u>	<u>Ag.</u>	<u>Cu.</u>	<u>Pb.</u>	<u>Zn.</u>
Average Grade of Ore	.03 oz.	10.00 oz.	---	10.00%	3.00%

DEVELOPMENT OBJECTIVE

To diamond drill for the development of the Meilich Ore Channel on 1800 level. (See Exhibit Q, showing Meilich ore channel.)

Chief Consolidated Mining Company
Schedule B (Cont'd)
Page 11

Development Project No. 8

2350-33 Ore Channel

PROPOSED FOOTAGES

	<u>2500 Level</u>				
Drifting	300 ft.				
Cross-cutting	200 ft.				
Raising	100 ft.				
Diamond Drilling	1500 ft.				
Estimated Total Cost	\$24,150.00				
Anticipated Minimum Tonnage of Marketable Ore	5,000				
	<u>Au.</u>	<u>Ag.</u>	<u>Cu.</u>	<u>Pb.</u>	<u>Zn.</u>
Average Grade of Ore	.02 oz.	4.88 oz.	---	6.95%	9.04%

DEVELOPMENT OBJECTIVE

To develop the downward continuation of 2350/33 ore body on 2500 level by drifting northerly along the north-south 23/15 fissure. Drifting will be advanced to a favorable diamond drilling position, with diamond drilling locating the exact ore channel position. (See Exhibit R, 2500 level plan map, and Exhibit S, Beck fault section showing location of 2350/33 stoping in cross section.)

SCHEDULE C
to
CONTRACT NO. DMP-87
between
UNITED STATES OF AMERICA
and
CHIEF CONSOLIDATED MINING COMPANY

4599.163 ACRES OF
UNDERGROUND MINING RIGHTS:

Patented sub-surface areas of Chief No. 1 Mine (Elevation 4831 feet), situated in Tintic and North Tintic Mining Districts, Utah and Juab Counties, Utah, Salt Lake Base and Meridian:

Section 32, T. 9 S., R. 2 W.	340.800 acres
SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 5, T. 10 S., R. 2 W.	40.000 acres
NW $\frac{1}{4}$ of NE $\frac{1}{4}$ of Section 8, T. 10 S., R. 2 W.	40.000 acres
NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 8, T. 10 S., R. 2 W.	40.000 acres
Lot 21, Section 7, T. 10 S., R. 2 W.	28.300 acres
N $\frac{1}{2}$ of SE $\frac{1}{4}$ of Section 7, T. 10 S., R. 2 W.	80.000 acres
NW $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 8, T. 10 S., R. 2 W.	40.000 acres
SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 7, T. 10 S., R. 2 W.	40.000 acres
Lot 5 of Section 7, T. 10 S., R. 2 W.	33.540 acres
Lot 6 of Section 8, T. 10 S., R. 2 W.	33.000 acres
Part of Lot 5, Section 8, T. 10 S. R. 2 W. (as shown on accompanying map)	33.400 acres
Part of SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sections 8, T. 10 S. R. 2 W. (as shown on accompanying map)	4.760 acres
Lots 7 and 8 of Section 18, T. 10 S., R. 2 W.	47.580 acres
Lot 2 of Section 17, T. 10 S., R. 2 W.	34.834 acres
NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 17, T. 10 S., R. 2 W.	40.000 acres
East $\frac{1}{2}$ of NE $\frac{1}{4}$ of Section 22, T. 10 S., R. 3 W.	80.000 acres
SW $\frac{1}{4}$ of NE $\frac{1}{4}$; SW $\frac{1}{4}$; W. $\frac{1}{2}$ of SE $\frac{1}{4}$; NE $\frac{1}{4}$ of SE $\frac{1}{4}$, and Lot 3, of Section 23, T. 10 S., R. 3 W.	359.000 acres
NW $\frac{1}{4}$; W. $\frac{1}{2}$ of NE $\frac{1}{4}$; SE $\frac{1}{4}$ of NE $\frac{1}{4}$; NE $\frac{1}{4}$ of SW $\frac{1}{4}$; N $\frac{1}{2}$ of SE $\frac{1}{4}$, and Lots 1 and 2 of Section 26, T. 10 S., R. 3 W.	469.590 acres
Lots 2, 4, 5, 6, 8 and 9 of Section 25, T. 10 S., R. 3 W.	133.000 acres
All of Eureka Townsite, consisting of NE $\frac{1}{4}$ of NW $\frac{1}{4}$; NW $\frac{1}{4}$ of NE $\frac{1}{4}$; SW $\frac{1}{4}$ of NE $\frac{1}{4}$; and Lots 2, 3, 5, and 6 of Section 18, T. 10 S., R. 2 W.; also Lots 1, 2 and 3 of Section 13, T. 10 S., R. 3 W. not including however the following described portions of Eureka Townsite Survey:	
(1) Lot 2, Block 1, Plat A	0.014 acres
(2) Lot 15, Block 1, Plat A	0.095 acres
(3) Part of Lot 29, Block 1, Plat A, described as beginning at the NE Cor. of said Lot, thence S. 26° 48' E. 188.3 ft., S. 52° 04' W., 50 ft., N. 26° 48' W.,	

- 97.13 ft., S. 59° W. 49.45 ft.,
N. 27° 06' W. 100.22 ft., and
N. 59° E. 99.4 ft. to place of
beginning. 0.330 acres
- (4) Lot 37, Block 1, Plat A 0.018 acres
- (5) Part of the larger of two lots
numbered 44, described as
beginning at the SW Cor. of
said Lot, thence N. 5° 26' W.
81.62 ft., N. 57° 54' E. 28.83
ft., S. 32° 08' E. 41. ft.,
S. 21° 10' W. 55. ft., S. 61° 15' W.
18 ft. to place of beginning,
in Block 1, Plat A 0.060 acres
- (6) Also, beginning at a point on
the south boundary of Lot 37,
Block 1, Plat A, at S. 45° 52' W.
6.38 ft. from its SE Cor.,
thence S. 51° 04' E. 41. ft.,
S. 28° 35' W. 50. ft., N. 51° 04' W.
44. ft., N. 29° 29' E. 44.15 ft.,
and N. 45° 52' E. 8.71 ft. to
place of beginning, 0.051 acres
- (7) Part of Lot 29, Block 2, Plat A,
described as beginning at the
SE Cor. of said Lot, run thence
S. 54° 27' W. 77.6 ft., N. 4° 14' W.
5. ft., N. 56° 37' E. 75. ft. and
S. 36° 22' E. 1.85 ft. to place of
beginning 0.006 acres
- (8) Lot 30, Block 2, Plat A 0.002 acres
- (9) Lot 32, Block 2, Plat A 0.004 acres
- (10) Part of Lot 44, Block 2, Plat A,
described as beginning at SE Cor.
of Lot 32, Block 2, Plat A, run
thence S. 32° 32' E. 24.3 ft.,
thence S. 56° 13' W. 185. ft.,
N. 4° 14' W. 27. ft., N. 54° 27' E.
77.6 ft. and N. 56° 32' E. 96.3 ft.
to the place of beginning 0.098 acres
- (11) Part of Lot 44, Block 2, Plat A,
described as beginning at the SW
Cor. of Lot 33, Block 2, Plat A,
run thence N. 55° 58' E. 148. ft.,
S. 4° 14' E. 30. ft., S. 56° 13' W.
134. ft. and N. 33° 32' W. 26. ft. to
place of beginning 0.087 acres
- (12) Lot 36, Block 7, Plat A 0.000 / acres
- (13) Lot 1, Block 1, Plat B 0.008 acres
- (14) Lot 13, Block 1, Plat B 0.403 acres
- (15) Part of Lot 19, Block 1, Plat
B, described as beginning at

- the NW Cor. of said Lot and
 run S. $72^{\circ}37'$ E. 17.56 ft.,
 S. $21^{\circ}53'$ W. 15. ft., S. $64^{\circ}03'$ E.
 46.39 ft., S. $3^{\circ}26'$ E. 65. ft.,
 N. $70^{\circ}46'$ W. 69.43 ft. and
 N. $15^{\circ}19'$ E. 80.74 ft. to place
 of beginning 0.100 acres
- (16) Lot 81, Block 4, Plat B 0.111 acres
- (17) Part of Lot 16, Block 1, Plat C,
 described as beginning at the
 SE Cor. of said Lot, run thence
 N. $6^{\circ}59'$ W. 87.93 ft., S. $79^{\circ}23'$ W.
 5. ft., S. $10^{\circ}37'$ E. 12. ft.,
 S. $79^{\circ}23'$ W. 10. ft., S. $10^{\circ}37'$ E.
 75. ft. and N. $79^{\circ}23'$ E. 8.64 ft.
 to place of beginning 0.022 acres
- (18) Lot 7, Block 3, Plat C; 0.726 acres
- Part of Lot 10, Block 3, Plat
 C, described as beginning at
 the NW Cor. of said Lot, run
 thence S. $26^{\circ}10'$ E. 169.8 ft.,
 N. $68^{\circ}43'$ E. 250. ft., N. $26^{\circ}10'$ W.
 169.8 ft. and S. $68^{\circ}57'$ W. 250. ft.
 to the place of beginning; 0.969 acres
- Lot 11, Block 3, Plat C; 0.189 acres
- and Lot 12, Block 3, Plat C 0.629 acres
- (19) Part of Lot 25, Block 3,
 Plat C, described as begin-
 ning at a point N. $61^{\circ}04'$ E.
 20. ft. from the NW Cor. of
 Lot 5, Block 3, Plat C, and
 run thence N. $61^{\circ}04'$ E. 111. ft.,
 S. $69^{\circ}23'$ W. 116. ft. and
 S. 29° E. 16.5 ft. to the place
 of beginning. 0.023 acres

Total patented area of Eureka
 Townsite is 326.675 acres

Total area of above exceptions
 is 3.945 acres

Net area of Eureka Townsite
 Underground Rights 322.730 acres

(Reference is hereby made to the official plats
 and records of Eureka Townsite Survey. and to
 the records of mining claims, on file in the
 office of the Recorder of Juab County at Nephi,
 Utah.)

Also, the following described patented mining claims:

Sur. No. 6565, Lucky Boy, Jr. lode	0.680 acres
Lot No. 163-B, W. W. C. Millsite	3.210 acres
Lot No. 247-B, Boom Millsite	4.811 acres
Lot No. 234, Granite, Amended, lode	10.791 acres
Lot No. 240, American Star, Amended, lode	4.859 acres
Lot No. 240, Blackbird, Amended, lode	5.670 acres
Sur. No. 4600, Triangular lode	0.233 acres
Sur. No. 6289, Chief Fraction lode	0.187 acres
Lot No. 315, Matilda lode	15.513 acres
Sur. No. 4047, Early Rose lode	10.413 acres
Sur. No. 4120, Early Rose Fraction lode	2.842 acres
Sur. No. 6290, Modela lode	1.729 acres
Sur. No. 6400, Oro lode	1.076 acres
Sur. No. 5308, Topsy lode	12.028 acres
Sur. No. 3896, Crusader lode	7.890 acres
Sur. No. 5307, Smuggler No. 2 lode	0.887 acres
Sur. No. 3347, Smuggler lode	18.453 acres
Sur. No. 3519, Anaconda lode	19.939 acres
Sur. No. 6455, Ella lode	9.071 acres
Sur. No. 6114, East Humbug, Comstock, Knight and Jack Fract lodes	46.874 acres
Sur. No. 6059, Endy and Granite Mountain lodes (parts of)	11.204 acres
Sur. No. 3060-B, Ryan Millsite	4.990 acres
Sur. No. 3286, Paxman Mill Site	5.000 acres
Sur. No. 3518, Paxman Mill Site No. 2	5.000 acres
Sur. No. 3432, South Side No. 2, South Side No. 3, South Side No. 4, South Side No. 5, Divide No. 22 and Divide No. 23 lodes	91.283 acres
Sur. No. 4800, Climax Placer	8.349 acres
Sur. No. 4536, Battery B., Corporal, Curacoa, Tamarack, Rio Tinto, Aurora No. 1, and Aurora lodes	85.754 acres
Sur. No. 6425, Badger and Badger No. 1 lodes	17.977 acres
Lot No. 112-B, Keystone Millsite	4.790 acres
Sur. No. 3373, Fourth of July lode	2.820 acres
Lot No. 1140, Cosmopolite No. 2 lode	6.760 acres
Lot No. 1141, Cosmopolite No. 3 lode	6.880 acres
Sur. No. 3871, Church Street lode	11.538 acres
Sur. No. 3374, Harkness lode	4.450 acres
Sur. No. 4198, Venus lode	0.554 acres
Lot No. 139, Colorado Chief lode	6.880 acres
Lot No. 138, Reliance lode	4.300 acres
Sur. No. 4027, Patti lode	2.630 acres
Lot No. 275, Ole Bole lode	6.150 acres
Lot No. 276, Norway lode	5.970 acres
Lot No. 69, Gemini lode	6.880 acres
Lot No. 103-A, Voltaire lode	5.530 acres
Lot No. 98, Silver Coin lode	6.240 acres
Lot No. 105-A, Alpha lode	6.790 acres

Sur. No. 4026, Bapta lode (part of)	0.471 acres
Lot No. 261, Last Chance lode	5.500 acres
Sur. No. 4379, Gemini No. 2 lode	0.368 acres
Lot No. 112-A, Keystone lode	1.270 acres
Lot No. 111-A, Gemini Extension lode	1.467 acres
Lot No. 96, Red Bird lode	3.830 acres
Lot No. 97, Cornucopia lode	1.560 acres
Lot No. 104, Talisman lode	6.400 acres
Sur. No. 6545, Talisman Fraction lode	0.131 acres
Sur. No. 6540, Voltaire Fraction	0.019 acres
North 400 feet of Lot No. 231, North Extension	
Zulu lode	1.600 acres
Lot No. 90, West Bullion lode (East of "Blue Line")	0.470 acres
Lot No. 76, Bullion lode (East of "Blue Line")	1.250 acres
Lot No. 39, Eureka lode	8.880 acres
Lot No. 128, Silver Gem lode, (North of compromise line)	3.530 acres
Lot No. 132, Legal lode (North of compromise line)	2.640 acres
Lot No. 40, Montana lode	4.292 acres
Lot No. 95, Three Ply lode, amended - (3/4 interest)	4.280 acres
Lot No. 70, Mono lode	4.390 acres
Lot No. 71, Robbins Eureka lode	3.550 acres
Lot No. 99, Zulu lode - (3/4 interest)	2.940 acres
Lot No. 100, Valley lode	6.880 acres
Sur. No. 3625, Toltec lode	0.132 acres
Sur. No. 3622, Liability lode	0.071 acres
Sur. No. 3626, Hiatus lode	0.192 acres
Lot No. 208-A, W. H. Whiton lode	20.661 acres
Lot No. 195-A, Anaconda lode	6.124 acres
Sur. No. 5346, Mollie Gibson lode	6.135 acres
Lot No. 311, Donnelly Boy, Goodenough No. 2	
Mary Alice, Mary Bell and Golden Ray lodes	42.050 acres
Lot No. 203-A, Hornsilver lode	6.880 acres
Sur. No. 4320, Anna and Anna No. 2 lodes	13.961 acres
Sur. No. 5345, Cap lode	7.335 acres
Sur. No. 6475, Leo Claim lode	6.471 acres
Lot No. 346, Pluto, Hades and Styx lodes	19.530 acres
Sur. No. 5108, Morning Star lode (compromise)	1.092 acres
Lot No. 296, George A. Wilson lode	6.579 acres
Lot No. 318, West Mammoth lode	9.090 acres
Sur. No. 5348, South Extension of West Mammoth lode	1.622 acres
Sur. No. 5081, Marcus Aurelius and Bill McKinley lodes	9.039 acres
Lot No. 332, General Logan lode	4.900 acres
Sur. No. 6081, Leadville lode	0.496 acres
Sur. No. 6082, West Emma lode	1.129 acres
Sur. No. 6896, Jay lode	0.414 acres
Sur. No. 6898, Richard lode	0.148 acres
Sur. No. 6897, Evans lode	0.111 acres
Sur. No. 4827, Ohio lode	20.661 acres
Sur. No. 6431, Lap No. 1, Limit No. 11, Limit No. 10, Limit No. 9, Lap, N. S. No. 7, N. S. No. 8, N. S. No. 9, N. S. No. 10, N. S. No. 11, N. S. 12, N. S. No. 3, N. S. No. 2, N. S. No. 1 lodes	264.145 acres

Sur. No. 6630,	Rabbit and Magpie lodes	16.488 acres
Sur. No. 6432,	Divide No. 5 and Divide No. 6 lodes	28.775 acres
Sur. No. 6430,	Divide Fraction, Divide No. 2, Divide No. 1, Divide, Bend No. 3, Bend No. 2, Bend No. 1, Summit No. 1, Summit No. 2, Summit No. 3, N. S. No. 16, N. S. No. 17, Divide No. 7, and Divide No. 8 lodes	258.088 acres
Sur. No. 6402,	Bend Summit No. 4, N. S. No. 18, N. S. No. 19, Summit No. 7, Summit No. 8, Summit No. 9, Limit, W. Pinyon No. 4, W. Pinyon No. 3, W. Pinyon No. 2, W. Pinyon No. 5, W. Pinyon No. 6 lodes	262.238 acres
Sur. No. 6484,	Chief No. 5; Chief No. 6; Chief No. 7; Chief No. 8; Chief No. 9; Chief No. 10; N. End No. 7; N. End No. 8; N. End No. 9; Chief No. 4, amended; N. End No. 6, N. End No. 5, N. End No. 4, N. End No. 3, N. End No. 2, N. End No. 1; N. End, Shaitan; Meg Merriless and Stella Fraction, amended, lodes	334.615 acres
Sur. No. 6629,	Lucky Boy and Lucky Boy No. 2 lodes	22.204 acres
Sur. No. 6513,	Get Up Lode (1/2 interest)	20.661 acres
Sur. No. 6633,	Christmas Lode No. 1, Christmas Lode No. 2, Christmas Lode No. 3, Christmas Lode No. 4, Christmas Lode No. 5, Christmas No. 6, and Christmas Lode No. 7 lodes	94.890 acres
Sur. No. 6516,	W. Pinyon No. 8, W. Pinyon No. 9, W. Pinyon, Peak, E. Pinyon No. 3, E. Pinyon No. 5, Thumb Tack, E. Pinyon No. 9, E. Pinyon No. 11, E. Pinyon No. 15, Contact No. 2, Contact No. 3, Summit No. 10, Pinyon, E. Pinyon, E. Pinyon No. 2, E. Pinyon No. 4, E. Pinyon No. 6, E. Pinyon No. 8, E. Pinyon No. 10, E. Pinyon No. 12, E. Pinyon No. 14, Contact, and Contact No. 1 lodes	279.577 acres
Sur. No. 6017,	Midnight Extention lode (part)	8.400 acres

Also, the following unpatented lode mining claims:

Sur. No. 6598,	Marinda No. 1 and Marinda No. 2 lodes (parts as shown on accompanying map)	16.560 acres
Little Chief lode,	unsurveyed. Located August 16, 1889, recorded in Book P of Quartz Claims in office of Juab County, Utah, Recorder	2.580 acres

Wigwam lode, unsurveyed. Located March 6, 1919,
 recorded in Book 89 at page 190 in office of
 the Juab County, Utah, Recorder 0.500 acres

Lucky Boy lode, unsurveyed. Located January 21,
 1901, recorded in Book 54 at page 3 in the
 office of the Juab County, Utah, Recorder 2.500 acres

Excluded, however, from the above mining lands, a sub-
 surface block of ground, now under long time lease,
 extending from the sill of the 1800 foot level
 (elevation 4831.) to the sill of the 2000 foot level
 (elevation 4585.) of Chief No. 1 Mine, indicated on
 the accompanying map, and bounded as follows: Begin
 at the north-east corner of the block, whence the
 1/4 Section Corner common to Sections 7 and 18,
 T. 10 S., R. 2 W., S.L.B. & M., bears N. 45°06' E.
 1704.3 feet, and run thence South 1100. feet, thence
 S. 60°38½' W. 917.9 feet, thence West 1200. feet,
 thence North 1550. feet, thence East 2000. feet to
 the place of beginning.

Note: On the accompanying map, the yellow shading
 illustrates the relative locations of the various
 claims and tracts described above. All uncolored
 areas within the yellow shading indicate the
 location and extent of lands which are not the
 property of the Chief Consolidated Mining Company.

CHIEF CONSOLIDATED MINING COMPANY
SCHEDULE C-1

**LARGE
FORMAT
DOCUMENTS
AT END OF
FILE**

U.S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

GENERAL TECHNICAL DATA

NOT TO BE FILLED IN BY APPLICANT

FOR USE UNDER THE

Docket No. _____

DEFENSE PRODUCTION ACT OF 1950

Date received _____

Chief Consolidated Mining Company
608 Dooly Building
Salt Lake City, Utah

Name and
address of
applicant

May 21, 1951

Date _____

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) Necessity Certificate pursuant to the provisions of Sec. 124-A (Amortization Deduction) of Internal Revenue Code, 1950, (5) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (6) other forms of Gov-

ernment assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

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

1. Materials produced:
 - (a) What are the chief mine, mill, or smelter products?
 - (b) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry(ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
 - (a) Linear feet of shafts.
 - (b) Linear feet of drifts and crosscuts.
 - (c) Linear feet of tunnels or adits.
 - (d) Linear feet of other mine openings (explain briefly).Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
 - (a) Distance and direction from nearest town and shipping point.
 - (b) Mining district.
 - (c) Township, Section, Range.
 - (d) County, State.
4. (a) State whether or not property is now in operation, and if in operation, by whom operated.
(b) Are you operating this property as:
☐ Owner.
☐ Lessee.
☐ Contractor.
5. Number of years in production _____
If not in production or operation, estimated date when production will begin _____
6. Experience of operators:
Describe the mining and general business experience of (a) the applicant, and (b) the person or persons who manage the project.
7. History:
 - (a) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
 - (b) State briefly the known history and production of adjoining and neighboring properties.
 - (c) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

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

NAME AND ADDRESS (a)	OFFICIAL TITLE (If officer is also director indicate by "D") (b)	TOTAL OF ANNUAL SALARY, COMMISSIONS, BONUSES, ETC., RECEIVED FROM APPLICANT AND AFFILIATES DURING LAST FISCAL YEAR (c)	ESTIMATED NET WORTH OUTSIDE OF INTEREST IN APPLICANT (d)	NUMBER OF SHARES HELD IN APPLICANT CORPORATION		LIFE INSURANCE CARRIED FOR BENEFIT OF APPLICANT	
				Common (e)	Preferred (f)	Amount (g)	Net Cash Surrender Value After Loans (h)
Cecil Fitch, Eureka, Utah	President "D"	15,118.32	Unknown	23,081	None	None	
Cecil Fitch, Jr. Eureka, Utah	Vice President	12,962.76	"	3,671	"	"	
B. L. Cripps 608 Dooly Bldg. Salt Lake City, Utah	Gen'l Mgr. "D"	9,967.80	"	2,358	"	"	
W. W. Watson 608 Dooly Bldg. Salt Lake City, Utah	Treasurer "D"	7,524.60	"	10	"	"	
Mahlon Kemmerer 120 Broadway, New York, N. Y.	Secretary "D"	None	"	5,000	"	"	
Howard F. Fitch 2205 Sacramento Ave. San Francisco	Director	None	"	28	"	"	
A. M. Cheney Continental Bk. Bldg. Salt Lake City	Director	None	"	100	"	"	
"Continued"	TOTAL		X X X X X			X X X X X	X X X X X

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

ITEM	AUTHORIZED (a)	OUTSTANDING (b)	PAR VALUE (c)	NUMBER OF SHARES OUTSTANDING (d)	DIVIDEND RATE LAST PAID* (e)
Common stock	\$ 1,500,000	\$ 1,201,265	\$ 1.00	1,201,265	Year of 1949 5 cents
Preferred stock	\$	\$	\$		

*Indicate period covered.

10. Production:

ITEM	KIND OF PRODUCT (a)	1948 TOTAL (b)	1949 TOTAL (c)	1950 TOTAL (d)	PRESENT AVERAGE MONTHLY (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)	Crude Lead-Zinc Ores	102,517	122,816	134,555	11,893
2. Quantity of product processed (specify unit of measure and type of process)	Short Dry Ion	Not applicable			
3. Quantity and grade of product sold or shipped (specify units of measure)	See Schedule attached.				

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

12. Ore or Mineral Reserves:

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

CHIEF CONSOLIDATED MINING COMPANY
608 Dooley Building
Salt Lake City, Utah

Sheet No. 1 of 4 sheets which are incorporated in by reference as part of Form MF 100 General Technical Data for use under the Defense Production Act of 1950.

1. MATERIALS PRODUCED:

Crude ores containing in quantitative descending order zinc, lead, silver, and gold. There are no marketable by-products.

2. NAME OF MINE AND EXTENT OF WORKING:

Chief No. 1 Mine, Chief No. 2 Mine, Eureka Hill and Gemini Mine, with workings consisting of approximately 460,000 ft. of drifts, 117,000 ft. of raising, 18,000 ft. of winzing, 6,300 ft. of shaft, including underground winze shafts, and 132,00 ft. of prospect drilling. The main production workings of the Chief No. 1 Mine are below the water level, and the problems incidental to pumping are fully explained in our application for Government participation in further exploration of these areas at depth. Reference is hereby made to that application dated November, 3, 1950.

3. The surface plant serving the Chief No. 1 Mine is located in or near the town of Eureka, Utah, which town is the shipping point. The district is known as the Tintic Mining District. The company owns in fee simple in excess of 10,000 acres of mineralized ground in the Tintic Mining District, a legal description of the numerous tracts can be furnished on request. The properties are located in Juab and Utah Counties of the State of Utah.

4. The properties are now in operation and are operated by the Chief Consolidated Mining Company as owner.

5. The property has been in operation almost continuously since 1909.

6. EXPERIENCE OF OPERATORS:

The applicant, Chief Consolidated Mining Company, has operated the property for more than 42 years. The management was in the hands of Mr. Walter Fitch from 1909 to 1937 who prior to this was for many years actively engaged in mining in Michigan. Since his death his son, Mr. Cecil Fitch, who is now President and who has also been with the company since 1909.

7. HISTORY:

The history of the Tintic Mining District is well known; and reference is hereby made to any mineral year book or mining directory for full information with reference to previous exploration, development, operation and production in this District. With reference to the applicant, Chief Consolidated Mining Company, production has been continuous except for several isolated months in different years when market conditions temporarily suspended operations. In addition attached is our last Annual Report and we draw your particular attention to Production Schedule shown therein which total production is from inception to date.

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

Sheet No. 2 of 4 sheets which are incorporated in by reference as part of Form MF 100 General Technical Data for use under the Defense Production Act of 1950.

8. NAMES OF FIVE LARGEST STOCKHOLDERS:

Cecil Fitch
Eureka, Utah

Colette Noel Fitch
Eureka, Utah

Rose Maas
c/o Wm. G. Maas
Negaunee, Michigan

David Schaffer
42 New Dwight Street
Springfield 3, Mass.

Chas. H. Koch, John I. Ferguson, and Munro L. Tibbits, Trustees
Longyear Building
Marquette, Michigan

10. PRODUCTION (3) QUANTITY AND GRADE OF PRODUCTION:

	<u>1948</u>	<u>1949</u>	<u>1950</u>
Dry Short Tons Sold	102,517	122,816	134,555
Gold, oz. per ton	.022	.019	.021
Silver, oz. per ton	8.057	6.687	6.126
Lead, per cent	5.16	5.61	5.74
Zinc, per cent	7.28	7.55	7.15

11. It is estimated that upon completion of the exploration projects for which assistance is requested by this application the average monthly tonnage will increase from 11,893 tons at the present to 15,000 tons per month as a result of this additional exploration.

12. ORE AND MINERAL RESERVES:

We have never been able to measure or calculate the ore reserves in the Chief No. 1 Mine. Ore occurs in the form of intrusions along favorable and well known lime-stones. These intrusions vary greatly both as to size and grade. During the forty-odd years of our existence we have never been out of ore and during the same time we have never been able to estimate production from more than six months in advance.

CHIEF CONSOLIDATED MINING COMPANY

608 Dooly Building
Salt Lake City, Utah

Sheet No. 3 of 4 sheets which are incorporated in by reference as part of Form MF 100 General Technical Data for use under the Defense Production Act of 1950.

13. ACCESS ROADS:

Chief Consolidated No. 1 Mine is served by spurs of both the Union Pacific Railroad and the Denver and Rio Grande Western Railroad Company, and all ores at present are shipped over these two carriers. Salt Lake City is the closest supply center to the operation, a distance of 93 miles over paved roads, and they are served by both rail and public trucking facilities. The mine is located in the immediate vicinity of Eureka, Utah, the mine labor supply residing at this point and in the valleys within a radius of thirty miles.

14. WATER SUPPLY:

The company's operations consist entirely of mining the crude ores, and it does not operate any concentrating or other ore beneficiating processes. There is an adequate supply of water available for culinary purposes.

15. POWER:

All power is purchased from the Utah Power and Light Company, Salt Lake City, Utah, under a ten year contract under rate schedules approved by the Public Service Commission of Utah. Average monthly consumption 1,434,322 K.W.H. - Average Cost .0081 per K.W.H.

16. LABOR:

<u>Surface</u>		<u>Underground</u>	
Engineers and Geologists	5	Shift Bosses	4
Mine Office	4	Main Hoistmen	4
Blacksmith Shop	5	Secondary Hoistmen	2
Machine Shop	5	Trammers and Truck	
Electricians	4	Drivers	8
Carpenters	3	Underground Hoistmen	6
Watchmen	4	Cage Riders	6
Laborers	<u>7</u>	Cage Riders Helpers	2
	37	Pumpmen	3
		Topmen	2
		Mechanics	4
		Tool Nippers	1
		Motormen	16
		Shaftmen	4
		Miners	<u>91</u>

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17. EQUIPMENT AND FACILITIES:

Chief Consolidated Mining Company's properties at Eureka, Utah are equipped with modern blacksmith, machine, electrical and steel sharpening shops on the surface, also a modern repair shop underground. A modern mine office building, engineering and

CHIEF CONSOLIDATED MINING COMPANY
608 Dooley Building
Salt Lake City, Utah

Sheet No. 4 of 4 sheets which are incorporated in by reference as part of Form MF 100 General Technical Data for use under the Defense Production Act of 1950.

17. EQUIPMENT AND FACILITIES (Cont.)

geological office, and assaying office are also maintained on the surface together with a considerable number of modern dwellings. A hoist and compressor house are located on the surface. The compressor has a rated capacity of 2700 cubic feet per minute. The main hoist is powered with two - 375 H.P. electrical motors of a size entirely adequate to handle 15,000 tons of ore together with the necessary removal of waste material per month. There are three winze shaft hoists underground powered with 60, 100 and 125 H.P. motors. Each operating level is serviced by Mancha Storage Battery Locomotives, Jumbo type drills and an adequate number of small drills. Loading at the working faces is done by both slusher hoists and Elmco loaders. There are several surface adits leading to the workings of the Chief No. 1 Mine in addition to the main shaft, supplying adequate escape ways and ventilation which is supplemented by a Jeffrey 8-H-48 Aerodyne Fan. The physical condition of all equipment and facilities is excellent and adequate.

18. There are no particular conditions or circumstances affecting the operations that are not described herein or in our application dated November 3, 1950.

(b) If deposit is other than placer:

- (1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.
- (2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

ORE OR MINERAL RESERVE	ESTIMATED TONS	METAL OR MINERAL CONTENT PER TON (Grade)	GROSS VALUE PER TON	RECOVERABLE UNIT VALUE PER TON	ESTIMATED COST OF PRODUCTION PER TON
	(a)	(b)	(c)	(d)	(e)
Measured (proved).....					
Indicated (probable).....					

(c) If placer:

- (1) Give estimated total yardage and average marketable mineral content of each deposit.
- (2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.
- (3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.
- (4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.
- (5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.
- (6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

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

14. Water Supply:

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

15. Power:

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

16. Labor:

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

17. Equipment and Facilities:

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

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

CERTIFICATION

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

Chief Consolidated Mining Co.

(Name of company)

By



(Signature of authorized official)

May 22, 1951

(Date)

Secretary

(Title)

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

MF-103 Data Sheet

Applicant, Chief Consolidated Mining Company
Eureka, Utah

DMA Docket 1 and 1A

1. A Corporation.
2. No partnership.
3. See attached letter May 16, 1951 from Company Secretary.
4. Successful Operation for 41 years same management see Annual Reports.
5. No
6. None
7. No Leaser.
8. Annual Report for 1949 and 1950, (40th and 41st Reports-)
9. Cash position plus anticipated earnings during 1951 and 1952 should be more than adequate.
10. 10,000 acres of Mineral Claims the majority of which is patented Exploration to be within the Eureka Townsite.
11. See Map of Claims and Mineral Rights.
12. See Map.
13. Abundant water- At present wasting 4100 gpm. Adequate sources of power.
14. Mining Equipment.
15. Ores regularly shipped to Combined Metals Reduction Co. Bauer, Utah, International Smelting and Refining Co. Toole Utah, American Smelting and Refining Co. Garfield Utah, US Smelting and Refining Co. Midvale Utah.
16. See Annual Reports.
17. See Forecast and Annual Reports.
18. The property has never had over 60 to 90 days of ore in reserve.
19. Fully Covered.
20. Lead-zinc - Silver Ores.
21. See Recommendation.
22. Projects approved by U.S.G.S.
23. Not furnished.
24. See Recommendation.

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

P R O J E C T A

New pumping System to Handle 7000 gallons a minute
from 3100-Level Bottom to 1800-Level Drainage

Our present pumping system was designed to handle some 2500 gallons a minute with standby facilities. All facilities are now being used to handle 4700 gallons a minute. Further development will probably cause a total flow of 7,000 gallons a minute.

The reasons for this are illustrated in the two sections labelled Exhibit A and A-1, which show some of the workings on two of our major ore-runs. Our ore-runs rake to the north. In many places our mining down the rake has brought us to a thin, east-west, nearly vertical, probably post-mineral dike. This dike serves as a dam for waters to the north. The formations are fairly well dewatered to the 2700-level south of the dike. North of it, the water stands at the 2400-level. Drill holes through the dike on the 2700-level give water pressures of 100 pounds per square inch. We have been unable to follow the many ore-showing north of the dike because our pumping system can handle no more water.

Installation of this new pumping system will require one year.

The restriction of our development to ground south of the dike has now brought us to the point that we must reduce our output from some 10,000 tons of mill ore a month to some 6,000. Until the new pumping system is in operation, we will probably be unable to restore our rate of production to 10,000 tons a month.

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

P R O J E C T A - 1

18-411 Winze Sinking and Lateral Exploration
on 3100-Level

	Estimated Cost
Winze Sinking-----400 feet @ \$350.00	\$140,000.00
Drifting-----4000 feet @ \$ 30.00	120,000.00
Crosscutting-----1000 feet @ \$ 30.00	30,000.00
Raising-----1000 feet @ \$ 30.00	30,000.00
	<u>\$320,000.00</u>

Equipment

Hoist, etc. (See detail following)	115,700.00
Miscellaneous	20,000.00
	<u>\$135,700.00</u>

Total Cost \$455,700.00

Men 12
Time 2 $\frac{1}{2}$ years

TARGET; Favorable beds geometrically aligned with four present ore runs.

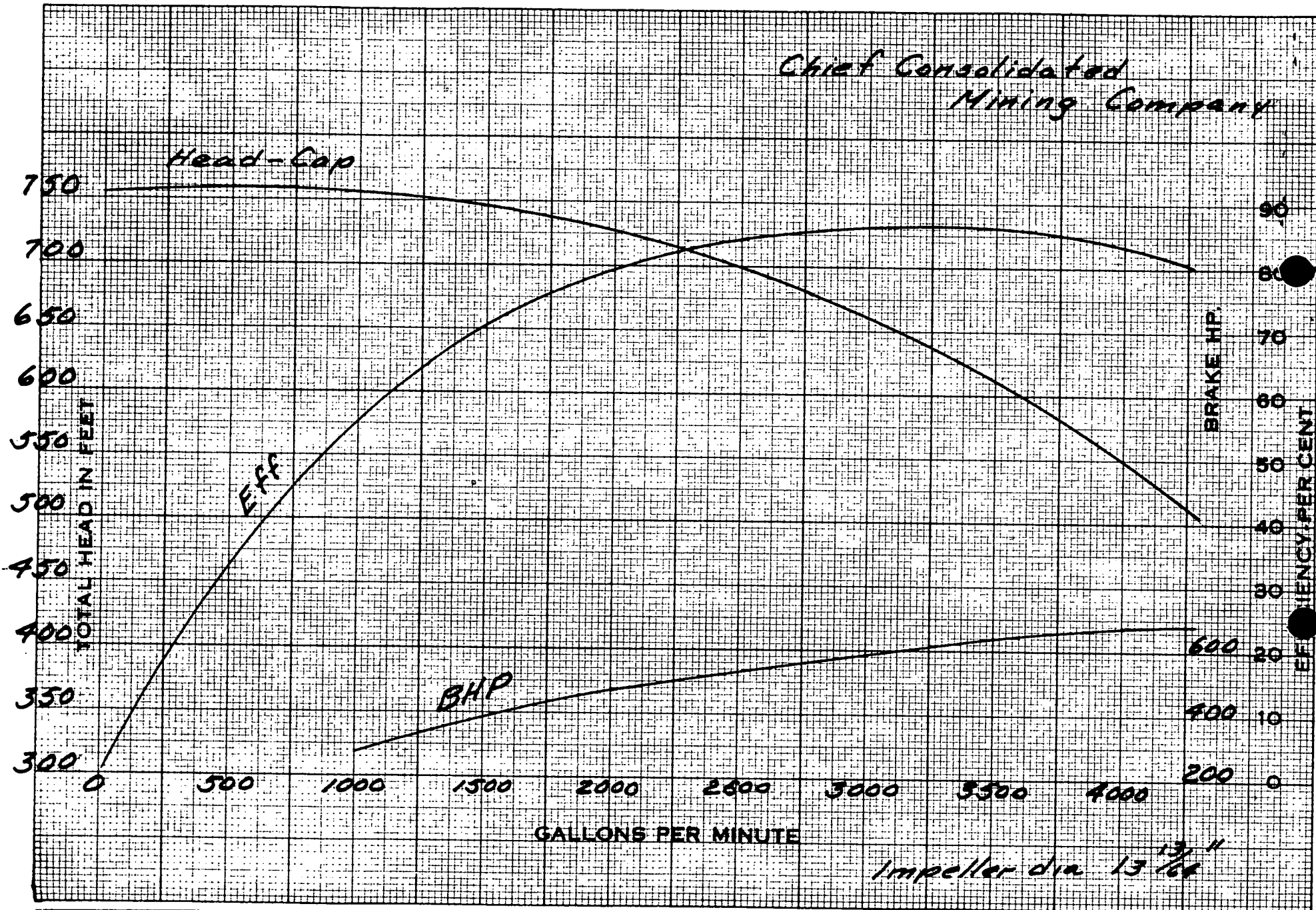
GEOLOGICAL SUMMARY: A narrow, east-west dike extends across the entire north part of the Chief mine. This dike is monzonitic, and seldom over one foot wide. Closely associated with this dike is the strong, sub-parallel, nearly vertical Leadville fault. On this fault the north block dropped down 800 feet. The dike has been encountered in each of our present four main stoping operations.

Caving of the dike, and the high water level, have prevented more than a minor amount of development beyond this dike-fault. However, from the development done, ore seems to penetrate and extend beyond the dike.

The down-dropped block on the north side of the Leadville fault results in a duplication of the 900 feet of Ordovician Bluebell dolomite that has been the main host rock in the Chief mine for the past twenty years.

The Mammoth-Chief ore run has been stoped contiguously for over two miles, with only minor directional changes when it has crossed major faults. The present feeling is that this structure will present no greater hazard than those encountered to the south.

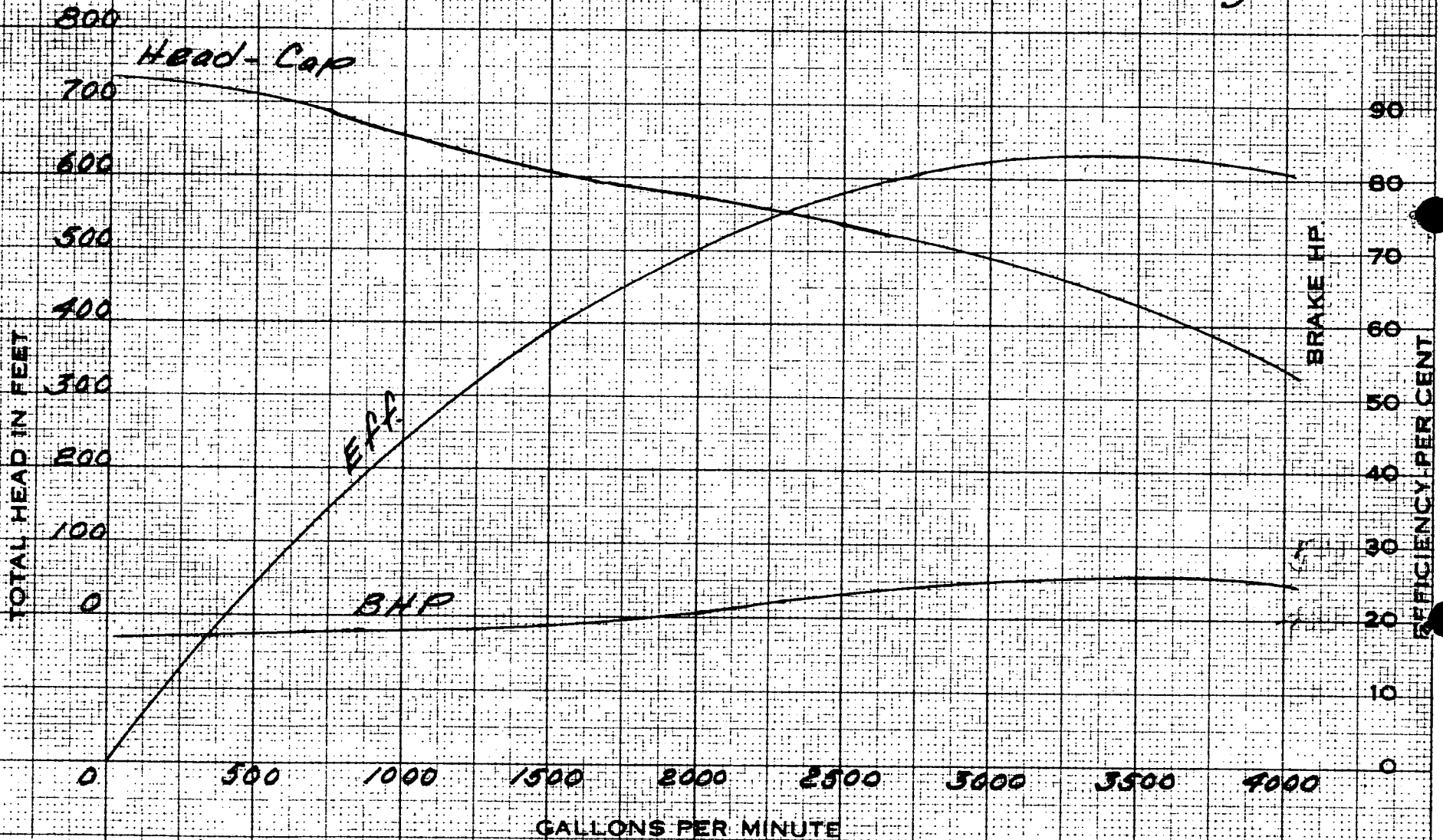
ITEM C
BYRON JACKSON CO.



PUMP SIZE AND TYPE 8 X 10 X 14 - DVS	RPM 3550	CUSTOMER NO.	IMPELLER NO. PC2774-1	BASED ON DVS-9-1	DATE 9-27-50	BYRON JACKSON NUMBER PC
		G. S.	BRANCH NO.	DATA BY RHM	DRAWN BY RHM	

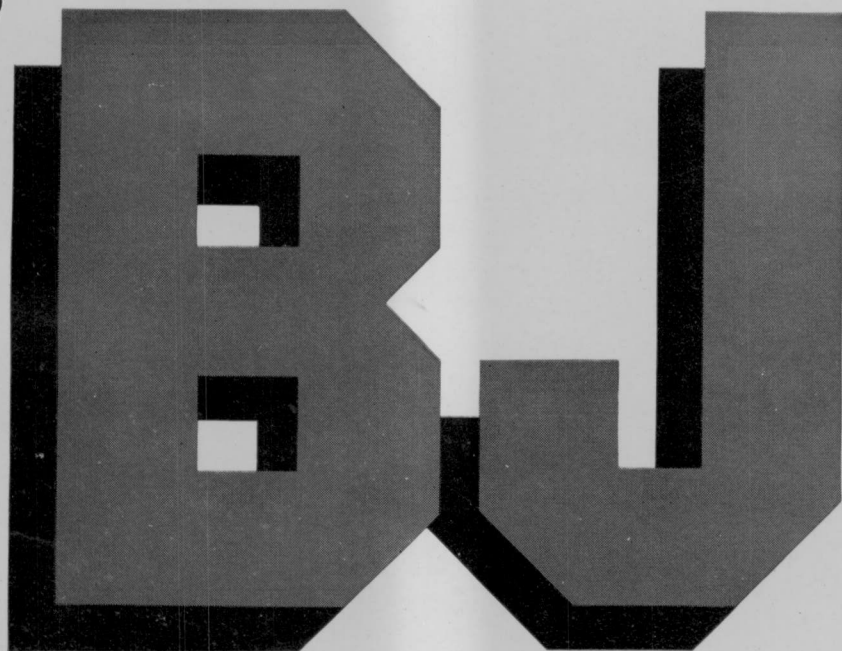
KSON CO.

Chief Consolidated
Mining Co.



Submersible Performance recalculated from 18CKXL

PUMP SIZE AND TYPE 18CKXL - 4 Stage	RPM 1750	CUSTOMER NO.	IMPELLER NO.	BASED ON T15536-1	DATE 9-27-50	BYRON JACKSON NUMBER PC
		G. S.	BRANCH NO.	DATA BY RJM	DRAWN BY	



CENTRIFUGAL PUMPS

FOR THE MINING, MILLING
AND SMELTING INDUSTRIES

The pumps illustrated and described in this bulletin represent a selected cross section of the extensive and varied line of centrifugal pumps designed and manufactured by the Byron Jackson organization for the mining and related industries. Since 1872, this organization has specialized in the manufacture of centrifugal pumps. Over the years, BJ pumps have built a solid background of user satisfaction based on sound engineering and uniformly dependable performance. An extensive fund of specialized knowledge is available for application to pumping problems.

Byron Jackson Co.

LOS ANGELES 54, CALIFORNIA
Offices in Principal Cities



In Mining and Related Industries, pumping requirements are many and varied. Hence, if high operating efficiency is to be maintained, a variety of pumps is required. This has not always been so. In fact, the era of specialization has, relatively speaking, just begun.

Not Many Years Ago, the number of different types of centrifugal pumps in use was relatively limited. For many years, the types most widely used in mining operations were the single and multi-stage, horizontally split case,

two bearing pumps... defined in BJ terminology as *Type S* and *Multiplex*. These pumps, like others, have been improved over the years into highly efficient pumping mechanisms and are well adapted for use as station pumps, boosters and unwatering pumps. Properly applied, they continue to have wide application in mine service.

However, there are pumping jobs to which the Type S and the Multiplex are not well adapted. In some cases, the pumping job may call for a pump of different hydraulic design. Or in other cases, it may be that the initial cost of these pumps is out of balance with the requirements of the pumping operation. Due to the nature of the hydraulic design, the smaller sizes of these pumps are relatively expensive in relation to their volume of delivery. This is justified under certain conditions, but in many cases it is not. To fill the gap, BJ developed two lines of small pumps, the *Bilt-on* and *Figure* pumps. Figure pumps cover only the single stage field and are sold at very moderate prices. Bilt-on pumps are available in single and double stage: they are *quality* pumps, equal in many respects to the small Type S or Multiplex pumps, yet they are sold at a price that is in proportion to the size of the pumping operation.

At One Time, a highly efficient, low capacity, high head centrifugal pump was deemed a hydraulic impossibility... until the fabulously successful BJ *Hydropress* dispelled that illusion

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16 years ago. The Hydropress pump, which has no counterpart except for its less expensive "little brother," the Hydroplex, delivers with high efficiency at heads up to 7000 feet. Thus the complex, space-consuming reciprocating pump was routed from its last citadel. Furthermore, there was a time when a commercial electric motor which could operate continuously under water was not even considered . . . until the remarkable BJ *Submersible Motor-Pump* became a reality. The Submersible cannot be drowned out by water, hence it is an ideal station pump where possible flooding is a problem. The highly efficient Submersible has recorded several remarkable feats in unwatering flooded mines. The BJ shaft type deepwell turbine, too, is highly satisfactory for unwatering operations . . . and has also been very successful when mounted in a frame and used as a vertical sinker type pump. Though originally designed for primary water supply pumping, the very high efficiencies and limited space requirements of deepwell turbine pumps recommend their use in a variety of mine pumping operations.

Mopping Up the mine shaft during the sinking operations was once a difficult problem. The usual centrifugal pump has difficulty lifting water through a suction pipe when a dry shaft bottom is desired and there is no appreciable depth of water. The BJ *Pneumatic Sponge* now takes this kind of job in stride. It sits on the bottom with the suction plate right against the ground and mops up water, mud, sand and solids.

Pumping Corrosive Liquids has long since been reduced to an exact science. Most BJ pumps can be furnished with materials to suit the job. And among centrifugal pumps that have been designed specifically for the handling of corrosive liquids, the BJ *Antimonial Lead Acid Pump* and the BJ *Corrosiron Acid Pump* are pre-eminent. BJ has also developed a special pump, the VMT, for jobs where the net positive suction head is low.

This Discussion is intended only to point out the shift in emphasis toward greater specialization in the design of centrifugal pumps for the mining and related industries. Thus it is now possible to select a pump with a proper balance between first cost, performance and maintenance.

The Special Nature of many pumping jobs in mines, mills, and smelters suggests the importance of a complete study of the data and physical conditions pertaining to any pumping installation being considered. Sometimes a special design represents the most intelligent solution. Operators can, therefore, obtain the greatest service from the manufacturer if the problem is presented as completely as possible . . . with blueprints and an explanation of all other factors that may affect the operation of the pump. The Byron Jackson Co., an organization of pump specialists, offers a vast fund of specialized knowledge to its clients that their pumping problems may be resolved with maximum success.



Submersible Pump

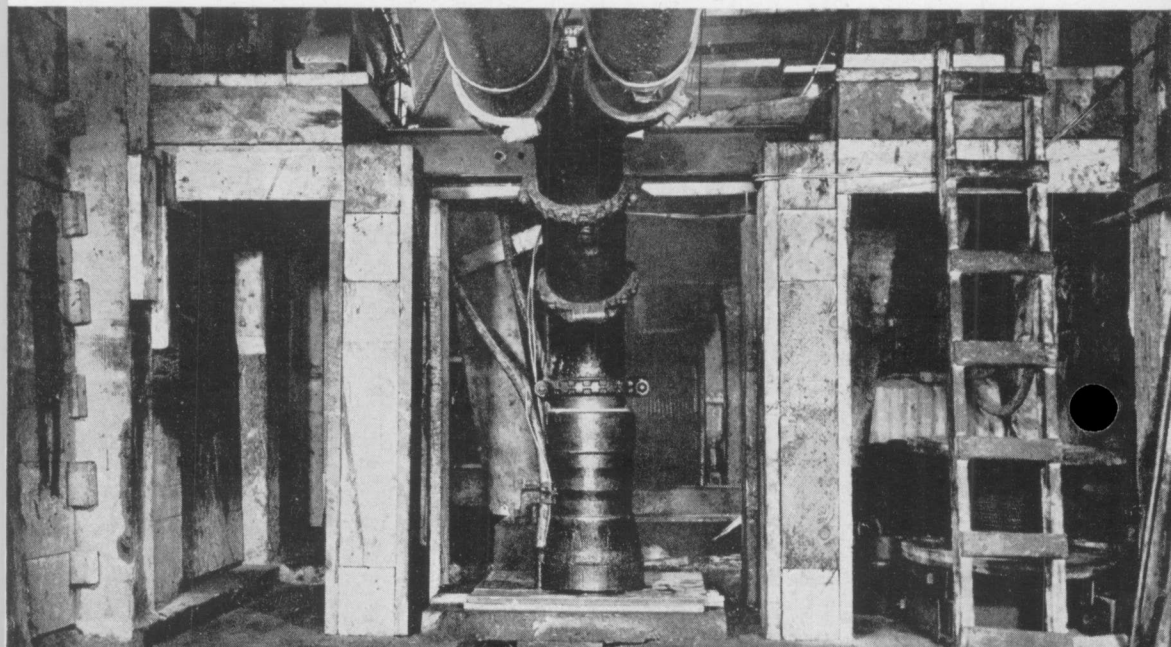
CAPACITIES: to 9000 gpm

HEADS: to 1500 feet

Motor Sizes: 10 to 350 hp

The Submersible represents the *only* basic improvement in deepwell turbine design since Byron Jackson introduced the deepwell turbine in 1901. The Submersible is a motor-pump unit, consisting of close-coupled deepwell turbine type pump and electric motor. Motor-pump unit is suspended by the discharge pipe and operates *entirely submerged in water at any depth*. Motor is oil-filled, mercury-sealed, water-cooled. Very high efficiency. Primary water supply pump, station pump, unwatering pump. Write for detailed bulletin.

Submersibles Lift 5000 gpm 500 feet—Photo (below) shows discharge pipe for an interesting Submersible mine-unwatering installation. Two special 400 hp, 1800 rpm, 4-stage Submersible units operate in series in a 19 $\frac{1}{4}$ " well casing. Upper unit is 250 feet below well collar. Lower unit, 500 feet below the well collar, is suspended from upper unit and discharges into a 16" diameter standpipe surrounding the upper unit. Efficiency is very high. (Submersible pumps have recorded remarkable feats in unwatering flooded mines; under such emergency conditions, the Submersible can be lowered directly into the mine shaft to any depth.)



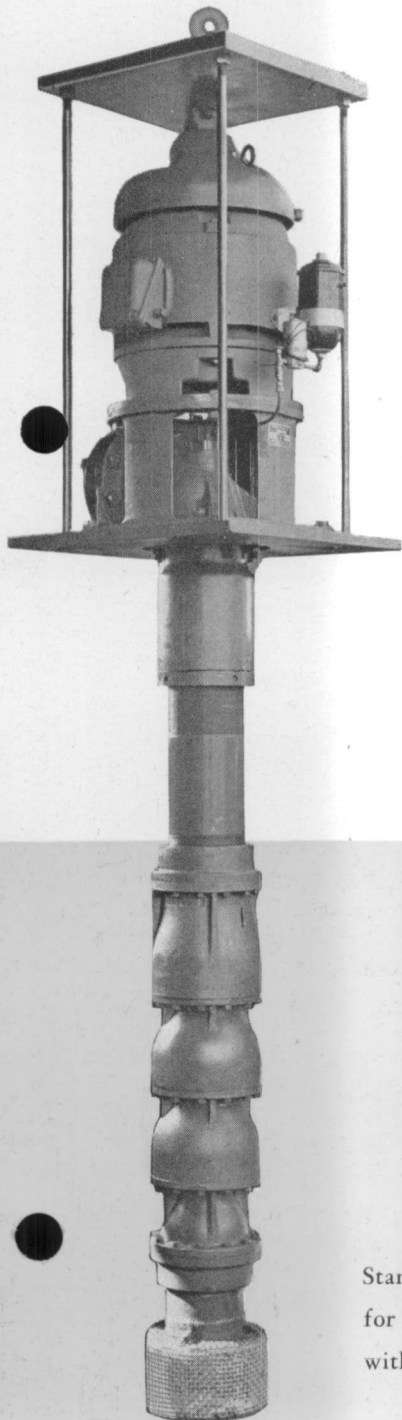
Deepwell Turbine Pump

CAPACITIES: to 9000 gpm

HEADS: to 800 feet

Byron Jackson introduced the first successful deepwell pump, the *Deepwell Turbine*. That was in 1901. And to this day all deepwell pumps, except for the BJ Submersible, follow the basic design pattern laid down by BJ in designing the first deepwell turbine. Over the years, the BJ Deepwell Turbine has been improved and simplified into a highly efficient pumping mechanism, the finest shaft type deepwell turbine available.

Drive: vertical electric motor; turbine; engine with gear or belt drive. Very high efficiencies. Primary water supply pump, station pump, unwatering pump. In some types, impeller clearances can be adjusted to compensate for wear and to minimize wear when abrasives are passing through. Write for detailed bulletin.

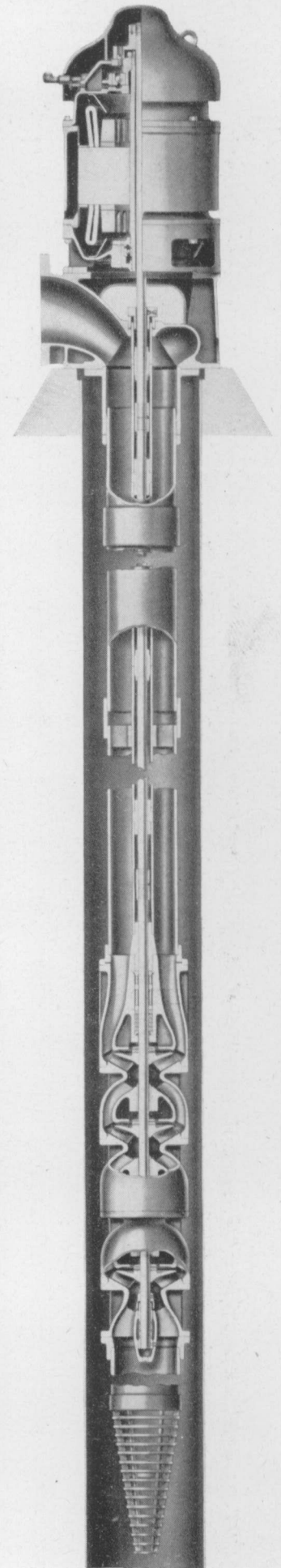


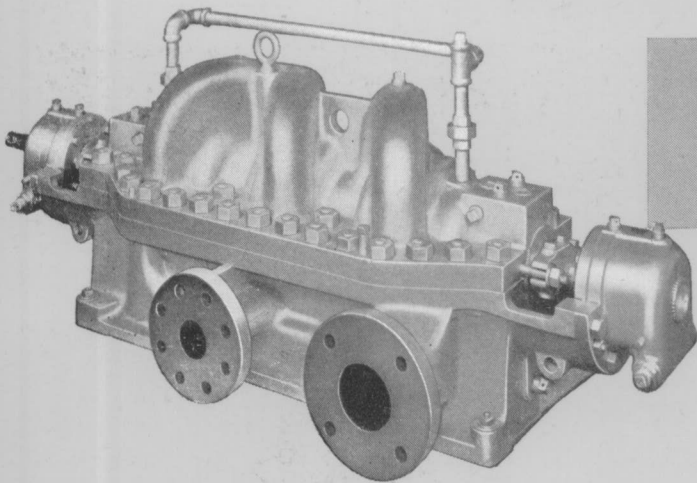
Vertical Sinker Type Deepwell Turbine Pump

CAPACITIES: to 5000 gpm

HEADS: to 400 feet

Standard BJ Deepwell Turbine Pump mounted with motor for vertical unwatering operations. Minimum weight without sacrifice of strength. Very high efficiencies.



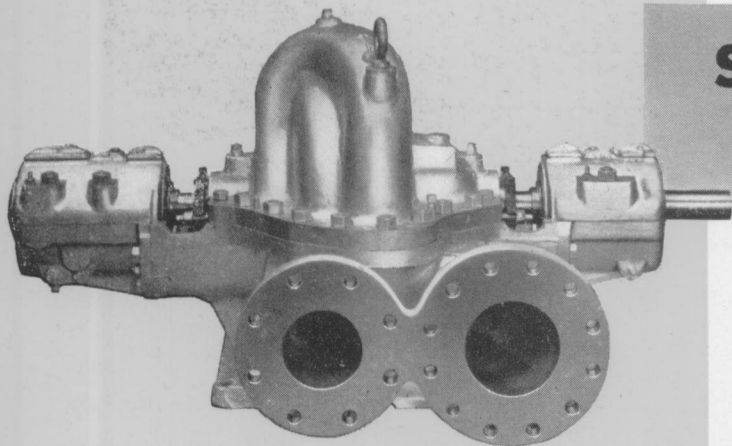


SD Multiplex Pump

CAPACITIES: to 1500 gpm

HEADS: 200 to 2000 feet

A heavy-duty, split case, multi-stage centrifugal pump, ruggedly constructed and adapted to all classes of medium or high pressure service. Operates at speeds up to 3600 rpm. The horizontally split case has integrally cast inter-stage crossover passages. Always has an even number of stages. Opposed grouping of impellers equalizes end thrust. Staggered volute construction balances radial forces. Widely used as a station pump in mine service; primary water supply pump for mills.



SDO Multiplex Pump

CAPACITIES: to 4000 gpm

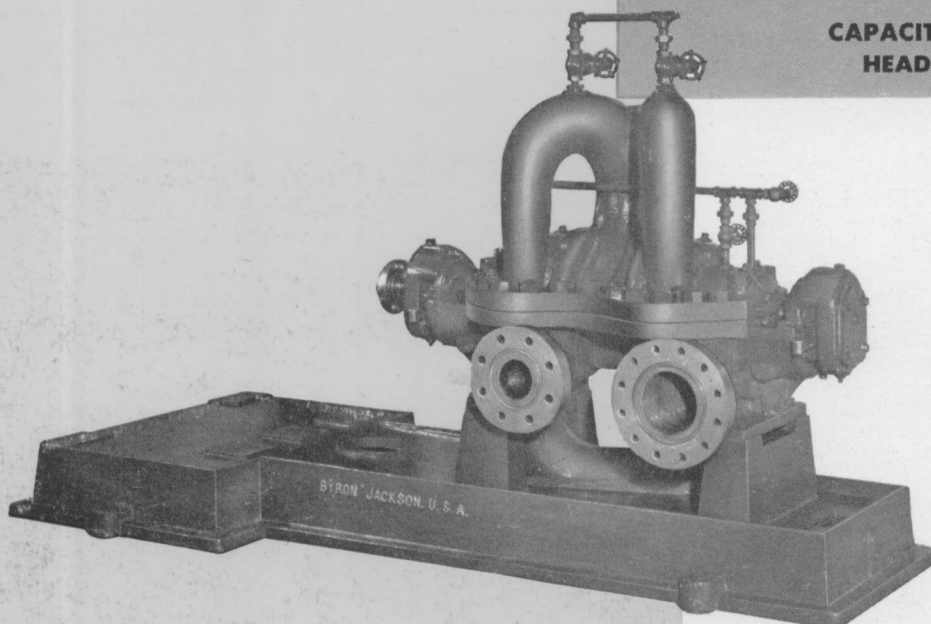
HEADS: 200 to 1500 feet

Similar in construction to the Type SD Multiplex pump (see above). But it operates at speeds up to 1800 rpm instead of up to 3600 rpm as in the SD. Because of lower speed, more stages are required for similar performance. The Type SDO, due to lower speed, is preferred by some operators for service where the liquid handled carries abrasives.

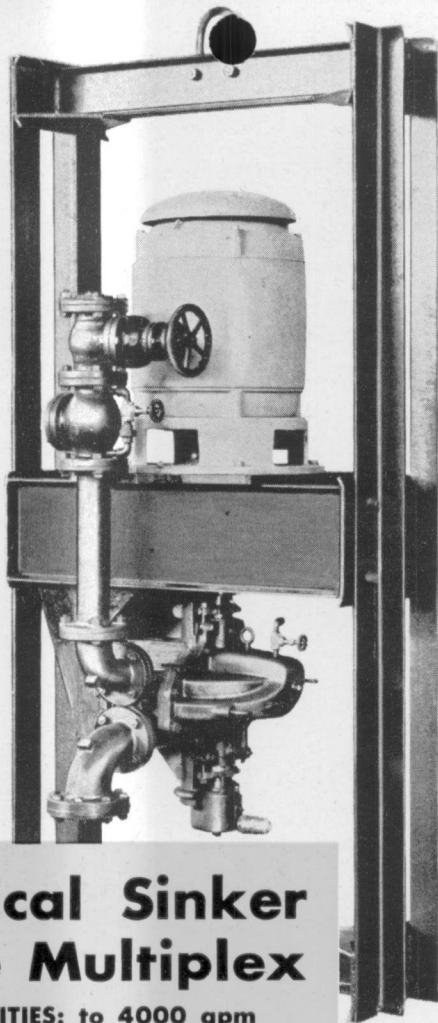
OL Multiplex Pump

CAPACITIES: 300 to 3250 gpm

HEADS: 600 to 3200 feet



A heavy-duty, split case, multi-stage centrifugal pump, ruggedly constructed and adapted to all classes of high pressure service. Construction is similar to Types SD and SDO (see above), but efficiencies are higher. Operates at speeds up to 3600 rpm.

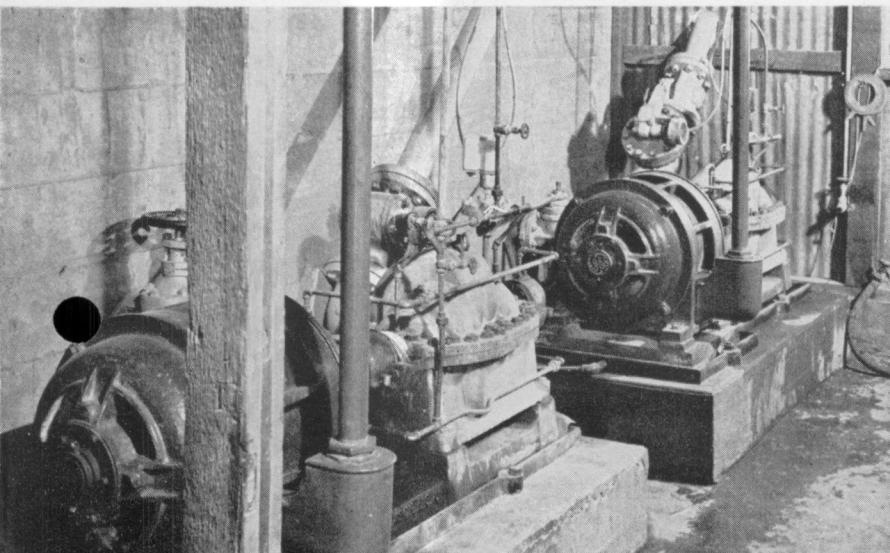


Vertical Sinker Type Multiplex

CAPACITIES: to 4000 gpm
Heads: to 600 feet

Standard Type SD or SDO Multiplex Pump mounted with motor in a fabricated steel frame equipped with vertical guides and arranged for suspension in the shaft. Minimum weight without sacrifice of strength.

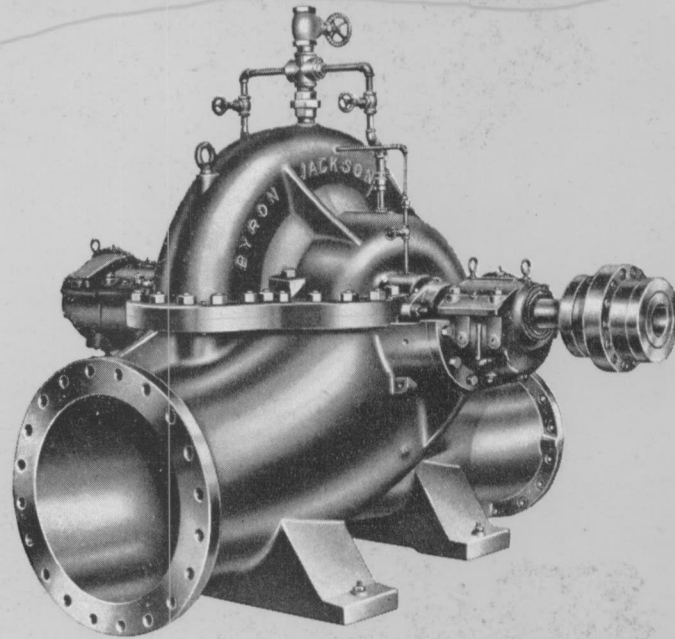
These 3" x 4" 4 stage SD Multiplex Pumps deliver fresh water to No. 2 mine leaching area for Kennecott Copper Corporation. Each pumps 250 gpm against a head of 677 feet.



Double Volute

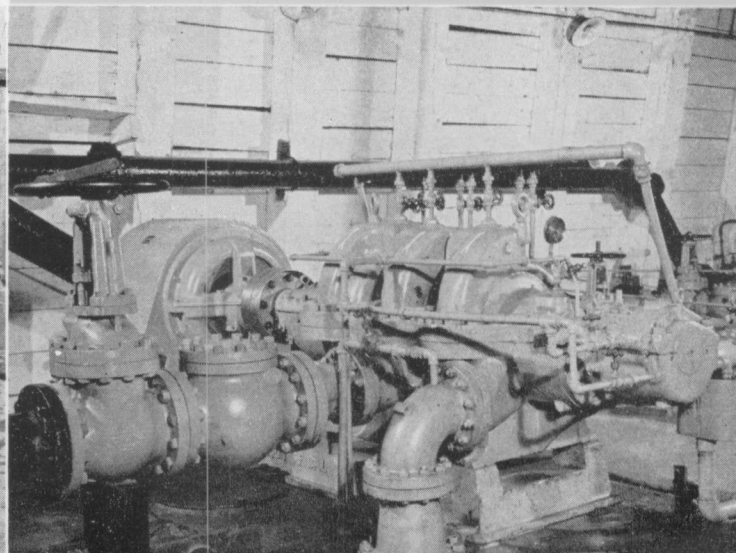
Type S Pump

CAPACITIES: to 40,000 gpm
HEADS: to 400 feet

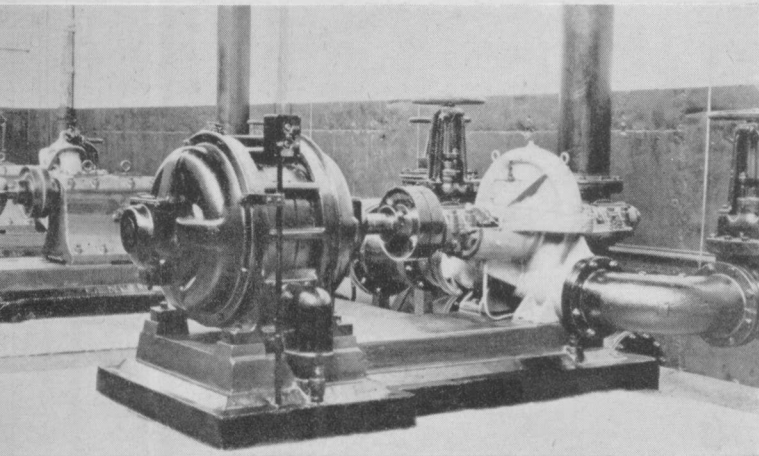


A single stage, double suction, split case, General Purpose centrifugal pump especially adapted to large volume pumping. Handles warm or cold liquids. Horizontally split case, with suction and discharge nozzles cast integrally with lower half of case. Lifting of upper half of case permits inspection of interior or removal of rotating element without disturbing piping connections, driver or pump alignment.

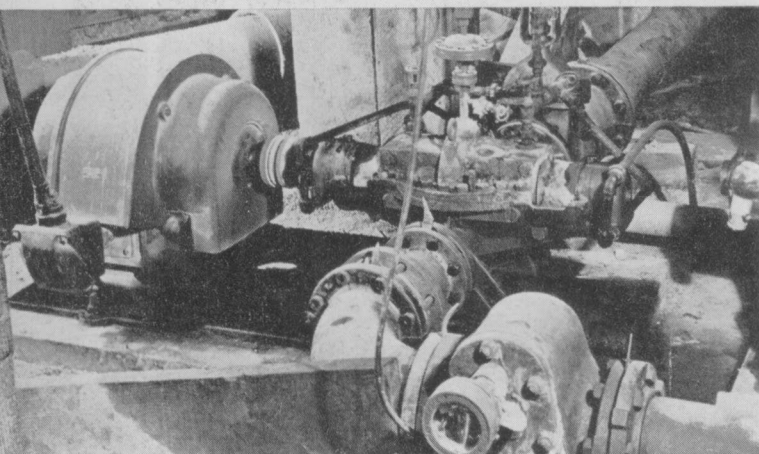
Old Dominion Shaft at Miami Copper Company, Globe, Arizona. SDO Multiplex used for twelfth level station pumping.



TYPE S CONTINUED



Type S Acid Pumps—These Type S pumps are handling acid solution at the Inspiration leaching plant of the Inspiration Consolidated Copper Co., Inspiration, Arizona. All pump parts that contact pumped liquid are of antimonial lead.



This Type S Pump has delivered corrosive copper sulphate for five years without a murmur of protest.

Bilt-on Pump

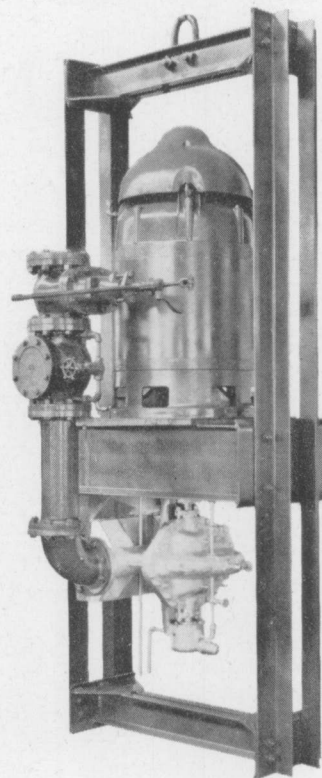
CAPACITIES: to 2400 gpm
HEADS: to 500 feet

For heavy-duty performance where little space is available. Bilt-ons are compact units consisting of single stage, single

Vertical Sinker Type S Pump

CAPACITIES: to 2500 gpm **HEADS: to 400 feet**

Standard Type S pump (see previous page) mounted with motor in a fabricated steel frame equipped with vertical guides and arranged for suspension in the shaft. Minimum weight without sacrifice of strength.



suction centrifugal pump and induction motor. Motor and pump are close-coupled and have a common shaft. Bilt-ons handle warm or cold liquids. Operation in any position from horizontal to vertical. Ideal for portable service. Write for detailed bulletin.

Figure 1025 and Figure 1050 Process Pumps

	FIGURE 1025	FIGURE 1050
CAPACITIES:	10 to 600 gpm	100 to 1000 gpm
HEADS:	20 to 240 feet	100 to 600 feet

Moderate price plus design features that are found in pumps of considerably greater cost characterize the Figure 1025 and Figure 1050 Process Pumps. Both are horizontal, single stage, end suction types, built with rigid bearing brackets. Stuffingbox has more than the usual number of packing rings found in this class of pump. The stuffingbox is provided with flushing inlet to cage ring, and is readily accessible. Large oil reservoir assures lubrication of ball bearings. These General Purpose Pumps are available in standard and special materials as well as standard and special construction. They are adapted to a wide range of pumping services where the temperature does not exceed 350° F. Write for detailed bulletin.

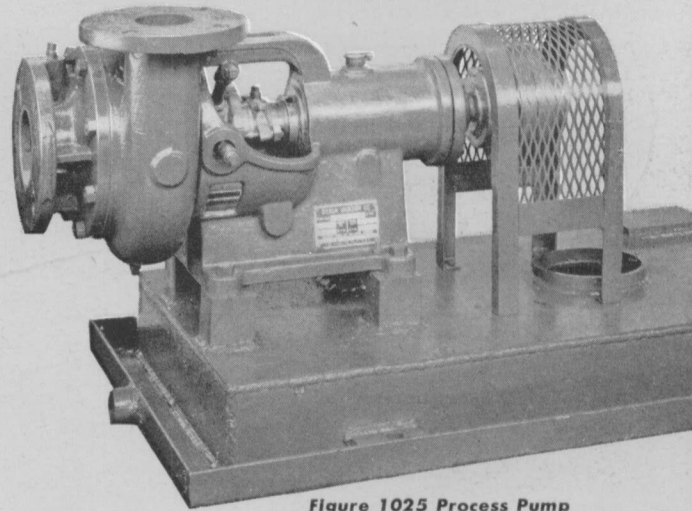
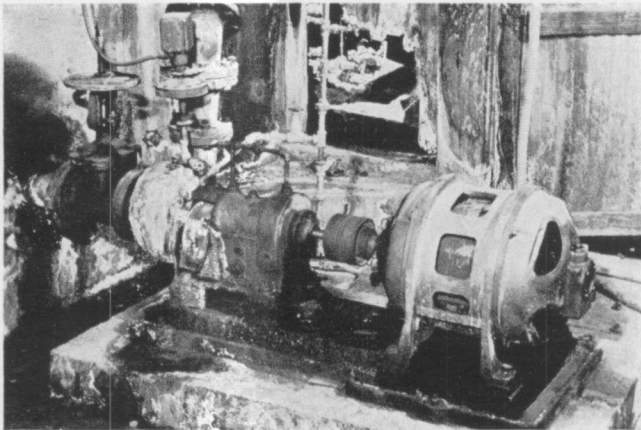


Figure 1025 Process Pump

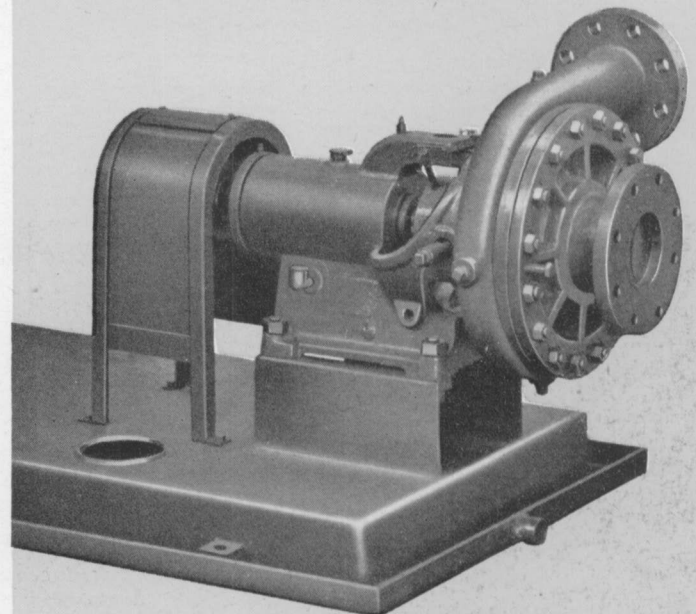
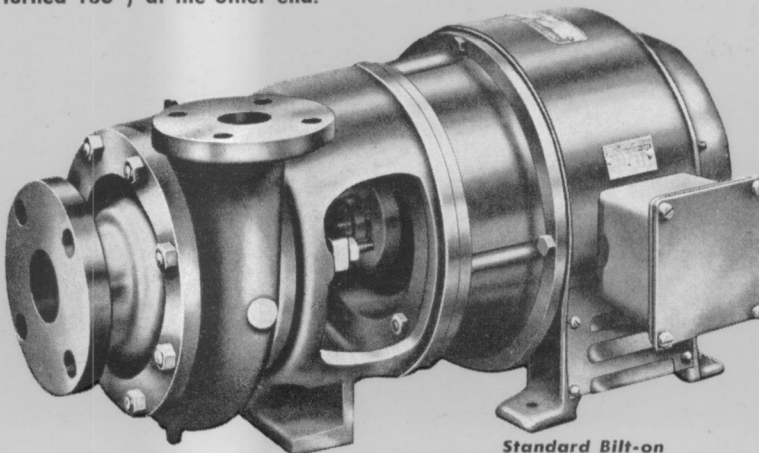


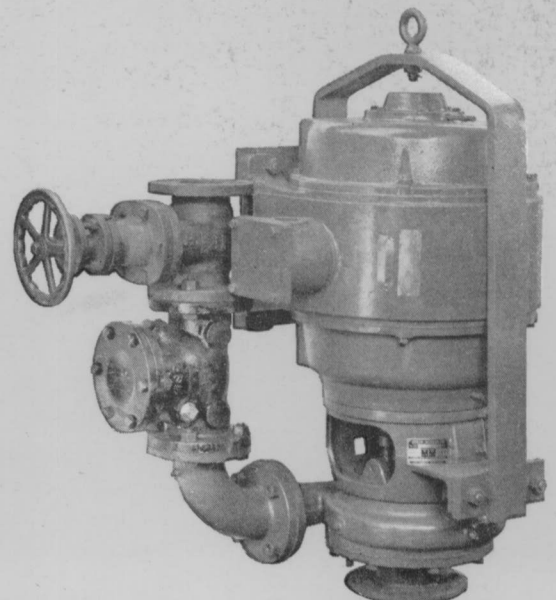
Figure 1050 Process Pump

(Left): This Figure Pump has delivered acid water for five trouble-free years. Note the severe corrosion around the pump.

Vertical Sinker Type Bilt-on (right) differs from the standard Bilt-on only in the addition of a simple steel supporting frame which attaches to the pump foot on one end . . . and to the motor feet (turned 180°) at the other end.



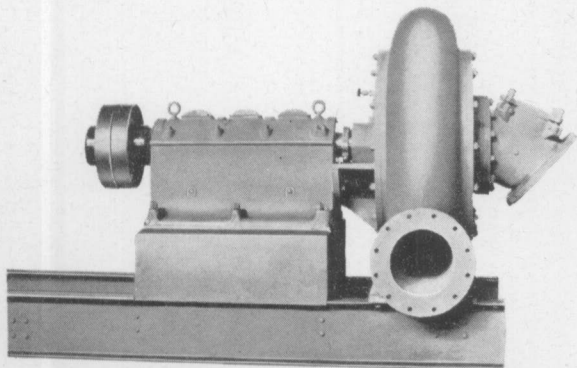
Standard Bilt-on



Sand and Gravel Pump

CAPACITIES: 100 to 6000 gpm HEADS: 10 to 150 feet

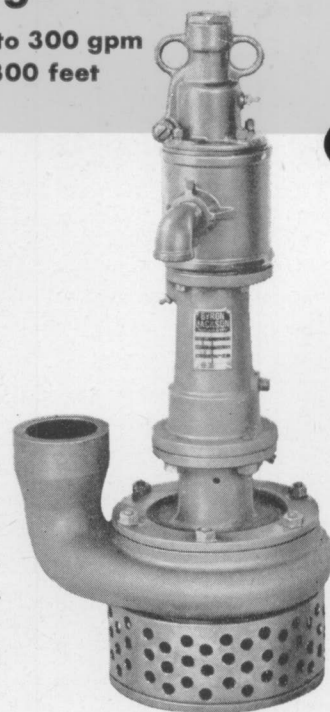
An extra-heavy-duty pump of the horizontal, single stage type . . . built to handle rock, sand or gravel-bearing liquids. Two-port, non-clogging impeller and extra heavy pump case. For many years, BJ Sand and Gravel Pumps have given uniformly dependable service under the most severe operating conditions.



Pneumatic Sponge

Pump CAPACITIES: 25 to 300 gpm
HEADS: to 300 feet

A high head, air-motor-driven centrifugal pump for "mopping up" liquids containing a high percentage of solids. Passes sand, pulverized rock and other abrasive solids up to $\frac{5}{8}$ " in diameter. It is used to "mop up" mine shafts, coffer dams, caissons, sumps, etc. Compact, lightweight, portable. Operates in any position. The rotary air-motor, equipped with governor and variable speed control, operates on compressed air at 70 to 100 psi. Available in single or double stage. Write for detailed bulletin.



Hydropress Pump

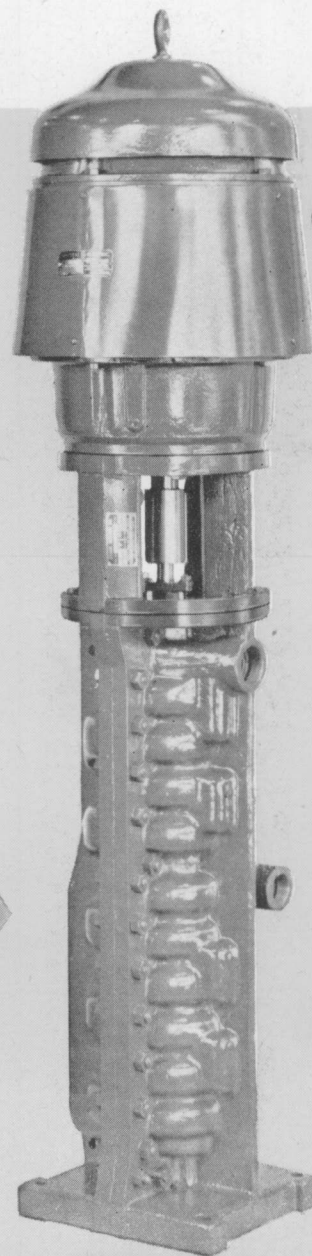
CAPACITIES: 20 to 300 gpm
HEADS: to 7000 feet

A vertical, double case, double volute, multi-stage centrifugal pump . . . designed for low volume, high pressure pumping with high efficiency. The fabulously successful Hydropress represents the first successful application of the inherently simple and *efficient* centrifugal pump to low volume, high pressure pumping. Minimum floor space required. Needs only a simple foundation. No vibration or objectionable noise. Smooth, continuous, non-pulsating flow. Easily dismantled and reassembled. Radial and axial forces balance at all loads. The Hydropress is widely used to deliver mine and mill water supply against very high heads. It is ideally suited to boiler feed service. And it has been very successful as a mine station pump to carry small capacities straight through to the surface. It is strictly a *clear water* pump and care should be taken to exclude abrasives. Write for detailed bulletin.

Hydroplex Pump

CAPACITIES: 10 to 140 gpm
HEADS: to 1700 feet

The Hydroplex Pump is a smaller and less expensive version of the Hydropress Pump (see left). The Hydroplex is a vertical, split case, multi-stage centrifugal pump . . . designed for low volume, high pressure pumping of clear water with high efficiency. Write for detailed bulletin.

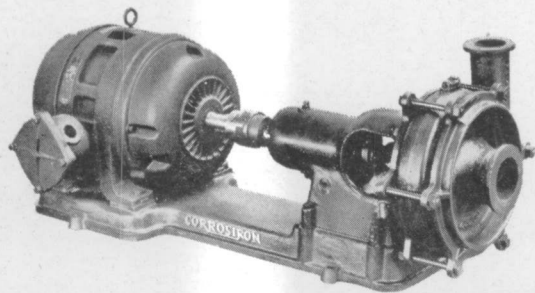


Corrosiron Acid Resisting Pumps

CAPACITIES: 30 to 425 gpm
HEADS: 20 to 140 feet

This line of centrifugal pumps is unexcelled for handling corrosive liquids carrying abrasive solids . . . because all pump parts that contact pumped liquid are of Corrosiron. Corrosiron is a high silicon iron that resists the corrosive action of

more acids than any other commercial alloy . . . and is also *more resistant* to acid corrosion than any other commercial alloy. In addition, Corrosiron is extremely abrasion-resistant, having a hardness of 300 Brinnell.



VMT Pump

	STANDARD	SPECIAL DESIGNS
CAPACITIES:	to 1000 gpm	to 5000 gpm
HEADS:	to 250 psi	to 250 psi
TEMPERATURE:	to 250° F.	to 750° F.

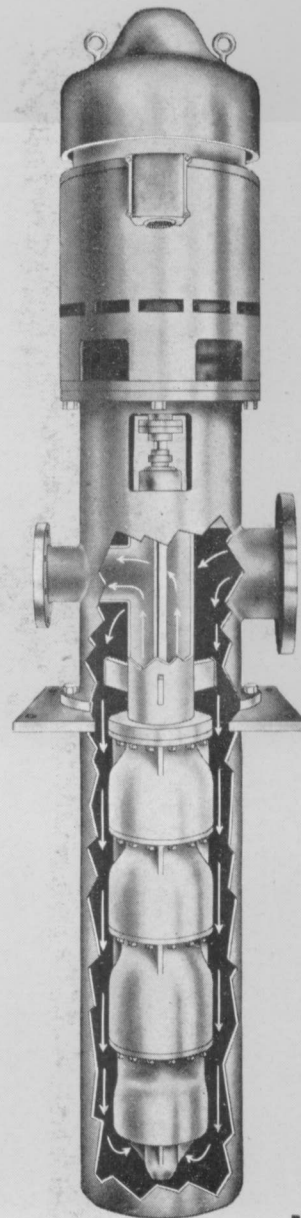
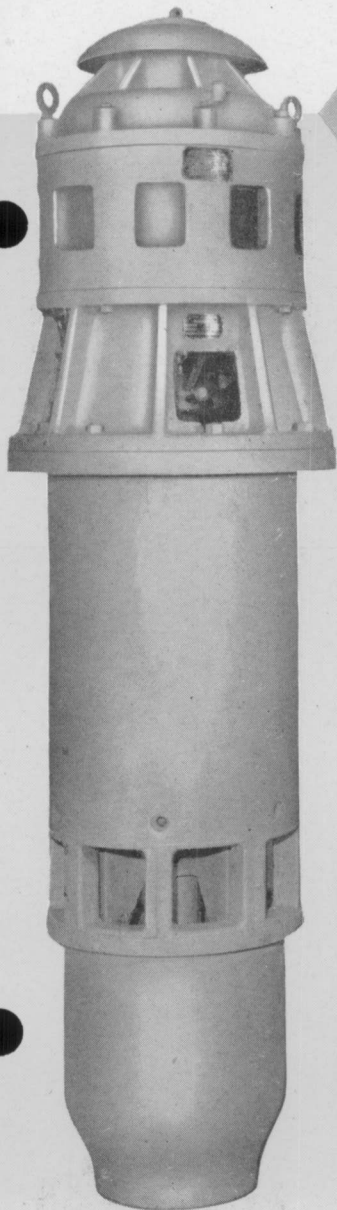
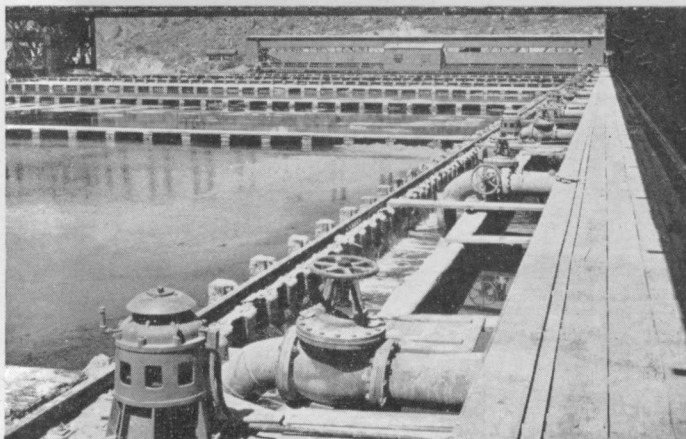
The VMT is designed for handling hot or cold liquids where net positive suction head is limited. The VMT is a multi-stage pump, mounted in a barrel from which it takes suction. Vertical construction reduces floor space requirements, simplifies installation problems. Base of pump is at ground level while length of barrel below is determined by nphs requirement. This eliminates necessity for raising suction vessel or excavating for an elaborate pump pit, permits pumping from a suction vessel set at or near ground level. Write for detailed bulletin.

Antimonial Lead Acid Pump

CAPACITIES: to 1900 gpm
HEADS: to 17½ feet at 1725 gpm

A vertical, single stage, single suction centrifugal pump. All parts that contact pumped liquid are of antimonial lead. Extremely resistant to the corrosive action of many acids.

(Below): Pumping Ferric Sulphate since 1929 with BJ Antimonial Lead Acid pumps. In 1929, when commercial leaching of mixed oxide and sulphide copper was getting under way, BJ engineers were called upon to design and manufacture pumps that could be depended upon to handle the acid solution necessary for maximum precipitation. Thirteen BJ Antimonial Lead Acid Pumps with 15 hp motors were installed in as many concrete, lead-lined leaching tanks. These pumps take the overflow solution from the preceding tank and pump it underneath the filter bottom and up through the ore. For 15 years these pumps operated faithfully and efficiently. Then, in 1944, increased capacity was needed, and the pumps were rebuilt on their same frames; the same motors were retained but capacity of each pump was doubled. A typical example of the kind of specialized pump service BJ can offer to mines, mills, smelters.



Byron Jackson Co.

Pump Division

Box 2017, Terminal Annex, Los Angeles 54, California. Tel. Jefferson 6171

BETHLEHEM, PENNSYLVANIA

Byron Jackson Co.

P. O. Box 409

Telephone Bethlehem 68521

BOSTON 10, MASSACHUSETTS

Hayes Pump & Machinery Co.

125 Purchase Street

Telephone Hancock 7957

CHICAGO 5, ILLINOIS

Byron Jackson Co.

407 S. Dearborn Street

Telephone Harrison 6262

DENVER 2, COLORADO

Joy & Cox, Inc.

1940 Blake Street

Telephone Alpine 0411

DETROIT 2, MICHIGAN

Young C. Smith & Co.

408-3 Blvd. Bldg.

Telephone Madison 1940

EL PASO, TEXAS

Eyler-Greenawalt & Co.

415-416 Mills Bldg.

Telephone Main 860

FRESNO 3, CALIFORNIA

Byron Jackson Co.

356 North "H" Street

Telephone Fresno 45938

HOUSTON 1, TEXAS

Byron Jackson Co.

6247 Navigation Blvd.

Telephone Woodcrest 6-4441

KANSAS CITY 8, MISSOURI

Byron Jackson Co.

400 B. M. A. Bldg.

Telephone Victor 8071

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Byron Jackson Co.

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Railway & Power Engineering Corp., Ltd.

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Toronto 2, Ontario, Canada

Telephone Adel. 0101

CUBA

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Telephone M-8325

HAWAII

The Hawaiian Electric Co., Ltd.

Honolulu, Hawaii

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Mexico Tractor & Machinery Co., S. A.

Humboldt 52-54, Mexico City, Mexico, D. F.

Telephone Mexico L-1951

PHILIPPINE ISLANDS

Atkins, Kroll & Co., Inc.

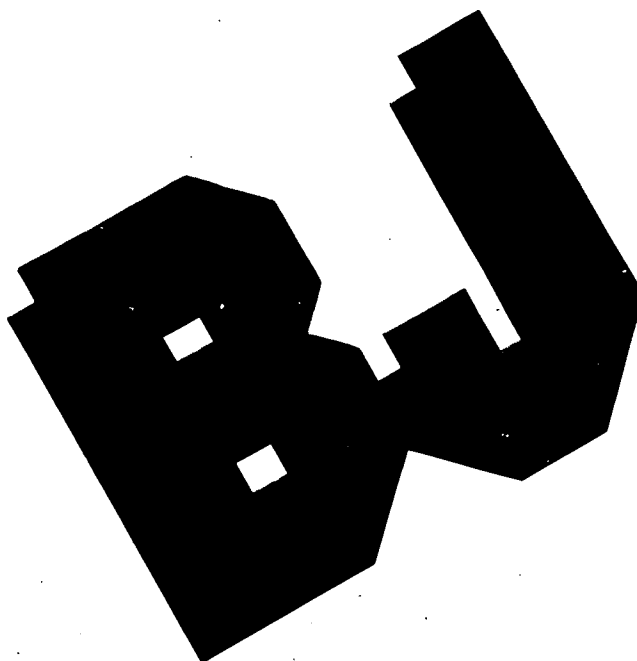
124 Myers Building, Port Area

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B Y R O N J A C K S O N C O.

ITEM F

DOUBLE VOLUTE CASE CENTRIFUGAL PUMPS

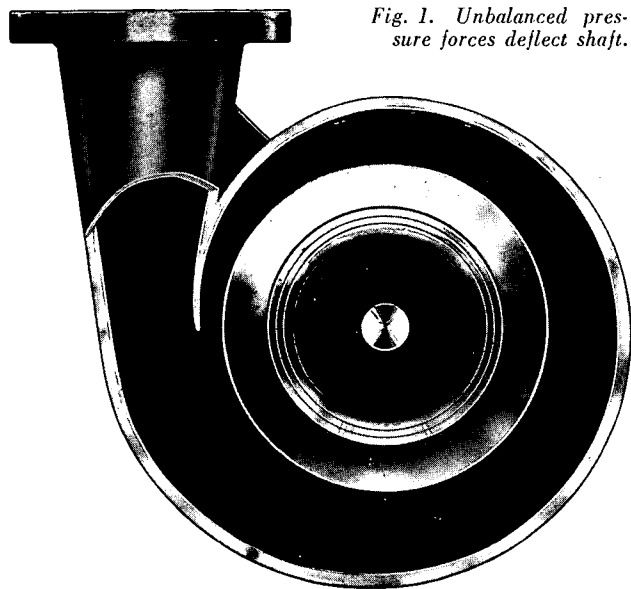


Fig. 1. Unbalanced pressure forces deflect shaft.

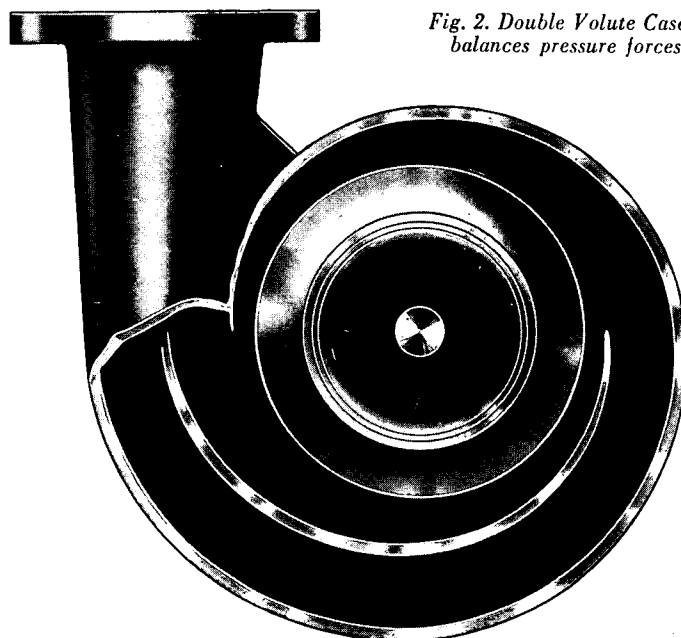


Fig. 2. Double Volute Case balances pressure forces.

BALANCED DESIGN WITH DOUBLE VOLUTE CASE

Unbalanced pressure forces acting upon an impeller are often ignored by designers of single stage centrifugal pumps, and occasionally are disregarded even in pumps of multi-stage design. These forces at partial capacity may exceed the loading placed upon the shaft by its own weight, plus that of the impellers, by as much as 500 to 1000 per cent. Failure of the designer to protect against such unbalanced forces, which occur when pumps operate at other than their maximum efficiency point results in, and is evidenced by, the eccentric wear of the stationary parts and premature shaft failure.

The explanation of this phenomenon will indicate to the Process Engineer steps required in the control of a process to avoid such undesirable conditions, or if that is impractical, will enable him to select equipment that will not be adversely affected by such process conditions.

Efficient operation of a centrifugal pump depends upon designing passage-ways, through the impeller and the volute section of the case, so proportioned and shaped that liquid entering the suction of the pump and passing through the impeller to the volute case, is accelerated and decelerated at a uniform rate without abrupt changes of direction of flow. It is equally important that the discharge from the impeller periphery to the volute case also be free from abrupt changes of velocity or direction of flow. The volute passage-ways of the case are, therefore, carefully shaped so that the pressure at any point is constant under conditions of normal capacity, and when the flow through the case and impeller is closest to these ideal conditions, the pump operates at its maximum efficiency.

For any other condition of flow, the relative velocities and pressures in the impeller and the volute case necessarily change. However, the shape of the passage-ways cannot be altered to accommodate this changed flow, and the liquid, as it leaves the impeller periphery, must make abrupt changes of direction resulting in water impact and pressure losses. Pressures in the volute case

under these conditions become unequal. These pressures of varying intensity around the periphery of the impeller, as illustrated in Figure 1, produce a resultant radial force upon the shaft, which, under certain conditions, can equal five to ten times the weight of the rotating parts. As this force is proportional to the pressure, impeller diameter and width, it becomes an important element of the shaft loading on large capacity pumps where impeller widths are great and the units operate at other than their most efficient operating point. This unbalanced force deflects the shaft until contact is made with the stationary parts, resulting in their eccentric wear, after which, further high-speed deflections induce fatigue stresses in the shaft with ultimate failure.

By use of the double volute case, compensation for this inherent problem of a centrifugal pump, is made in the design of: (a) those pumps where the impeller is of such size that the radial pressure forces would produce undue loading of the shaft; or (b) multi-stage pumps where the shaft is of such length that the deflecting forces would bend the shaft more than the pump clearances would permit. Figure 2 illustrates the basic design of the double volute case, which divides the flow from the impeller at points 180 degrees apart. The liquid from one side flows into one volute; the liquid from the other side into a second volute. Both flows are directed together at the discharge. By this design, if the flow is such that a low pressure area exists in one portion of either volute, there will be diametrically opposite a similarly shaped volute with similar flow conditions in it, and, therefore, similar pressure conditions. Through this means all radial pressure forces exerted upon the impeller are balanced by equal and diametrically opposite forces.

Unless it can be determined definitely that a particular pump will always operate at or near its peak efficiency, the engineer making the pump selection should assure himself that the design of the pump gives adequate protection against this potential trouble.

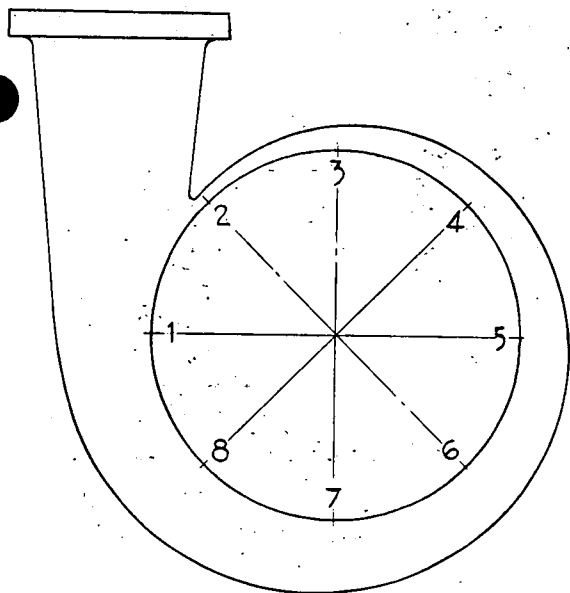


Fig. 3. Diagram of Volute Case indicating pressure stations at which pressures plotted in Fig. 4 were measured.

PRESSURE VARIATIONS IN VOLUTE CASE AND PRESSURE FORCE UPON THE IMPELLER

Actual pressure readings taken in the volute of a pump case at the points indicated in the diagram at left are plotted in the curves below. Note that only at the peak efficiency of the pump are the pressures substantially in balance.

The resultant of the unbalanced pressures is a radial force upon the impeller, which tends to deflect the shaft. This force is approximately proportional to the product of the pressure developed by the pump, the impeller diameter, and the overall width of the impeller, and may be expressed by the following approximate formula:

$$F = K \times P \times D \times W$$

Where F = Radial pressure force in pounds

P = Pressure developed by the pump
expressed in pounds per square inch

W = Overall Width in inches of the impeller

D = Impeller diameter in inches

K = An empirical constant.

Experiments indicate the following average values of constant K :

At 0% of capacity at peak efficiency, $K = 0.15$

At 50% of capacity at peak efficiency, $K = 0.085$

At 100% of capacity at peak efficiency, $K = 0.00$

In addition to the radial pressure force, the rotating element is subjected to its own weight and also to a momentum force (of relatively small magnitude) which have not been taken into consideration in the constant K .

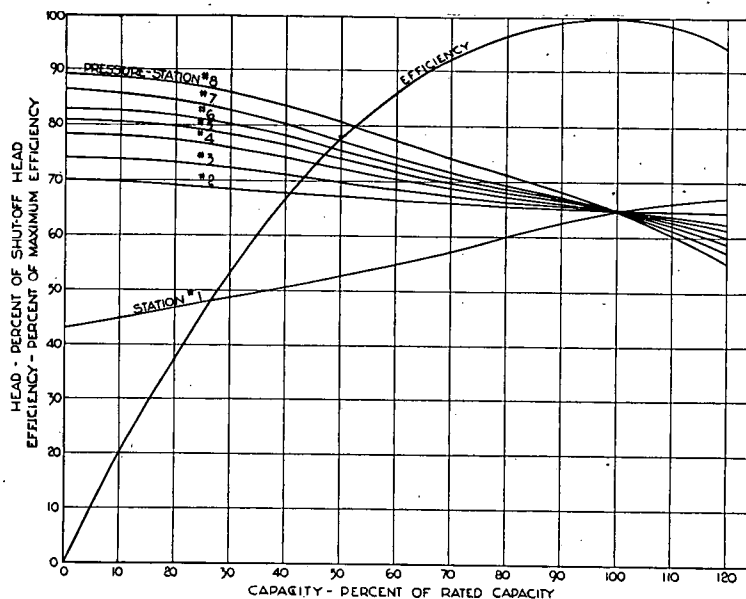


Fig. 4. Approximate pressure capacity relationship at various points in a Single Volute pump. Fig. 3 illustrates the stations at which pressure readings plotted in Fig. 4 were recorded.

Those interested in a detailed technical discussion of this subject are referred to *Transactions of the American Society of Mechanical Engineers*, November 1936, Volume 58, No. 8. An article appearing therein, "Experimental Determinations of the Flow Characteristics in the Volute of Centrifugal Pumps" by R. T. Knapp, covers this phenomenon.



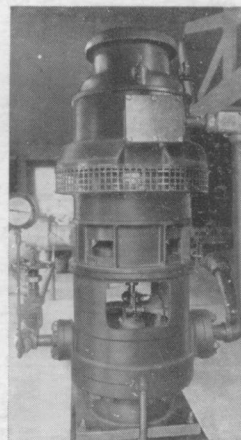
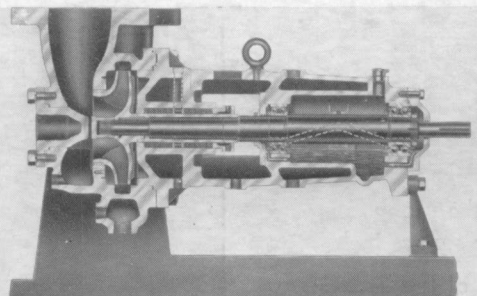
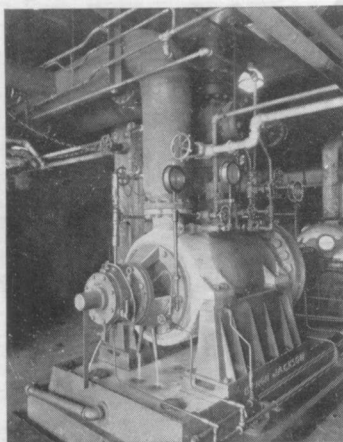
BOTH PHOTOGRAPHS ARE COMPLETELY UNRETOUCHED

WORN OUT PARTS FROM A SINGLE VOLUTE PUMP THAT WAS OPERATED AT PARTIAL CAPACITY.

Note that wear on the stationary Case Wearing Ring is all at one point and is so deep that the original grooves on the inside surface are worn flat at this point. The Impeller Wear Ring, which was originally flat across its entire outer surface, is uniformly worn *all around* this surface, thus indicating that the shaft was constantly bent—as it rotated—toward the worn spot on the Case Wear Ring.

In addition to the wear resulting from this action, the constant flexing of the shaft, as it rotates, frequently results in fatigue failure of the shaft.

MODERN BYRON JACKSON DOUBLE VOLUTE PUMPS



SM PROCESS PUMP—Larger sizes of these pumps, where pressure forces indicate the need, are designed with double volutes.

(Left) Double Case (Barrel Type) Pump.

(Right) *HYDROPRESS*—used for low capacity, high head pumping.

Established 1872

BYRON JACKSON

CENTRIFUGAL PUMPS FOR EVERY SERVICE
BYRON JACKSON CO.

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H. J. PITTS, CHIEF ENGINEER

Chief Consolidated Mining Co.

EUREKA, UTAH

November 3, 1950

Dr. James Boyd
Acting Deputy Administrator
Defense Minerals Administration
Department of the Interior
Washington 25, D. C.

Dear Dr. Boyd:

This letter is to present proposals for the expansion of production of lead and zinc ores in the Tintic Mining District in Juab and Utah Counties of Utah.

Our holdings in this area comprise some 10,000 acres. The production record our Company since 1909 is summarized in the enclosed annual report for 1949. We invite your particular attention to the record for the years 1948 and 1949. During most of 1947, we were able to use funds supplied by the Federal Government in an exploration program. As a result we were able to increase our production from the 6500 tons a month of previous years to 10,000 tons a month. This rate has been maintained to date.

Our profits were no more than fair in 1948 and 1949. During the first eight months of 1950 we operated at a loss, due to low metal prices.

Since 1947 we have been spending about \$2.00 per ton of ore mined, for development of new ore. Recently this figure is \$2.50. This expenditure has been insufficient. It has been increasingly difficult to maintain our production of 10,000 tons a month of ore of a profitable grade. Unless it is increased, we are faced with the prospect of diminishing tonnage and grade. Even at present prices, such diminutions will shortly bring us to operations at a loss.

On the other hand, we are confident that execution of the seven projects proposed for the Chief Consolidated Mine and the two for the Plutus Mine will enable us within 2½ years to increase our production to the order of 15,000 tons a month of ore of about our present grade.

We face another critical situation in the inadequacy of our present pumping system. It was designed to handle some 2500 gallons a minute with standby facilities. All facilities are now being used to handle 4700 gallons a minute. Further development will probably cause a total flow of 7,000 gallons a minute.

The reasons for this are illustrated in our exhibits to Project A and A-1. Our ore-runs rake to the north. In many places our mining down the rake has brought us to a thin east-west, nearly vertical, probably post-mineral dike. This dike serves as a dam for water to the north. The formations are fairly well dewatered to the 2700-level south of the dike. North of it, the water stands at the 2400 level. Drill holes through the dike on the 2700-level give water pressures of 100 pounds per square inch. We have been unable to follow the many ore-showings north of dike, because our pumping system can handle no more water.

Installation of the new pumping system will require one year.

The upshot of these factors is that for the next year our outlook as to mill ore is about as follows:

6,000 tons a month	<u>Mill Value</u>	<u>Market Price</u>
Grade - $4\frac{1}{2}\%$ Pb. (Sulphide)	\$8.05	16¢
$6\frac{1}{2}\%$ Zn. (Sulphide)	8.02	17 $\frac{1}{2}$ ¢
5 oz. ag.	2.16	90¢
0.02 Au.	<u>.16</u>	\$35.
	18.39	
Less: Freight	<u>1.20</u>	
Net Mill Return per Ton	\$17.19	
Cost per Ton - Mining	\$13.25	
Development	2.50	
Pumping	<u>1.25</u>	
	\$17.00	

That is, on our mill ore, we face about a break-even operation. We also have an undependable production of siliceous dry ore and small amounts of oxidized lead ores. At the best, we can expect from these sources not more than \$1.00 a ton profit on all production of say, 10,000 tons a month.

The requirements of this mine are simply stated:

1. To regain within one year the ability to produce 10,000 tons of 11% Zinc-Lead Ore per month.

A loan of \$231,420. to be used in purchasing and installing a new pumpingsystem.

2. To expand production within $2\frac{1}{2}$ years to the order of 15,000 tons a month.

\$30,000. a month to be spent over a 30-month period as outlined in Projects A-1 through A-6, E-1 and E-2.

November 3, 1950

A loan of \$115,700. to be used in purchasing and installing new hoisting equipment as outlined in Project A-1.

The objectives of both of these proposals can be fully realized only if present metal prices are maintained. Any decline in prices would necessitate adjustment of our goals.

In addition we submit here three proposals for projects in the Evans, Water Lily, and South Apex properties. Any of these may result in the establishment of a new mine comparable to the Tintic Standard or the Chief Consolidated. These would require three loans as follows:

Evans	\$ 29,400.00
Water Lily	444,500.00
South Apex	593,000.00

10669.00

As to the proposed loans for the Chief Consolidated, we suggest that allocation of 50¢ per ton of mill ore mined to interest and amortization would be suitable. As to those for the Evans, Water Lily and South Apex, thirty per cent of any operating profits from ore bodies encountered might well be devoted to them. We do not care to enter into any mortgage agreements.

Enclosed with this letter are descriptions of each of the projects. We do not include a discussion of the general geology of the district, since Dr. Lovering of the United States Geological Survey, with his many capable assistants, is now in his eighth year of study of the district. We understand that the Survey is to be consulted regarding such proposals as ours. We also understand that the generalized map prepared by Dr. Lovering will be available for your use.

As to the projects, we have confined our maps and discussion to the salient points only, in the expectation that personal examinations will be made by representatives of the Bureau of Mines and the Survey, who will be welcome.

Immediately following this letter are a statistical summary of our current production and costs, a current balance sheet, and a profit and loss statement for the first eight months of 1950. Following these are descriptions of the proposed projects.

At the suggestion of Mr. Julian Feiss of your office, we have sent a copy of this letter with all enclosures to Mr. J. H. East, your Regional Director in Denver.

Mr. Jesse L. Maury, who is regularly employed by us, will act as our representative in Washington in this matter. We request that you consult with him and send a copy of all correspondence to him at 211 Prospect Street, Chevy Chase 15, Maryland.

With my kindest personal regards,

Sincerely yours

David H. H. H.
President

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

Statement showing production data for indicated periods

Chief No. 1 Mine

July to December 31, 1947:

International Smelting & Refining Co.
Sulphide Mill Ores
Lead Ores to Lead Smelter

American Smelting & Refining Co.
Silicious Ores to Copper Smelter

Total

Dry Tons of Ore Shipped	ASSAYS OF ORE SHIPPED				METAL CONTENT				Net Smelter and/or Mill Return
	Ozs. Au. Per Ton	Ozs. Ag. Per Ton	% Pb. Per Ton	% Zn. Per Ton	Ozs. Au.	Ozs. Ag.	Tons Pb.	Tons Zn.	
18,757	.019	6.58	5.40	6.59	354.154	123,437	1,012.31	1,235.86	\$200,847.15
7,178	.032	15.22	12.10	7.46	227.015	109,282	818.52	535.74	202,140.91
3,687	.043	4.26	3.17	--	159.176	15,707	116.87	---	18,113.09
29,622					740.345	248,426	1,947.70	1,771.60	\$421,101.15

Year of 1948:

International Smelting & Refining Co.
Sulphide Mill Ores
Lead Ores to Lead Smelter

Combined Metals Reduction Co.
Sulphide Mill Ores

American Smelting & Refining Co.
Lead Ores to Lead Smelter
Silicious Ores to Copper Smelter

Total

3,952	.019	5.06	4.27	4.88	74.605	19,989	168.66	192.75	\$ 40,689.72
3,419	.025	12.13	11.41	8.61	86.048	41,459	390.00	294.36	101,214.93
70,074	.020	7.30	5.21	6.50	1,369.424	511,457	3,650.58	4,553.40	1,020.883.31
10,215	.020	12.34	10.95	--	218.245	126,075	1,118.45	---	287,142.70
13,938	.033	7.59	3.68	--	454.003	105,736	512.59	---	95,368.53
101,598					2,202.325	804,716	5,840.28	5,040.51	\$1,545,299.19

Year of 1949:

International Smelting & Refining Co.
Sulphide Mill Ores
Lead Ores to Lead Smelter

Combined Metals Reduction Co.
Sulphide Mill Ores

American Smelting & Refining Co.
Lead Ores to Lead Smelter
Silicious Ores to Copper Smelter

U. S. Smelting, Refining & Mining Co.
Lead Ores to Lead Smelter

Total

9,401	.016	5.00	4.95	6.24	147.816	47,033	465.74	586.89	\$ 88,236.36
5,276	.021	15.86	14.47	8.84	112.706	83,684	763.42	466.33	196,968.13
96,364	.019	6.27	5.73	7.13	1,797.123	604,338	5,522.21	6,870.80	1,214,994.26
554	.020	14.27	13.26	--	10.971	7,903	73.45	---	19,997.68
9,844	.021	5.71	3.32	--	202.734	56,251	327.26	---	42,209.11
701	.024	15.85	11.36	--	16.770	11,111	79.64	---	15,946.06
122,140					2,288.120	810,320	7,231.72	7,924.02	\$1,578,351.60

CHIEF CONSOLIDATED MINING COMPANY
608 Dooley Building
Salt Lake City, Utah

Statement showing production data from January 1, 1950
thru August 31, 1950 by months

Chief No. 1 Mine

	Dry Tons of Ore Shipped	ASSAYS OF ORE SHIPPED				METAL CONTENT				Net Smelter and/or Mill Return
		Ozs. Au. per Ton	Ozs. Ag. Per Ton	% Pb. Per Ton	% Zn. Per Ton	Ozs. Au.	Ozs. Ag.	Tons Pb.	Tons Zn.	
<u>January 1950</u>										
Combined Metals Reduction Co.- Sulphide Mine Ore	9,483	.023	6.69	6.48	7.17	214,169	63,428	614.90	679.66	\$ 106,790.84
American Smelting & Refining Co. Siliceous Ores to Copper Smelter	237	.020	29.45	3.51	—	4,739	6,980	8.33	—	4,343.85
<u>February 1950</u>										
Combined Metals Reduction Co.-Sulphide Mill Ore	12,493	.020	5.45	5.49	7.03	247,890	68,113	685.31	877.68	116,397.51
United States Smelting, Refining & Mining Co.-Lead Ore to Lead Smelter	123	.020	10.65	12.47	—	2,460	1,310	15.34	—	2,037.59
<u>March 1950</u>										
Combined Metals Reduction Co.-Sulphide Mill Ore	12,059	.019	7.31	6.51	7.16	229,237	88,144	785.16	863.02	124,220.89
American Smelting & Refining Co. Siliceous Ores to Copper Smelter	53	.045	12.83	4.62	—	2,370	680	2.45	—	384.70
United States Smelting, Refining & Mining Co.- Lead Ore to Lead Smelter	49	.025	5.27	11.94	—	1,218	258	5.85	—	350.56
<u>April 1950</u>										
Combined Metals Reduction Co.-Sulphide Mill Ore	11,204	.019	7.04	7.58	7.11	207,770	78,916	848.92	796.85	123,770.48
American Smelting & Refining Co., Siliceous Ores to Copper Smelter	58	.033	22.53	2.62	—	1,892	1,307	1.52	—	774.48
United States Smelting, Refining & Mining Co.-Lead Ore to Lead Smelter	117	.053	14.84	12.82	—	6,238	1,736	15.00	—	2,290.44
<u>May 1950</u>										
Combined Metals Reduction Co. Sulphide Mill Ore	9,304	.018	6.40	5.95	6.18	168,475	59,571	553.18	574.95	84,843.47
International Smelting & Refining Co.- Lead Ores to Lead Smelter	518	.032	24.02	14.41	19.52	16,823	12,443	74.66	101.10	20,320.52
United States Smelting, Refining & Mining Lead Ore to Lead Smelter	116	.032	15.07	14.34	—	3,763	1,748	16.64	—	2,586.34
<u>June 1950</u>										
Combined Metals Reduction Co. -Sulphide Mill Ore	9,260	.026	5.13	6.29	7.57	239,369	51,053	582.34	700.78	97,958.32
International Smelting & Refining Co. -Lead Ore to Lead Smelter	186	.027	15.00	15.35	15.03	4,974	2,790	28.55	27.96	5,823.64
<u>July 1950</u>										
Combined Metals Reduction Co.- Sulphide Mill Ore	9,706	.024	5.13	5.46	7.23	228,302	49,809	529.99	701.77	87,291.45
International Smelting, & Refining Company- Lead Ore to Lead Smelter	202	.025	12.53	12.95	11.87	5,053	2,532	26.16	23.97	5,040.19
<u>August 1950</u>										
Combined Metals Reduction Co.-Sulphide Mill Ore	8,232	.019	4.76	5.32	7.51	152,887	39,146	437.59	618.58	81,062.20
American Smelting & Refining Co. Siliceous Ores to Copper Smelter	950	.016	2.55	3.58	—	14,967	2,428	34.04	—	3,219.58
International Smelting & Refining Co.- Lead Ores to Lead Smelter	194	.034	19.38	8.12	8.12	6,547	3,760	15.75	15.75	4,065.46
Totals										
	84,544					1,759,143	536,152	5,281.68	5,982.07	\$ 873,572.51

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

Statement showing net sulphide assays of milling ores
shipped during indicated period

Chief No. 1 Mine

	<u>Dry Tons of ore Shipped</u>	<u>Sulphide Lead Assay</u>	<u>Sulphide Zinc Assay</u>
<u>July 1st. to December 31, 1947</u>			
International Smelting & Refining Co. Sulphide Mill Ores	18,757	4.39 %	6.13 %
<u>Year of 1948:</u>			
International Smelting & Refining Co. Sulphide Mill Ores	3,952	2.88 %	4.24 %
Combined Metals Reduction Co. Sulphide Mill Ores	70,074	3.95 %	5.83 %
<u>Year of 1949:</u>			
International Smelting & Refining Co. Sulphide Mill Ores	9,401	3.60 %	5.47 %
Combined Metals Reduction Co. Sulphide Mill Ores	96,364	4.82 %	6.65 %
<u>January 1st thru August 31, 1950:</u>			
Combined Metals Reduction Co. Sulphide Mill Ores:			
January	9,483	5.77 %	6.70 %
February	12,493	5.02 %	6.68 %
March	12,059	5.34 %	6.67 %
April	11,204	6.14 %	6.56 %
May	9,304	4.59 %	5.64 %
June	9,260	5.01 %	7.01 %
July	9,706	4.21 %	6.54 %
August	8,232	4.40 %	6.79 %

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building,
Salt Lake City, Utah

Statement giving recoverable metals under assumed recovery factors

	Chief No.1 Mine					
	Lead Content			Zinc Content		
	Total Content (Tons)	Assumed Recovery Factor	Recoverable Content (Tons)	Total Content (Tons)	Assumed Recovery Factor	Recoverable Content (Tons)
<u>July 1 to Dec.31,1947</u>						
Sulphide Mill Ores	1,012.31	86%	870.59	1,235.86	77%	951.61
Lead Ores to Lead Smelter	818.52	95%	777.59	535.74	81%	433.95
Siliceous Ores to Copper Smelter	, 116.87	70%	81.81	--	--	--
Totals	1,947.70		1,729.99	1,771.60		1,385.56
<u>1948</u>						
Sulphide Mill Ores	3,819.24	86%	3,284.55	4,746.15	77%	3,654.54
Lead Ores to Lead Smelter	1,508.45	95%	1,433.03	294.36	81%	238.43
Siliceous Ores to Copper Smelter	512.59	70%	358.81	--	--	--
Totals	5,840.28		5,076.39	5,040.51		3,892.97
<u>of 1949</u>						
Sulphide Mill Ores	5,987.95	86%	5,149.64	7,457.69	77%	5,742.42
Lead Ores to Lead Smelter	916.51	95%	870.68	466.33	81%	377.73
Siliceous Ores to Copper Smelter	327.26	70%	229.08	--	--	--
Totals	7,231.72		6,249.40	7,924.02		6,120.15

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

Statement giving Recoverable Metals under Assumed Recovery Factor

Chief No. 1 Mine

	LEAD CONTENT			ZINC CONTENT		
	Total Content (Tons)	Assumed Recovery Factor	Recoverable Content (Tons)	Total Content (Tons)	Assumed Recovery Factor	Recoverable Content (Tons)
<u>JANUARY, 1950</u>						
Sulphide Mill Ores	614.90	86 %	528.81	679.66	77 %	523.34
Siliceous Ores to Copper Smelter	8.33	70 %	5.83	---	--	---
<u>FEBRUARY, 1950</u>						
Sulphide Mill Ores	685.31	86 %	589.37	877.68	77 %	675.81
Ores to Lead Smelter	15.34	95 %	14.57	--	--	---
<u>MARCH, 1950</u>						
Sulphide Mill Ores	785.16	86 %	675.24	863.02	77 %	664.53
Siliceous Ores to Copper Smelter	2.45	70 %	1.72	---	--	---
Lead Ores to Lead Smelter	5.85	95 %	5.56	---	--	---
<u>APRIL, 1950</u>						
Sulphide Mill Ores	848.92	86 %	730.07	796.85	77 %	613.57
Siliceous Ore to Copper Smelter	1.52	70 %	1.06	---	--	---
Lead Ores to Lead Smelter	15.00	95 %	14.25	---	--	---
<u>MAY, 1950</u>						
Sulphide Mill Ores	553.18	86 %	475.73	574.95	77 %	442.71
Lead Ore to Lead Smelter	91.30	95 %	86.74	101.10	81 %	81.89
<u>JUNE, 1950</u>						
Sulphide Mill Ores	582.34	86 %	500.81	700.78	77 %	539.60
Lead Ores to Lead Smelter	28.55	95 %	27.12	27.96	81 %	22.65
<u>JULY, 1950</u>						
Sulphide Mill Ores	529.99	86 %	455.79	701.77	77 %	540.36
Ores to Lead Smelter	26.16	95 %	24.85	23.97	81 %	19.42
<u>AUGUST, 1950</u>						
Sulphide Mill Ores	437.59	86 %	376.33	618.58	77 %	476.31
Siliceous Ores to Copper Smelter	34.04	70 %	23.83	---	--	---
Lead Ores to Lead Smelter	15.75	95 %	14.96	15.75	81 %	12.76
<u>Totals</u>	<u>5,281.68</u>		<u>4,552.64</u>	<u>5,982.07</u>		<u>4,612.95</u>

**LARGE
FORMAT
DOCUMENTS
AT END OF
FILE**

CHIEF CONSOLIDATED MINING COMPANY
PLUTUS MINING COMPANY AND EUREKA MACHINERY AND SUPPLY COMPANY
Salt Lake City, Utah

Consolidated Balance Sheet as at August 31, 1950

ASSETSCURRENT ASSETS:

Cash on hand and in books (demand deposits)	29,054.23
United States Government Bonds at Cost (Par Value \$250,000.00)	252,687.50
Due from Smelters	66,656.29
Sundry Accounts Receivable	17,644.22
Less: Reserve for bad debts	430.07
Inventories - Parts, Supplies and Lime Products	17,214.15
	109,102.03

Total Current Assets

474,714.20

INVESTMENTS:

Investments in common stocks- at cost	76,071.11
Less: Valuation Reserve	11,359.30
Advances to Affiliated Companies	64,711.81
	779.05

Total Investments

65,490.86

FIXED ASSETS:

Plant and Equipment	581,281.48
Less: Reserve for Depreciation	336,458.59
Mining Claims and Properties	244,822.89
	3,168,948.28

Total Fixed Assets

3,413,771.17

OTHER ASSETS:

Note Receivable - Not Current	10,878.81
Unexpired Insurance	2,286.15
Insurance Premium Deposit	2,150.00

Total Other Assets

15,314.96

\$3,969,291.19LIABILITIESCURRENT LIABILITIES:

Accounts Payable	81,294.87
Accrued Payroll	35,150.27
Accrued Taxes	25,720.66
Employees Savings Bond Deductions	806.45

Total Current Liabilities

142,972.25

OTHER LIABILITIES:

Unclaimed Dividends

7,680.25

RESERVES:Reserve for contingencies and possible
additional taxes

80,000.00

MINORITY STOCKHOLDERS' EQUITY IN PLUTUS
MINING COMPANY:

Capital Stock - 8,642 shares	8,642.00
Capital Stock Assessments	14,214.97
Deficit (Exhibit "B")	(21,640.30)

Total Minority Interest

1,216.67

CAPITAL STOCK AND SURPLUS:Capital Stock:

Common - Non-Assessable, authorized 1,500,000 shares of a par value of \$1.00 per share	1,500,000.00
Less: Unissued 275,000 shares	275,000.00
Treasury 23,835 shares	23,835.00
	298,835.00

Total Capital Stock Outstanding
1,201,165 shares

1,201,165.00

Surplus:

Earned Surplus (Exhibit "B")	1,838,533.95
Stock Premium, less discount	697,723.07
	2,536,257.02

Total Capital Stock and Surplus3,737,422.02\$3,969,291.19

CHIEF CONSOLIDATED MINING COMPANY
 PLUTUS MINING COMPANY AND EUREKA MACHINERY AND SUPPLY COMPANY
 Salt Lake City, Utah

Consolidated Statement of Income and Surplus for the Eight
 Month Period ended August 31, 1950

Income:

Sales and Royalties on Ore and Lime Products \$ 923,171.66

Expenses:

Operating and Administrative \$ 943,304.62
 General Taxes 15,317.47
 Payroll Taxes 11,774.59

Total 970,396.68

Net Operating Profit (Loss) before Depreciation (47,225.02)

Less: Depreciation 39,495.47

Net Operating Profit for Eight month period (86,720.49)

Other Income:

Interest Received 2,938.86
 Gain on Sale of United States Government Bonds 257.81

Total 3,196.67

Gross Income (Loss) (83,523.82)

Other Deductions:

Net Income (Loss) to Surplus (83,523.82)

Consolidated Surplus January 1, 1950 1,900,417.47

Consolidated Surplus August 31, 1950 \$ 1,816,893.65

Segregated as follows:

Minority stockholders of Plutus Mining Co., (Deficit) (21,640.30)
 Applicable to Chief Consolidated Mining Company \$ 1,838,533.95

Total \$ 1,816,893.65

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

RECAPITULATION OF PROJECTS

	Name	Total Cost	COSTS		FOOTAGE				Men Required	Months Time Required
			Equipment	Exploration	Shafts	Laterals	Raising	Drilling		
A	Chief Consolidated - New Pumping System	\$ 231,420.00	\$231,420.00	\$ ---	---	---	---	---	Largely Contracted	
A-1	" " - 18-411 Winze Sinking & Lateral Development on 3100	455,700.00	135,700.00	320,000.00	400	5,000	1,000	---	12	30 x
A-2	" " - 27-Winze Fissure on 1400	66,500.00	11,000.00	55,500.00	---	1,200	500	---	4	10
	" " - 27-Winze Fissure and Centennial Fault on 2500	166,000.00	7,000.00	159,000.00	---	4,550	750	---	4	24 ✓
	" " - Beck and Leadville Intersection on 1200	112,000.00	11,000.00	101,000.00	---	2,700	500	---	4	18
A-5	" " - 2200 West to Gemini	167,000.00	11,000.00	156,000.00	---	4,600	600	---	4	18
A-6	" " - No. 2 Shaft to Yankee- Centennial Intersec- tion, 1000 Level	49,000.00	4,000.00	45,000.00	---	1,150	150	---	4	6
B	Water Lily	444,500.00	149,000.00	295,500.00	---	4,800	1,600	4,000	15	48 x
C	South Apex	593,000.00	149,000.00	444,000.00	1,100	5,000	1,000	2,000	15	48 x
D	Evans	29,400.00	---	29,400.00	---	---	---	4,200	4	12
E-1	Atlas South - Chief 1400 Level	42,000.00	11,000.00	31,000.00	---	700	200	---	6	6
	Atlas North - Chief 1600 Level	42,250.00	1,000.00	41,250.00	---	1,000	---	4,500	2	12
Total		\$2,398,770.00	\$721,120.00	\$1,677,650.00	1,500	30,700	6,300	14,700	74	

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

P R O J E C T A

New pumping System to Handle 7000 gallons a minute
from 3100-Level Bottom to 1800-Level Drainage

Our present pumping system was designed to handle some 2500 gallons a minute with existing facilities. All facilities are now being used to handle 4700 gallons a minute. Further development will probably cause a total flow of 7,000 gallons a minute.

The reasons for this are illustrated in the two sections labelled Exhibit A and A-1, which show some of the workings on two of our major ore-runs. Our ore-runs rake to the north. In many places our mining down the rake has brought us to a thin, east-west, nearly vertical, probably post-mineral dike. This dike serves as a dam for waters to the north. The formations are fairly well dewatered to the 2700-level south of the dike. North of it, the water stands at the 2400-level. Drill holes through the dike on the 2700-level give water pressures of 100 pounds per square inch. We have been unable to follow the many ore-showings north of the dike because our pumping system can handle no more water.

Installation of this new pumping system will require one year.

The restriction of our development to ground south of the dike has now brought us to the point that we must reduce our output from some 10,000 tons of mill ore a month to some 6,000. Until the new pumping system is in operation, we will probably be unable to restore our rate of production to 10,000 tons a month.

Recapitulation of costs of new pumping system to handle 7000 gallons
per minute from 3100 Level to the 1800 Level drainage.

Electrical System Installed	\$78,900.00
Pumping Equipment Installed	126,020.00
Sumps, Extension of drainage workings and enlargements	<u>26,500.00</u>
Total. . . .	\$231,420.00

ELECTRICAL SYSTEM REQUIRED TO SUPPLEMENT PRESENT SYSTEM
To be installed thru No. 2 Shaft

BILL OF MATERIAL

TRANSFORMERS LOCATED AT 2300 FT. LEVEL 4160 V SYSTEM FROM
SURFACE SWITCH HOUSE TO 2300 FT. SWITCH ROOM

ITEM	DESCRIPTION	AMOUNT
1.	Lightning Arrester, Station Type 8V, Outdoor Single Pole Units, Type S-MO-1533123 1 set	1,513.60
2.	Power Fuses, Mounting and Fuse Units, Type DBA-1 "DE-ION" Dropout - 46,000 Volts 3 ea.	260.00
3.	Transformer - 3,000 KVA, 44,000 Volt Primary, 4160 Volt Secondary, Type AOP3, 3 Phase, 60 Cycles, Class A, Insulated for 55° C Rise Above 400 C Ambient, with 4 2 1/2% full capacity taps below normal on High Voltage side, complete with all standard accessories in accordance with NEMA Standards for Power Transformers - Oil Filled 1 ea.	11,694.00
4.	Oil Circuit Breaker, 1200 Amp., 4160 Volt, 3 Pole, 3 Phase, 50,000 Amp.-RMS - Interrupting Capacity Type D-20 Main Breaker 1 ea.	740.00
5.	Oil Circuit Breaker, 800 Amp., 4160 Volt, 3 Pole, 3 Phase, 25,000 Amp. - RMS - Interrupting Capacity Type D-20 - Breaker on Feeder Cables at Surface Switch House 2 ea.	822.50
6.	Lightning Protection, Cable Type, S-MO-1114725 Type FR Inerteen Capacitor, 3 Phase, 4160 Volt and 3-Type FD Special S-MO-1533190 Lightning Arresters, on Cables at Surface Switchyard 2 sets	489.60
7.	Oil Circuit Breaker, 800 Amp., 4160 Volt, 3 Pole, 3 Phase, 25,000 KVA - 1c, Type EH7 on Feeder Cables at 2300 ft. Level on High Voltage Side of Transformer Bank 2 ea.	580.00
8.	Transformers - 590 KVA, 4160 Volt Primary, 2400 Volt Secondary Single Phase, Pyranol insulated Auto-Transformer Type HS-60 full 590 KVA Output 6 ea.	10,829.00
9.	Oil Circuit Breaker, 600 Amp, 2400 Volt, 3 Pole, 3 Phase, 25,000 KVA-1c, Type EH7, Manually Operated, at Low Voltage Side of Transformer - 2300 ft. Level 3 ea.	870.00
10.	Cable - Single Conductor 2/0 AWG, 5 KV, 10/64 Gensorene and 4/64 Neoprene Insulation, Non-Shielded 39,000 ft.	17,021.00

ITEM	DESCRIPTION	AMOUNT
11.	Cable - Single Conductor, 1/0 AWG, 5 KV, 10/64 Gencorona and 1/64 Neoprene Insulation Non-Shielded 3600 ft.	1,087.20
12.	Cable - 3/8" Copperweld Messenger Cable 12400 ft.	1,041.60
13.	Oil Circuit Breakers - 600 Amp., 2400 Volt, 3 Pole, 3 Phase, 15,000 KVA 1-c. (600 HP Motor) 2 ea.	580.00
14.	Oil Circuit Breaker - 400 Amp., 2400 Volt, 3 Pole, 3 Phase, 10,000 KVA 1-c. (250 HP Motor) 1 ea.	180.00
15.	Oil Circuit Breaker - 400 Amp., 2400 Volt, 3 Pole, 3 Phase, 15,000 KVA 1-c. (450 HP Motor) 1 ea.	319.00
16.	Reduced Voltage Starters - Class 11-600, 2400 Volt, for 600 Hp Motor 2 ea.	6,457.00
17.	Magnetic Starter - Across the Line Starters for 250 HP, 2400 Volt Motors 1 ea.	669.15
18.	Magnetic Starter - Across the Line Starters for 450 HP, 2400 Volt Motors 1 ea.	845.00
19.	Timing Relays - G. E. CR2820-1740, one for 600 HP Motor and one for 450 HP motor 2 ea.	104.00
20.	Capacitors - 700 KVAR for Power Factor Correction - 1 Unit set	4,000.00
21.	Recloser on 44 KV Circuit Located in Switch House Surface 1 ea.	1,325.00
22.	Lightning Protection on Rotation Equipment 11 set	969.65
23.	Miscellaneous	1,500.00
Total Cost of Material		\$63,897.38
Cost of Installation of Above Electrical Equipment		\$15,000.00
Total Cost of Electrical System		\$ 78,897.38

Pumping system required to supplement present system. New system will handle 7000 GPM from 3100 Level to 1800 Level Gemini Sink

<u>Bill of Materials</u>		
	<u>Description</u>	<u>Amount</u>
<u>Item 1.</u>	600 HP Horizontal Pumps, Byron Jackson, 8" x 10" x 14" DVS or their equivalent complete with motors at 2300 Level 2 ea.	\$21,475.00
	Installation Costs	1,500.00
<u>Item 2.</u>	450 HP Submersible 18CKXL pumps, Type H and motors, Byron Jackson complete with 2 sets starting equipment (no cable or pipe required) at 2700 Level 3 ea.	33,640.00
	Installation Costs	1,500.00
<u>Item 3.</u>	450 HP Submersible 18CKXL pumps and Type H motors complete with 1350 feet of 10" Victaulic pipe, 2550 feet 1/0 cable, 3 sets of starting equipment at 3100 Level 3 ea.	56,075.00
	Installation Costs	2,000.00
<u>Item 4.</u>	16" I.D. Victaulic Spiralweld pipe - Cold tar prime, No. 8 gage complete with couplings 2300 Level to 1800 Level drainage - 1140 ft.	8,630.00
	Installation Costs	1,200.00
Total		\$126,020.00

Excavation required for new 7000 GPM pump system

	<u>Description</u>	<u>Amount</u>
<u>Item 1.</u>	2300 Sump - station to accommodate 600 HP pumps and electrical equipment to include 6 auto-transformers 4160 V to 2300 Volts	\$8,000.00
<u>Item 2.</u>	2700 Sump - station to accommodate 450 HP pumps and local electrical equipment	8,000.00
<u>Item 3.</u>	150 feet raising @ \$30.00 to connect a raise thru to 1800 Level to accommodate new 16" pump column	4,500.00
<u>Item 4.</u>	400 feet slabbing @ \$15.00 old drifts to accommodate 16" pump column	6,000.00
	Total	<hr/> \$26,500.00

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

PROJECT A - 1

18-411 Winse Sinking and Lateral Exploration
on 3100-Level

	<u>Estimated Cost</u>
Winse Sinking-----400 feet @ \$350.00	\$140,000.00
Drifting-----4000 feet @ \$ 30.00	120,000.00
Crosscutting-----1000 feet @ \$ 30.00	30,000.00
Raising-----1000 feet @ \$ 30.00	30,000.00
	<u>\$320,000.00</u>
<u>Equipment:</u>	
Hoist, etc. (See detail following)	115,700.00
Miscellaneous	<u>20,000.00</u>
	<u>\$135,700.00</u>
<u>Total Cost</u>	<u>\$455,700.00</u>

Mar 12 -

Time 2 $\frac{1}{2}$ years

TARGET: Favorable beds geometrically aligned with four present ore runs.

GEOLOGICAL SUMMARY: A narrow, east-west dike extends across the entire north part of the Chief mine. This dike is monzonitic, and seldom over one foot wide. Closely associated with this dike is the strong, sub-parallel, nearly vertical Leadville fault. On this fault the north block dropped down 800 feet. The dike has been encountered in each of our present four main stoping operations.

Caving of the dike, and the high water level, have prevented more than a minor amount of development beyond this dike-fault. However, from the development done, ore seems to penetrate and extend beyond the dike.

The down-dropped block on the north side of the Leadville fault results in a duplication of the 900 feet of Ordovician Bluebell dolomite that has been the main host rock in the Chief mine for the past twenty years.

The Mammoth-Chief ore run has been stoped contiguously for over two miles, with only minor directional changes when it has crossed major faults. The present feeling is that this structure will present no greater hazard than those encountered to the south.

EXHIBIT A
1940 Winze and "C" Sump

DESCRIPTION OF SHOWINGS OF ORE NORTH OF DIKE

<u>LETTER</u>	<u>TYPE</u>	<u>FEET WIDTH</u>	<u>OUNCES SILVER</u>	<u>OUNCES GOLD</u>	<u>% LEAD</u>	<u>% ZINC</u>	
A	Drill Hole	15	1.1	0.01	0.5	3.0	8
B	Stope	10	3.0	0.02	5.0	5.0	10
C	Drill Hole	7	0.3	0.01	0.2	7.3	2.5
D	Drill Hole	6	3.0	0.02	7.0	5.2	12.7
E.	Stope	15	6.0	0.02	4.0	9.0	13.

EXHIBIT A
BECK FAULT ZONE

DESCRIPTIONS OF SHOWINGS OF ORE NORTH OF DIKE

<u>LETTER</u>	<u>TYPE</u>	<u>FEET WIDTH</u>	<u>OUNCES SILVER</u>	<u>OUNCES GOLD</u>	<u>% LEAD</u>	<u>% ZINC</u>	
A	Drift	10	6.0	0.02	6.0	6.0	✓ 14
B	Stope	7	4.0	0.02	6.0	12.0	✓ 18
C	Drill Hole	20	6.0	0.02	6.0	7.0	✓ 13
D	Drill Hole	18	0.8	0.01	2.0	2.4	14.2
E	Drill Hole	2	0.5	Tr	2.6	3.8	6.3

Cost of new hoist installation required at 1800 Level 18-411 Winze to
replace existing equipment to allow hoisting from 3100 Level.

	<u>Description</u>	<u>Amount</u>
<u>Item 1.</u>	Nordberg double drum hoist complete with motor and electrical controls, 350 HP, 20,500 lbs. rope pull, 1000 ft/min., maximum 3000 foot depth	\$85,000.00
<u>Item 2.</u>	Sheave wheels, pillow blocks, hoist ropes, idlers, etc.	5,700.00
<u>Item 3.</u>	Excavation of hoist room and rope raises	15,000.00
<u>Item 4.</u>	Installation costs - hoist, electrical equipment, sheaves, idlers and safety devices	10,000.00
	Total	<hr/> \$115,700.00

CHIEF CONSOLIDATED MINING COMPANY
608 Deely Building
Salt Lake City, Utah

PROJECT A - 2

27-Winze Fissure on 1400

	<u>Estimated Cost</u>
<u>Footage</u>	
Drifting-----500 feet @ \$30.00	\$15,000.00
Crosscutting-----700 feet @ \$30.00	21,000.00
Raising-----500 feet @ \$30.00	15,000.00
Rehabilitation-----1500 " @ \$ 3.00	<u>4,500.00</u>
	\$55,500.00
<u>Equipment</u>	
Mucking Machine	3,000.00
Drifters and Bars	2,000.00
Locomotive	5,000.00
Ventilation	<u>1,000.00</u>
	\$11,000.00
<u>Total Cost</u>	\$66,500.00
Men 4	
Time 10 months	

TARGET: Sugary member of Mississippian Gardner Formation in zone of the 27 winze fissure.

The north-east striking 27 winze fissure system has been productive over a strike length of 2000 ft., and a vertical range of 1000 ft.

In the 27 winze fissure zone, about one-half of the production has come from a 100 ft. flat-lying member of the Mississippian Gardner formation, and the balance from older rocks.

About mid-way horizontally in the plane of 27 Winze fissure, a flat normal crossfault displaces the 100 ft. productive member of the Gardner up to the east about 300 ft. Stopping continues directly across this crossfault into older rocks, but the stopes become smaller. No where east (foot wall) of the crossfault in 27 winze fissure has the bed that has yielded over half of the production been explored.

CHIEF CONSOLIDATED MINING COMPANY
608 Deely Building
Salt Lake City, Utah

PROJECT A - 3

27-Winze Fissure and Centennial Fault on 2500 Level

	Estimated Cost
Drifting-----2,850 ft. @ \$30.00	\$ 85,500.00
Crosscutting-----1,700 ft. @ \$30.00	51,000.00
Raising-----750 ft. @ \$30.00	<u>22,500.00</u>
	\$159,000.00
<u>Equipment</u>	
Hoisting Machine	\$ 3,000.00
Drifters and Bars	2,000.00
Relocation	<u>2,000.00</u>
	7,000.00
<u>Total Cost</u>	<u>\$166,000.00</u>
Man 4	
Time 2 years	

TARGET: Drift 27 Winze fissure. Drift Centennial Fault.

GEOLOGICAL SUMMARY: The centennial fault is a major structure in the district, responsible for at least 20 million dollars worth of ore. The hospitable Ordovician Bluebell dolomite is expected to be developed against the fault at this elevation. Indications are that the Centennial fault is a channelway for solution at depth, and the plane of the fault is undeveloped for 700 feet above this selected elevation.

2. 27 WINZE FISSURE:

The 27 winze fissure is closely associated with a large production of ore from the Chief Mine. This ore feeding fissure lies between and parallel to the Centennial and Beck faults. It has been developed and is producing to the east at approximately this elevation; however, the plane of the fault is undeveloped, with minor exceptions, for 700 ft. vertically above the selected elevation. From the axis of the Tintic syncline flat bedded Bluebell dolomite passes to a steep bedded attitude on the west limb of the syncline. Here, maximum stress strain, with attendant brecciation, will produce ground potentially receptive to ore solutions.

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

PROJECT A - 4

Beck and Leadville Intersection on 1200

	<u>Estimated Cost</u>
<u>Footage</u>	
Rehabilitation-----1700 feet @ \$ 3.00	\$ 5,000.00
Drifting-----1500 feet @ \$30.00	45,000.00
Crosscutting-----1200 feet @ \$30.00	36,000.00
Raising-----500 feet @ \$30.00	<u>15,000.00</u>
	101,000.00
<u>Equipment</u>	
Mucking Machine	3,000.00
Bars and Bars	2,000.00
Five	5,000.00
tion	<u>1,000.00</u>
	11,000.00
<u>Total Cost</u>	<u>\$112,000.00</u>
Men 4	
Time 1½ years	

TARGET: Intersection Beck and Leadville Faults.

GEOLOGICAL SUMMARY:

The wedge of ground formed by the acute angle intersection of the Leadville and Beck Faults presents broken, open ground that is very hospitable to ore deposition. This wedge of ground below this project, has accounted for upwards of 25% of the Chief production during 5 years. The wedge of ground at the 1200 Level has Mississippian Gardner limestone that are extremely susceptible to ore deposition.

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

P R O J E C T A - 5

2200 West to Gemini

Footage

Crosscutting-----	2500 feet @ \$30.00	\$ 75,000.00
Drifting-----	2100 feet @ \$30.00	63,000.00
Raising-----	600 feet @ \$30.00	<u>18,000.00</u>
		156,000.00

Equipment

Mucking Machine	\$ 3,000.00
Drifters and Bars	2,000.00
Locomotive	5,000.00
Ventilation	<u>1,000.00</u>
	11,000.00

Total Cost

\$167,000.00

Men 4
Time 1½ years

TARGET: Intersection of 6 Northerly trending ore channel fissures with the Leadville Fault

GEOLOGICAL SUMMARY: The Chief north trending ore channel is in general located in the relatively flat beds of the Tintic syncline while the Gemini north trending ore channel, 2000 ft. west, is, in general, located in the steep limb of the syncline. The Leadville fault which crosses the syncline gives strong indication of being the main feeding fault of the Chief ore body. It is proposed to examine 5 northerly trending channels between the Chief and Gemini ore runs near the intersection with the Leadville fault, at the horizon where the hospitably favorable Bluebell dolomite changes from flat to steep beddings. The end of the Gemini ore channel presents a geometrical projection for continued production of ore that at one extremity rakes down gradually to the north. This ore channel from the south end has been stoped continuously for nearly 2 miles.

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

PROJECT A - 6

No. 2 Shaft to Yankee-Centennial Intersection

	<u>Estimated Cost</u>
Drift Cutting	\$ 6,000.00
Drifting-----950 feet @ \$30.00	28,500.00
Crosscutting-----200 feet @ \$30.00	6,000.00
Raising-----150 feet @ \$30.00	<u>4,500.00</u>
	45,000.00
<u>Equipment</u>	
Drifter and Bar	1,000.00
Mucking Machine	<u>3,000.00</u>
	4,000.00
<u>Total Cost</u>	<u>\$ 49,000.00</u>
Men 4	
Time 6 months	

TARGET: Intersection of Centennial-Yankee Faults with Gardner limestone.

GEOLOGICAL SUMMARY:

A gentle fold pitching south is bordered on two sides by intersecting faults. These two faults, the NE Centennial and the NW Yankee, each account for considerable tonnage of ore in the district. At 5750 ft. elevation this intersection presents, in the wedge, a hospitable limestone member of the Gardner, stratigraphically beneath an impervious shale member of the Gardner formation. The intersection of this favorable bed and the faults has been drilled, with ore found in the hole as predicted. It is proposed to drift to the same intersection, 100 ft. below the bottom of the ore found in the diamond drill hole.

CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

P R O J E C T B

Water Lily

Footage

Retimbering Shaft -----	1500 feet @ \$35.00	\$ 52,500.00
Rehabilitation of Drift-----	1200 feet @ \$2.50	3,000.00
Drifting-----	4500 feet @ \$35.00	157,500.00
Crosscutting-----	300 feet @ \$35.00	10,500.00
Raising-----	1600 feet @ \$35.00	56,000.00
Underground Drilling-----	4000 feet @ \$ 4.00	16,000.00

295,500.00

Equipment

and Installation
on Surface

85,000.00

64,000.00

149,000.00

Total Cost

\$444,500.00

Men 15

Time 4 years

TARGET: The intersection of either of two parallel northeast fissures with a strong east-west fault, in an area of limestone adjacent to quartzite covered by igneous flows.

MINERAL SUMMARY:

The 5°N North Lily fissure system, for over 2 miles on the surface, is marked by strong lineation and frequent pebble dikes. The intersection of the North Lily fissure system with the east-west Homansville fault presents a very favorable target, in that either or both faults were capable of guiding mineralizing solutions into the intersection area where the ground would be brecciated and properly prepared for ore deposition. About 1½ miles to the southwest from the target, along this North Lily fissure system, this fissure extends into the North Lily mine and is apparently responsible for 95% of that \$5,000,000 ore body. The Homansville fault drops the north side, with respect to the south, 3500 ft. and places Ordovician dolomite on the north opposite Cambrian quartzite on the south. This structural condition, with strong pyritic alteration over it, presents geological capabilities of developing ore.

1700 ft. north-west of the North Lily system and parallel to it is a similar zone named the Baltimore fissure system. The intersection of this system with the Homansville fault presents the same geological conditions as previously described.

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Salt Lake City, Utah

P R O J E C T C

South Apex

	<u>Estimated Cost</u>
Drilling-----2,000 feet @ \$ 7.00	\$ 14,000.00
Shaft Sinking-----1,100 feet @ \$200.00	220,000.00
Drifting & Crosscutting-----5,000 feet @ \$ 35.00	175,000.00
Raising-----1,000 feet @ \$ 35.00	<u>35,000.00</u>
	444,000.00
<u>Equipment</u>	
Hoist and Installation	85,000.00
Surface	<u>64,000.00</u>
	149,000.00
<u>Total Cost</u>	<u>\$593,000.00</u>

Men 15

Time 4 years

TARGET: The middle Ophir limestone faulted against quartzite in an area of crossing fissures covered by igneous rocks.

GEOLOGICAL SUMMARY:

The east-west, north dipping Teutonic fault, with a normal displacement of 450 ft., places Cambrian middle Ophir limestone on the north opposite Cambrian Tintic quartzite on the south. A detailed surface alteration study in this area, made by the U. S. Geological Survey, shows a strong pyritic alteration halo over the target, surrounded by calcitic alterations. Structural conditions, stratigraphic controls, and surface alteration over this area present a similarity to the \$77,000,000 blind Tintic Standard ore body, located 1 1/2 miles to the south.

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P R O J E C T D

Evans

Estimated
Cost

Footage

Surface Drilling -----4,200 feet @ \$7.00

\$ 29,400.00

Equipment

No equipment (contract drilling)

Total Cost

\$ 29,400.00

Men 4

Time 1 year

(1) Altered Area

(2) Two East-West Faults

GEOLOGICAL SUMMARY:

(1) Two hundred feet north of the Beck fault, very strongly altered Ordovician Ajax dolomite was observed, that gave strong indications of hydrothermal alteration. It is proposed to diamond drill a cone of holes from the surface around this area to determine its extent and source.

(2) A flat diamond drill hole is proposed from a south tunnel level to determine the extent of mineralization resulting from two cross east-west faults. East-west faults in the Centennial Eureka Mine, 2300 feet to the east, were responsible for a large percentage of that mine's production.

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Salt Lake City, Utah

PROJECT E - 1

Plutus South - Chief 1400 Level

	<u>Estimated Cost</u>
<u>Footage</u>	
Drifting-----500 feet @ \$30.00	\$15,000.00
Crosscutting-----200 feet @ \$30.00	6,000.00
Raising-----200 feet @ \$50.00	<u>10,000.00</u>
	31,000.00
<u>Equipment</u>	
Mucking Machine	\$ 3,000.00
Drifters and Bars	2,000.00
Locomotive	5,000.00
Ventilation	<u>1,000.00</u>
	11,000.00
<u>Total Cost</u>	<u>\$42,000.00</u>
Men 6	
Time 6 months	

TARGET: Geometrical Continuation of the Plutus Ore Run.

GEOLOGICAL SUMMARY:

Up the dip of the limestone beds, in the Plutus ore channel, a face of ore is exposed. This ore is at present unobtainable due to caving and to the severe ore handling problem in the Plutus. This ore will very probably extend a minimum of 400 ft. up to the south, to connect with other stoping.

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P R O J E C T E - 2

Plutus North - Chief 1600 Level

	<u>Estimated Cost</u>
<u>Footage</u>	
Drilling----- 4,500 feet @ \$ 2.50	\$11,250.00
Drifting, Crosscutting or	
Raising----- 1,000 feet @ \$30.00	<u>30,000.00</u>
	41,250.00
<u>Equipment</u>	
Drifter and Bar	<u>\$ 1,000.00</u>

<u>Total Cost</u>	<u>\$42,250.00</u>
-------------------	--------------------

Men 2

Time 1 year

TARGET: Geometrical Continuation of the Plutus ore run.

GEOLOGICAL SUMMARY:

A small amount of development work has been done in an effort to locate the northward continuation of the Plutus ore run. This project calls for a drilling program to locate the downward continuation of the Plutus Ore Channel.

November 26, 1950

Dr. James Boyd
Acting Deputy Administrator
Defense Minerals Administration
Department of the Interior

Dear Dr. Boyd;

This letter is to present a supplemental proposal to those accompanying our letter of November 3, 1950, for the expansion of production of lead and zinc ores in the Tintic Mining District.

It has to do with proposed exploration of our Apex Standard property. We would classify this project with the Evans, Water Lily, and South Apex projects, in that it may well result in the establishment of a new mine comparable to the Tintic Standard or Chief Consolidated.

In this case also, we suggest that thirty percent of any operating profits from ore bodies encountered might well be devoted to interest and amortization of an enabling loan.

If we add the factors of this project to our recapitulation of November 3rd, the totals would be as follows:

Costs

Total Cost	\$3,214,770
Equipment	870,120
Exploration	2,344,650

Footage

Shafts	2,700
Laterals	39,700
Raising	6,500
Drilling	20,700

Men Required 89

We have again sent a copy of this letter and enclosures to Mr. East in Denver. Mr. Maury will also act as our Washington Representative in this matter.

With my kindest personal regards.

Sincerely yours,

President

PROJECT F

APEX STANDARD

Footage

Drilling, 6000 feet @ \$7.00	\$ 42,000
Shaft Sinking, 1200 feet @ \$200	240,000
Drifting and Crosscutting, 9000 feet @ \$35	315,000
Raising, 2000 feet @ \$35	<u>70,000</u>
	\$667,000

Equipment

Hoist and Installation	\$ 85,000
Other Surface Equipment	<u>64,000</u>
	\$149,000

Total Cost \$816,000

Men . . 15

Time . . 5 Years

TARGET:

The target is the mineralized zone which occurs in the carbonate rocks in the footwall of the north-south trending East Tintic thrust fault, where the thrust is intersected by a mineralized north-east trending fault system. Known Pb-Zn-Ag mineralization in carbonate rocks of this footwall, and the intense pyritic alteration of the overlying lavas are features which make this target a very favorable exploration project.

GEOLOGICAL SUMMARY:

It has been discovered recently that over 6000 feet of favorable carbonate host rocks exist underneath the lava cover east of the northerly trending East Tintic thrust fault. Trending toward this carbonate foot-wall block, from the west, are a number of mineralized high and low angle faults which have been associated with ore elsewhere in the district. The north-east faults are the Eureka Standard, the Apex Standard, and the Teutonic faults. The intersection of the north-east fault system with the East Tintic thrust fault creates a new area where the ground has favorably been prepared for ore.

Drilling in the northern part of the target area has disclosed that sphalerite and galena mineralization exist in the underlying dolomites of the footwall block. The drilling also disclosed favorable intense late stage pyritic alteration throughout the overlying lava cover. Other large outcrops of intense pyritic alteration occur south of the target area and line up with the projected intersection of the north-east fault system with East Tintic thrust fault. These altered areas indicate that favorable hydrothermal activity has occurred at depth along the structures.

The target area lies 4500 feet Southeast of the Tintic Standard ore body which produced over \$60,000,000 in lead-zinc values and which was discovered as a blind ore body underneath the intensely altered lava blanket. The Eureka Standard Mine, 4000 feet to the southwest of the target area produced over \$13,000,000 from ore bodies occurring on the same Eureka Standard fault that is associated with the target area.

The favorable combination of known mineralization at depth, structures associated with known ore preparing the ground, and intense halos of alterations in the overlying lavas create a strong inference that large, new blind ore bodies may be found in the area.

AGREEMENT

THIS AGREEMENT, made and entered into as of the 12 day of June 1951, by and between the Utah Consolidated Mining Co., an Arizona corporation, Party of the first part, hereinafter referred to as "Company," and Centennial Development Co., a Utah corporation, Party of the second part, hereinafter referred to as "Contractor".

WITNESSETH

Company owns and operates certain mining properties situated in the Fifth Mining District, State of Utah, and desires to have certain development work done and contractor is qualified and willing to do said work under the terms hereinafter stated.

NOW KNOWING, for and in consideration of the sum of two Dollars (\$2.00) to contractor paid, receipt whereof is hereby acknowledged, and of the agreements of the parties by them respectively to be kept and performed, it is hereby agreed as follows:

1. CONTRACTOR'S OBLIGATIONS:

(a) To excavate such openings, consisting in general of drifts, raises, crosscuts, shafts and special excavations, as the Company may direct from time to time, in a efficient and workmanlike manner, and to conform with applicable rules and regulations governing safety in mines. Specifically, to include the following:

Shifting on 2700, 150' feet; Raising on 2700, 200' feet;
Shifting 16-411 raise, 400' feet; Shifting and raising
3000' feet on 3100.

(b) To provide and install such apparatuses as track, timber, piping, etc., as the Company may direct in the excavations.

(c) To carry Contractor's Corporation and Occupational Disease Disability Compensation Insurance covering its employees; to pay any taxes and/or make any deductions under the Federal Insurance Contributions Act, the Federal Unemployment Tax Act and/or the Utah Unemployment Security Act for which the Contractor may become obligated, and to comply with the Utah Act to Regulate Payment of Wages in Private Employment, the Fair Labor Standards Act of 1938, as amended, and all other laws, rules and regulations of any duly constituted governmental authority affecting said work; and at the request of Company to furnish it supporting evidence of compliance with the requirements of this paragraph.

(d) To indemnify and save Company harmless against all claims made upon Company for or on account of any debt or expense incurred by Contractor, or claims for personal injury to or death of any person or injury to property of any person by reason of any act or omission of Contractor, its agents or employees; and to assume and discharge all liability, claims and damages of whatsoever nature arising out of or based upon its operations under this Agreement.

(c) To tender a detailed statement to the owner, not later than the 15th day of each month, showing the expenditures made by the Contractor during the preceding month, and including a unit breakdown of such expenditures applicable to each separate job in process; and to furnish proof of such expenditures to any degree that the Company may demand.

II. COMPANY AGREES:

(a) To reimburse the Contractor for all costs of the work incurred by the Contractor as hereinafter specified.

1. For all sums spent for labor, including a supervision charge of \$12.00 per day worked, plus performance bonuses paid to the workmen as previously approved by the Company, Federal Old Age benefits, unemployment insurance, workmen's compensation insurance and any other payroll deductions required by law, or by Union Agreement, insofar as such agreements conform to those entered into by the Company with its own employees at the same mining properties.

2. The invoice price cost, plus delivery, of all materials and supplies required to be furnished by the Contractor including replacement and maintenance parts for equipment used or furnished by the Contractor.

3. Rental charges for equipment furnished by the Contractor at rates to be determined by mutual agreement from time to time.

4. A maximum sum of \$75.00 per month to cover general office and accounting expense incurred by the Contractor in performance of the work, not to exceed 0.6% of the total labor cost, which ever is the lesser.

(b) To pay the Contractor as a fee for its supervisory services and overhead expense in connection with its work the sum of 10% of the amount expended by the Contractor under Sec. (a) of Art. II; such payment will be made monthly on or before the 25th day of the first succeeding month after performance of the work; except that the Company will not be obligated to pay this 10% fee on the cost of any labor which it may provide for the Contractor's use.

III. IT IS HEREBY AGREED:

(a) That the minimum and maximum amounts of work to be performed under this agreement during each monthly period is entirely at the discretion of the Company.

(b) That this Agreement is to be in effect until terminated on 30 days written notice by either party.

(c) That this Agreement is not assignable or transmissible by Contractor or by operation of law.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their respective proper officers thereto duly authorized, as of the day and year first above written.

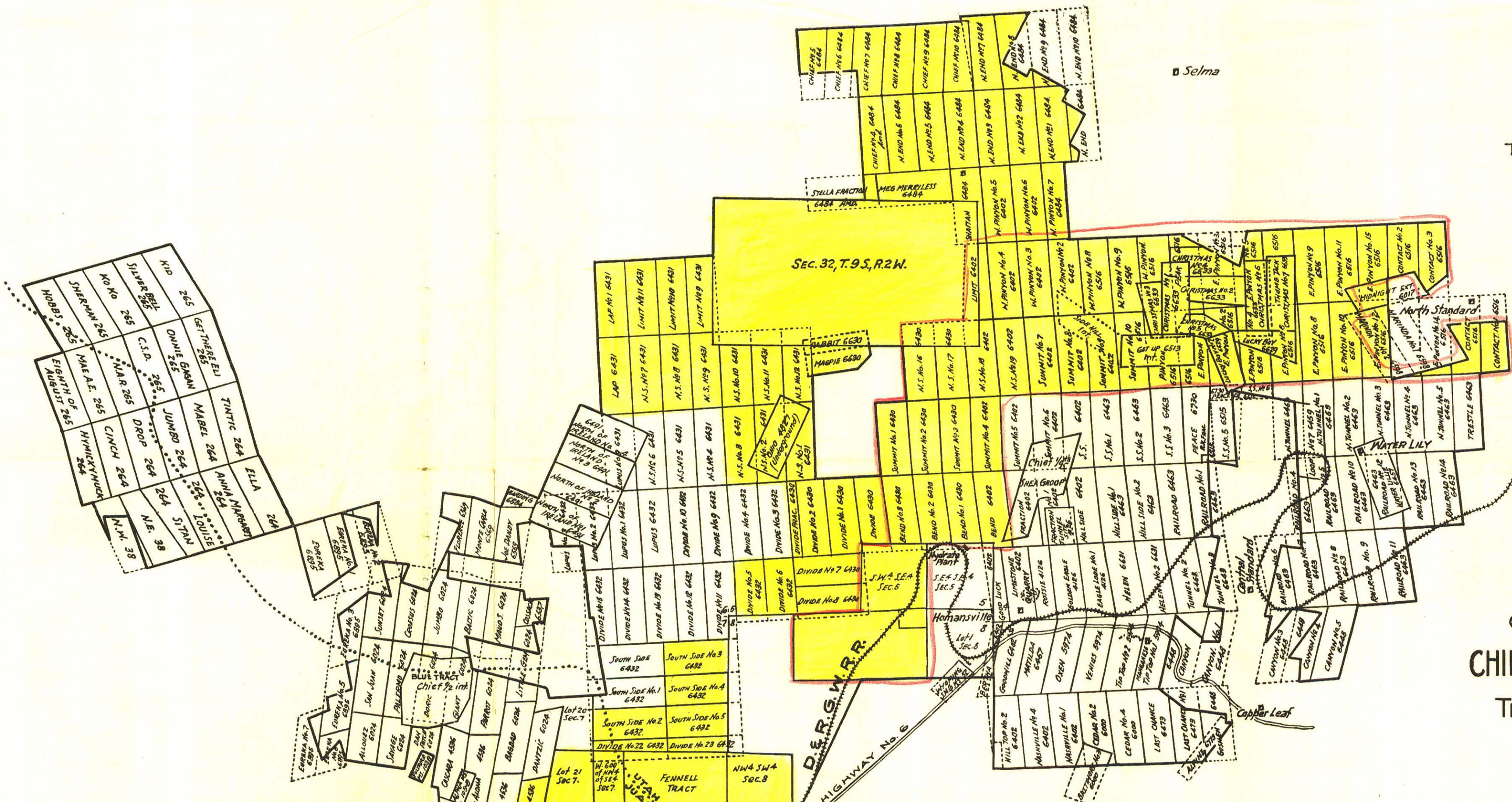
CHIEF ENGINEERING MINING COMPANY

By Basil H. H. H.

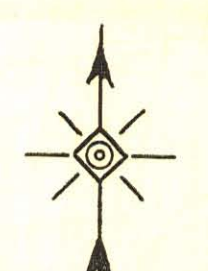
GENERAL DEVELOPMENT COMPANY

By Harold B. Spencer, Pres.

**LARGE
FORMAT
DOCUMENTS
AT END OF
FILE**



T.9S., R.2W.
S.L.B. & M.

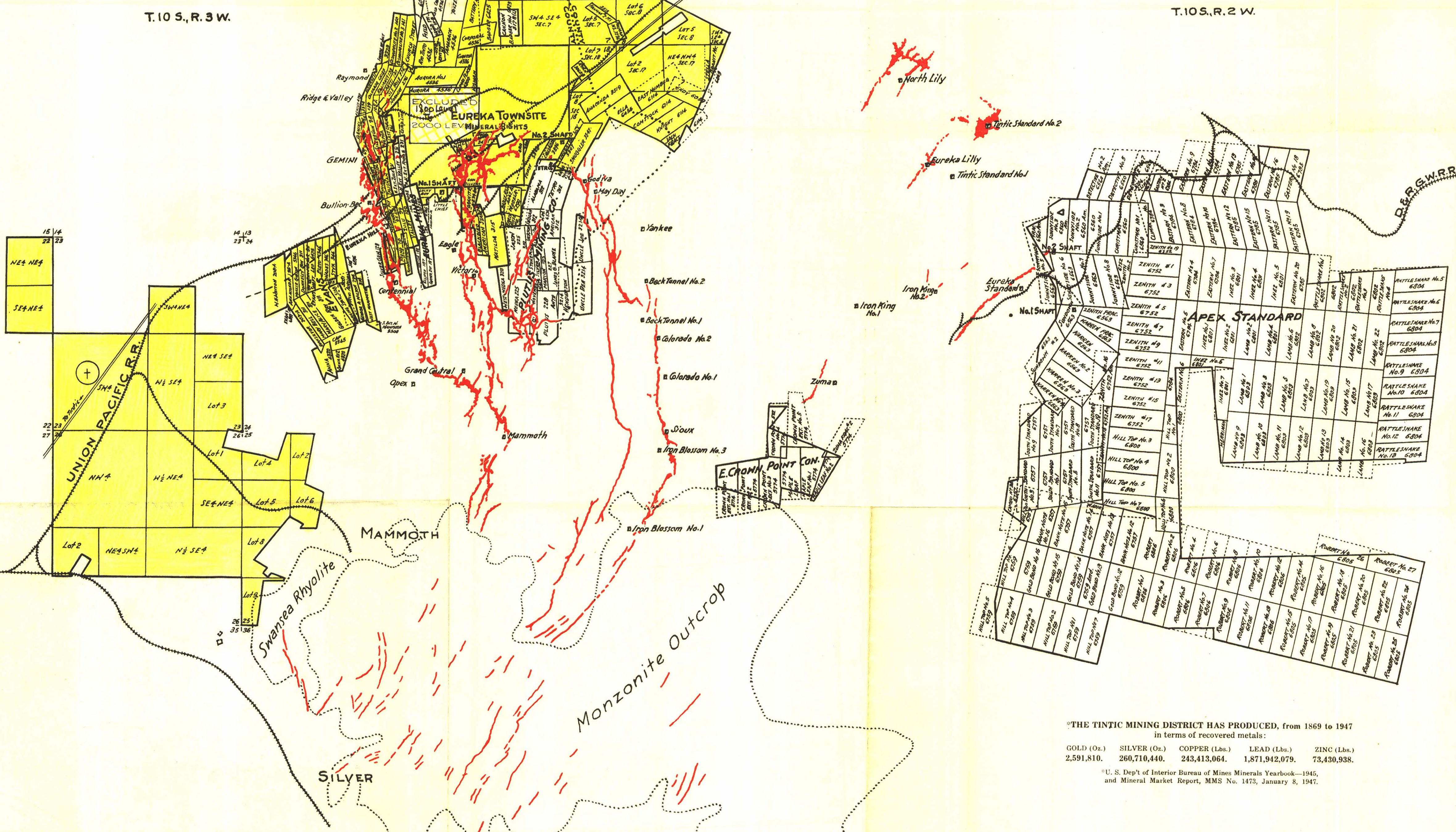


DMEA 1 and 1A.
CLAIMS AND MINING RIGHTS
OF THE
CHIEF CONSOLIDATED MINING CO.,
IN THE
TINTIC & NORTH TINTIC MINING DIST.,
UTAH.

SCALE:
FEET 800 1600 2400

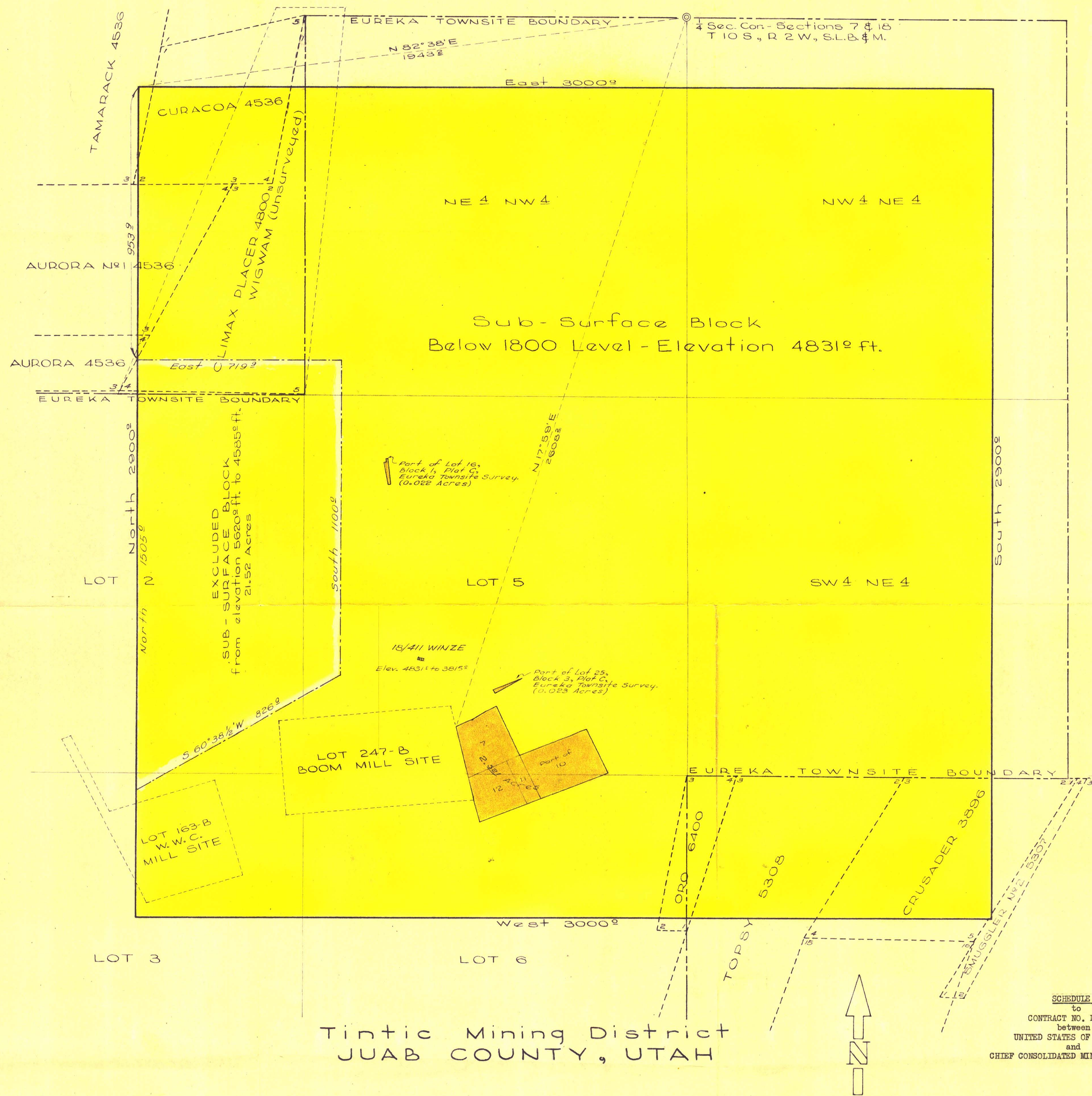
T.10S., R.3W.

T.10S., R.2W.



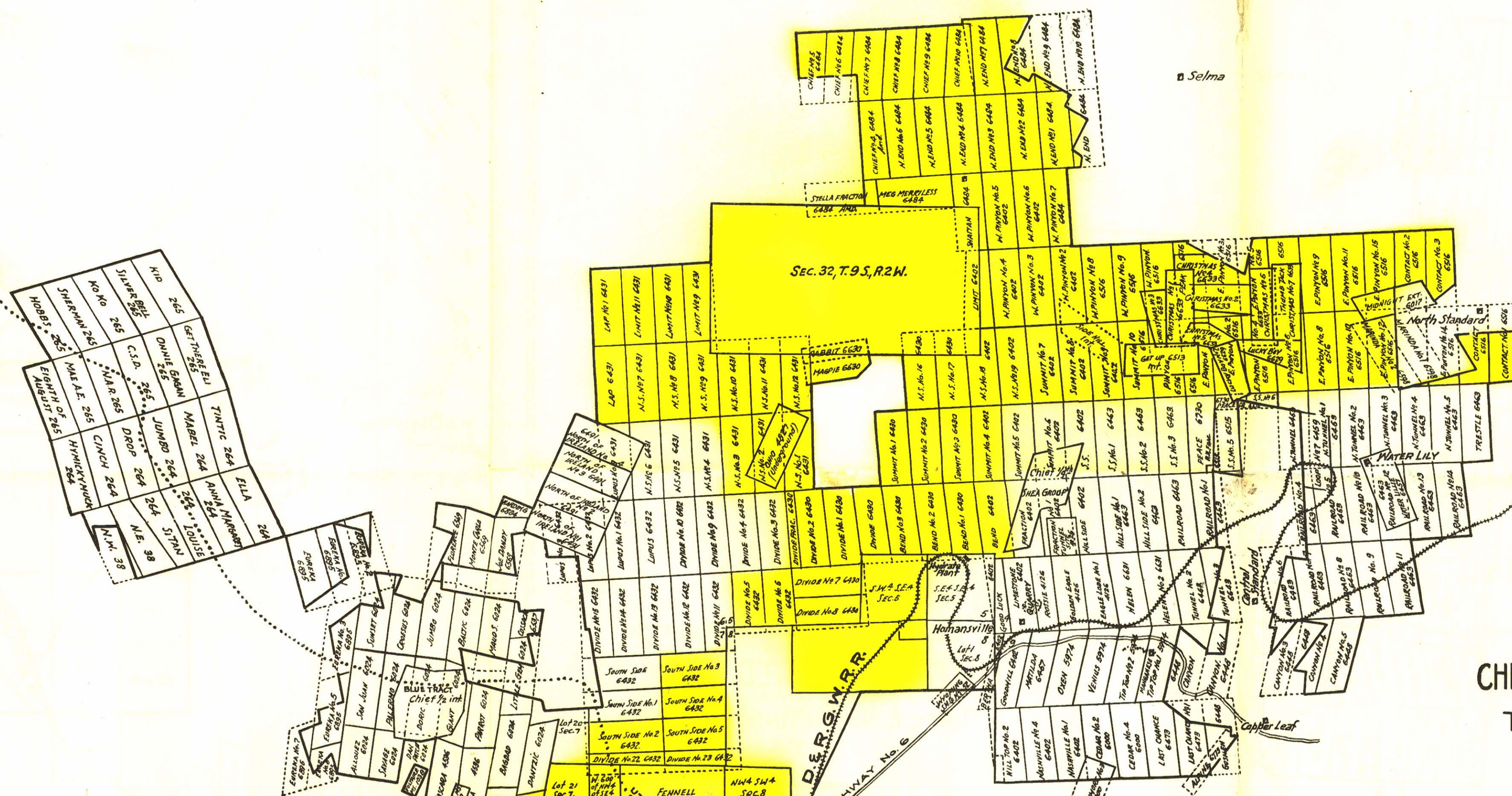
THE TINTIC MINING DISTRICT HAS PRODUCED, from 1869 to 1947
in terms of recovered metals:
GOLD (Oz.) SILVER (Oz.) COPPER (Lbs.) LEAD (Lbs.) ZINC (Lbs.)
2,591,810. 260,710,440. 243,413,064. 1,871,942,079. 73,430,938.
U. S. Dep't of Interior Bureau of Mines Minerals Yearbook—1945,
and Mineral Market Report, MMS No. 1473, January 8, 1947.

Section 18, T 10 S., R 2 W
Salt Lake Base & Meridian



CHIEF No. 1 SHAFT
Elev. 6577±

SCHEDULE A
to
CONTRACT NO. DMF-87
between
UNITED STATES OF AMERICA
and
CHIEF CONSOLIDATED MINING COMPANY



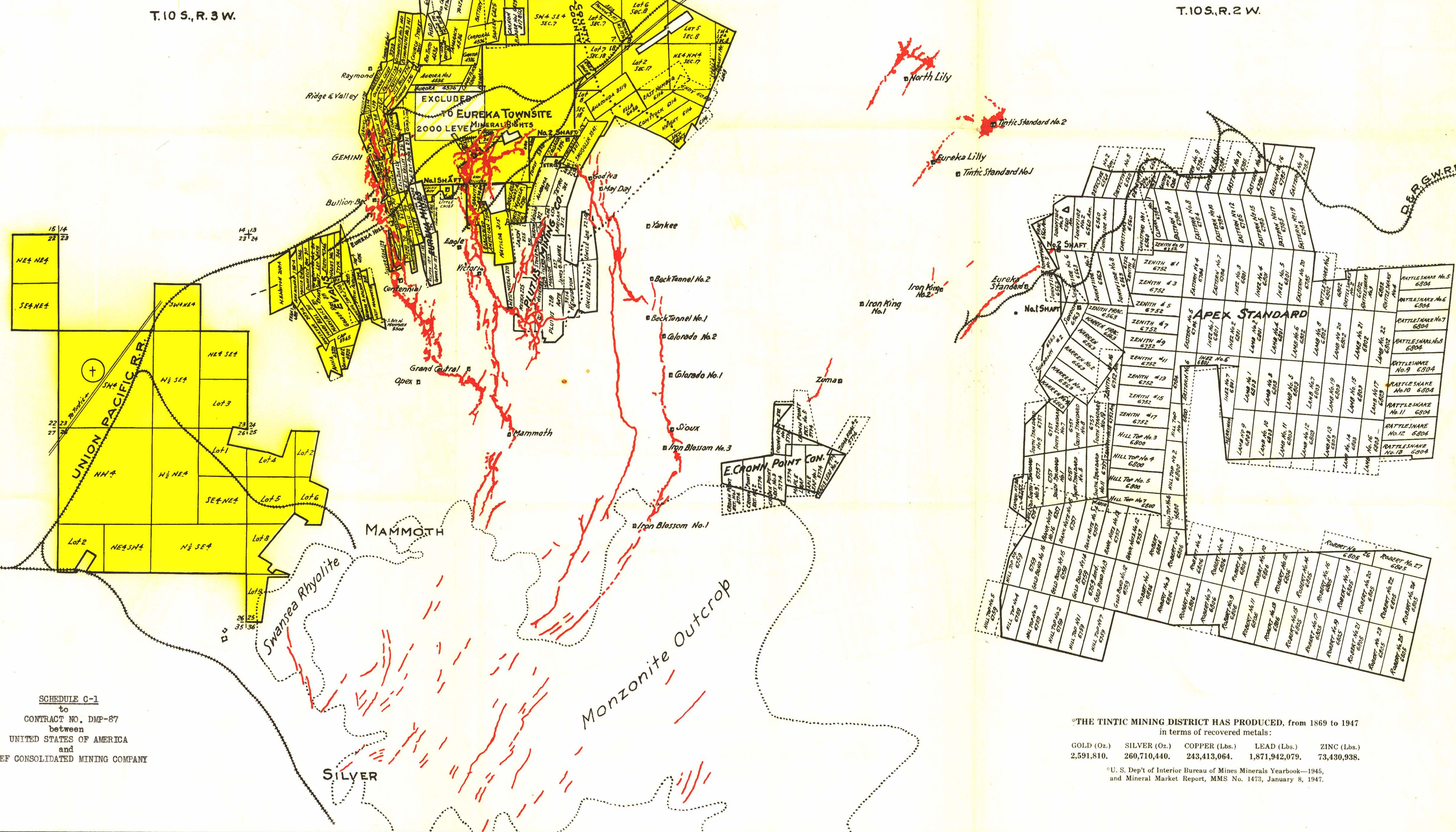
T.9S.,R.2W.
S.L.B.&M.

CLAIMS AND MINING RIGHTS
OF THE
CHIEF CONSOLIDATED MINING CO.,
IN THE
TINTIC & NORTH TINTIC MINING DIST.,
UTAH.

SCALE:
FEET 800 1600 2400

T.10S.,R.2W.

T.10S.,R.3W.



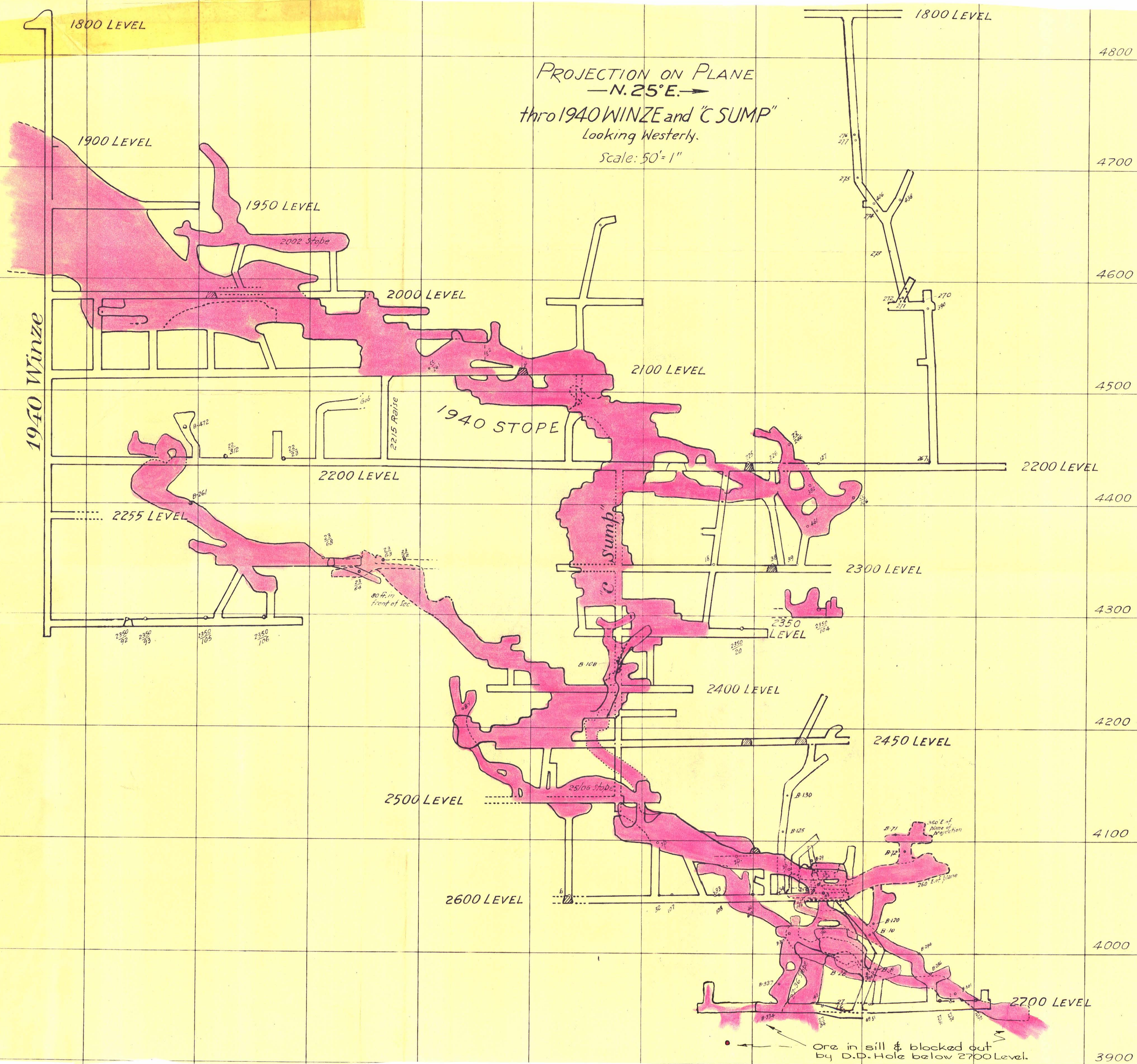
SCHEDULE C-1
to
CONTRACT NO. DMF-87
between
UNITED STATES OF AMERICA
and
CHIEF CONSOLIDATED MINING COMPANY

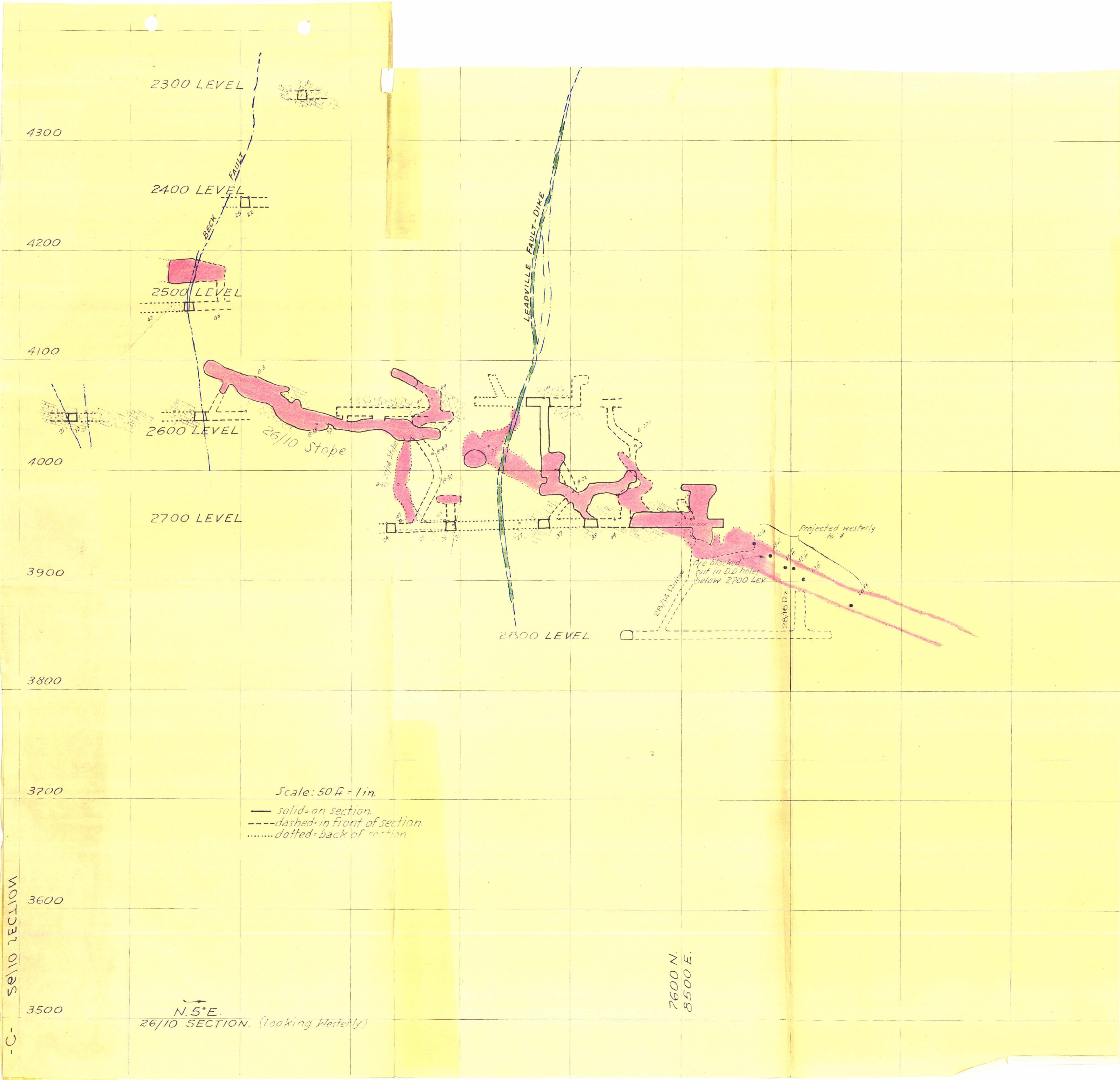
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CHIEF CONSOLIDATED MINING COMPANY
608 Dooly Building
Salt Lake City, Utah

Statement showing Operating Costs Data per Dry Ton of Ore Mined
for Chief Consolidated No. 1 Mine for the periods indicated below

	COMPONENT OPERATING COSTS PER DRY TON									
	Total Cost Per Dry Ton	Payroll Labor	Materials & Supplies	Assaying	Compensation Insurance	Power Expense	Payroll Taxes	Property & General Taxes	Contracted Development	Depreciation Sundry
<u>July 1 to December 31, 1947 -</u> <u>29,618 dry tons</u>										
Mining Costs including indirect, overhead and administrative expenses	13.381	8.307	2.398	.199	.248	.475	.104	.317	--	.835 .498
Development Costs	4.766	.666	.213	--	--	.114	--	--	3.773	-- --
Pumping Expense	1.066	.334	.244	--	--	.488	--	--	--	-- --
<u>Total Cost per Books</u>	<u>19.213</u>	<u>9.307</u>	<u>2.855</u>	<u>.199</u>	<u>.248</u>	<u>1.077</u>	<u>.104</u>	<u>.317</u>	<u>3.773</u>	<u>.835 .498</u>
<u>Year of 1948 - 101,598 dry tons</u>										
Mining Costs including indirect, overhead and administrative expenses	10.038	5.747	2.262	.195	.172	.336	.104	.314	--	.579 .329
Development Costs	2.337	.789	.296	--	--	.082	--	--	1.170	-- --
Pumping Expense	.879	.254	.185	--	--	.440	--	--	--	-- --
<u>Total Cost per Books</u>	<u>13.254</u>	<u>6.790</u>	<u>2.743</u>	<u>.195</u>	<u>.172</u>	<u>.858</u>	<u>.104</u>	<u>.314</u>	<u>1.170</u>	<u>.579 .329</u>
<u>Year of 1949 - 122,140 dry tons</u>										
Mining Costs including indirect, overhead and administrative expenses	8.670	4.999	1.894	.130	.216	.306	.097	.293	--	.482 .253
Development Costs	1.583	.441	.309	--	--	.041	--	--	.792	-- --
Pumping Expense	.841	.211	.076	--	--	.554	--	--	--	-- --
<u>Total Cost per Books</u>	<u>11.094</u>	<u>5.651</u>	<u>2.279</u>	<u>.130</u>	<u>.216</u>	<u>.901</u>	<u>.097</u>	<u>.293</u>	<u>.792</u>	<u>.482 .253</u>
<u>January 1 to August 31, 1950 -</u> <u>84,544 dry tons</u>										
Mining Costs including indirect, overhead and administrative expenses	8.271	5.024	1.278	.116	.310	.317	.139	.266	--	.467 .354
Development Costs	2.297	.695	.417	.026	--	.080	--	--	1.079	-- --
Pumping Expense	.764	.183	.032	--	--	.549	--	--	--	-- --
<u>Total Cost per Books</u>	<u>11.332</u>	<u>5.902</u>	<u>1.727</u>	<u>.142</u>	<u>.310</u>	<u>.946</u>	<u>.139</u>	<u>.266</u>	<u>1.079</u>	<u>.467 .354</u>







2300 LEVEL

4300

2400 LEVEL

4200

2500 LEVEL

4100

2600 LEVEL

4000

2700 LEVEL

3900

3800

3700

3600

3500

BLUE FLAKY

MOTTLED DOL.

VICTORIA

Victoria Formation

Blue Bell Formation
Noah Member

Note: A flat pipe of ore exposed
for a length of 135 feet on sill of
2700' Level. This ore will have to be
mined from 2800' Level because of
water conditions on 2700' Level.

NOAH

DORA

BEECHER

Scale: 50 ft. = 1 in.

- solid— on section
- - - dashed— in front of section
- dotted— back of section
- ... drill holes thro section
- All geology is on section, except
as noted.

7100 N
8700 E

N 7° E

26/58 SECTION (Looking West)

