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

224 New Customhouse
Denver 2, Colorado

February 1, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket No. DMEA 2991 (Lead-Zinc-Copper), Contract No. Idm-E558, Shenandoah-Dives Mining Company (Silver Lake mine), San Juan County, Colorado - FINAL REPORT.

Enclosed are the original and three copies of a joint final engineering and geologic report, dated January 1957, pertaining to work completed under the subject contract, by D. H. Richter, Geologist, Geological Survey, and C. M. Harrer, Mining Engineer, Bureau of Mines; and transmittal thereof from E. N. Harshman and John F. Shaw, dated January 25, 1957.

The original and one copy of the Operator's final report were forwarded to the Washington Office by memorandum of February 10, 1956.

The contract was terminated by a Termination Agreement, dated September 9, 1955, which was made effective May 29, 1954, before completion of the entire amount of work provided for in the contract.

The exploration work completed consisted of 2,799.5 feet of drifting and crosscutting, at a total accepted cost of $140,814.85, toward which the Government contributed 50%, or an amount of $70,407.43.

Final payment to the Operator was processed by this office November 8, 1955 in conformance with the Report of Review of reported project costs by the Contract Administration and Audit Division, DMEA, dated October 26, 1955.

Provision for the repayment of the amount of the Government's contribution to the costs of the exploration work by royalty on production from the property was incorporated in the Termination Agreement, which, in effect, constitutes a pseudo Certification.

Original signed by
W. M. TRAVER

W. M. Traver

Original signed by
E. N. HARSHMAN

E. N. Harshman

JWT:prl

cc: Final Report file) w/copy of Joint
Region III) Engr. & Geol. Report and Operator's Final Report.

Harshman (2)) w/copy of Joint Engr. &
Shaw (2)) Geol. Report.

Townsend
Corres. file
Chron.

38
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1 32 x 48

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DMEA
DEPARTMENT OF THE INTERIOR
JAN 25 1957
REGION III
DENVER, COLORADO

REGION III

Building 20
Denver Federal Center
Denver 2, Colorado
January 25, 1957

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman
John F. Shaw

Subject: Docket DMEA 2991 (Lead-Zinc-Copper) Contract Idm-E558
Shenandoah-Dives Mining Company (Silver Lake Mine)
San Juan County, Colorado.

Enclosed are original and nine copies of Final Joint Engineering and Geologic Report on the subject project by D. N. Richter and C.M. Harrer.

A contract between DMEA and Shenandoah-Dives Mining Company was signed June 26, 1953. The contract provided for a program for exploring the company's property by means of drifting, crosscutting, raising and diamond drilling at an estimated total cost of $211,900.00, in which the Government was to participate to the extent of 50 percent, or to the amount of $105,950.00

Exploration commenced July 6, 1953 and was stopped May 29, 1954, without all the work having been completed as originally planned. During the period of activity 2,799.5 feet of drifting and crosscutting were completed at a cost of $140,814.85, of which sum $70,407.42 was paid by the Government.

Eighty-nine thousand, two-hundred tons of indicated ore was found as a result of the work. The ore has an average grade of 0.89 percent lead, 0.22 percent zinc, 0.36 percent copper and contains 0.018 ounce gold and 1.0 ounce silver a ton.

This grade of ore is not high enough to be considered commercial under present conditions and the contract was terminated September 9, 1955.

A Pseudo Certification was issued on that date whereby the Government retains royalty rights until the day it is reimbursed for its outlay, or until June 26, 1963, whichever is the sooner.

E. N. Harshman

E. N. Harshman
Member Field Team

A. A. Kowalczyk for
John F. Shaw
Supervising Mining Engineer

JFS:jg
cc: 9
DMEA 2991
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

JOINT REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

DMEA 2991

SHENANDOAH-DIVES MINING CO.

Exploration Project Contract Idm-2558

Silver Lake Mine

San Juan County, Colo.

Lead-Zinc-Copper

Final
Joint Engineering and Geologic Report

By

D. H. Richter
Geologist
Geological Survey

C. M. Harrer
Mining Engineer
Bureau of Mines

January, 1957

DMEA 2991

SHENANDOAH-DIVES MINING CO.
SILVER LAKE MINE
Exploration Contract Idm-E558
SAN JUAN COUNTY, COLO.

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DMEA 2991

SHENANDOAH-DIVES MINING CO.

Silver Lake Mine
Exploration Project Contract Idm-2558
San Juan County, Colo.

INTRODUCTION AND SUMMARY

On June 26, 1953, exploration project contract Idm-2558 was activated between Shenandoah-Dives Mining Company, a Colorado corporation and the Defense Minerals Exploration Administration, to explore the property known as Silver Lake mine as follows:

1. Drift about 400 feet south along the extension of the Melville vein on the main (4177) level.

2. Crosscut therefrom on a bearing of S. 18° W., a distance of about 900 feet to the letter "G" vein.

3. Drift east and west along the letter "G" vein for about 1,700 feet.

4. From a location near the west end of the drift, raise about 500 feet along the letter "G" vein to a connection with old workings. The contract was for a total of $211,900.00 with Government participation (50 percent) at $105,950.00.

Work under the contract started on July 6, 1953, and stopped before completion on May 29, 1954. During this time a total of 2,799.5 feet of drifts and crosscut was completed at an overall cost of $140,814.85.

No further exploration was carried on and the contract was terminated as of May 29, 1955. Defense Mineral Exploration Administration assistance of 50 percent was $70,407.42.

The Shenandoah-Dives Mine is 2.5 miles south of Silverton, Colo., in the Arrastre Basin area of San Juan County, Colo.

One hundred ninety-eight patented mining claims, comprising the Silver Lake Mine property, have been subordinated to the contract. These claims are held by Shenandoah-Dives Mining Co., under a 30-year lease from the American Smelting and Refining Co. The Government retains royalty rights until June 26, 1963, for its participating share of exploration costs.

Exploration under the contract developed 89,200 tons of indicated ore averaging 0.89 percent lead, 0.22 percent zinc, 0.36 percent copper, with 0.018 ounce gold and 1.0 ounce silver a ton, and 632,000 tons of inferred ore averaging 0.72 percent lead, 0.21 percent zinc, 0.34 percent copper, with 0.016 ounce gold and 1.46 ounces silver a ton.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The Silver Lake mine property of the Shenandoah-Dives Mining Co. is 2.5 miles south of Silverton in the Arrastre Basin area of San Juan County, Colo. (fig. 1). The property is in very rugged and mountainous terrain between 9,000 and 12,000 feet above sea-level. The company's ore concentrator is in the Animas River valley at an altitude of about 9,600 feet. The mill is connected to the mine by 2 miles of aerial tramway over which all materials, supplies and employees are transported. The very steep and rough road to the mine is used only occasionally in the summer for heavy transportation.

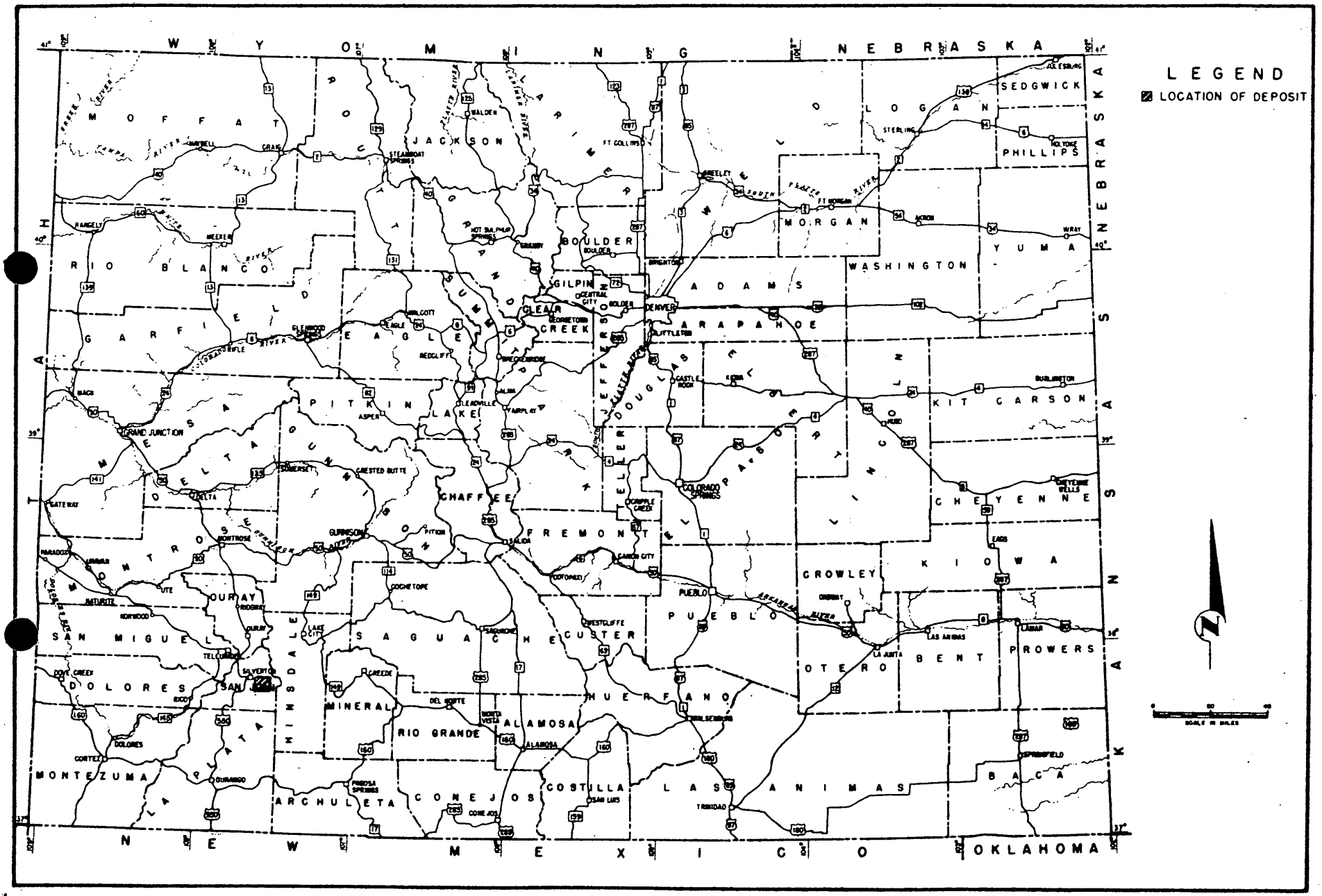

FIGURE 1 - LOCATION MAP, SHENANDOAH-DIVES MINING COMPANY, SAN JUAN COUNTY, COLO. DMEA 2991

Exploration under the contract (figs. 2 and 3) was completed on the main (4177) level which is at an altitude of about 11,200 feet. Winters are severe with heavy snows, and year-around operations could not be maintained without the aerial tramway. Ample water and timber are available. All manner of supplies and equipment are available to the property by truck transportation over well-maintained roads. During the summer, transportation over the narrow-gauge Denver & Rio Grande Western Railroad is available to the rail terminus in Silverton.

HISTORY AND PRODUCTION

Prospecting began in the Arrastre Basin area in 1870 and most of the claims were located by 1876. In 1887, a large group of claims located along 4 miles of the Silver Lake vein and along 1 mile of the letter "G" (Titusville-Buckeye) vein, and including portions of the Royal, Professor Stelzner, and Whale-Rochester veins, was consolidated and controlled by the Silver Lake Mines Co.

Silver Lake Mines operated until 1919. The property was later acquired by the American Smelting and Refining Company and was operated by them until 1942, when the Silver Lake Mines group was leased to the Shenandoah-Dives Mining Company. A 30-year lease was negotiated by the companies on January 1, 1953.

Production from the Silver Lake Mines prior to 1902 is unknown. During 1902-18, production totalled 630,645 tons of ore averaging 1.94 percent lead, 0.896 percent copper, with 0.142 ounce gold and 4.52 ounces silver per ton.

During 1919-23 about 1,600 tons of ore was produced. The property was shut down during 1924-27. During 1928-41, a total of 2,316,188 tons of ore was produced. During the period 1942-52, a total of 1,112,941 tons of ore assaying 1.5 percent lead, 0.63 percent zinc, 0.11 percent copper, with 0.098 ounce gold and 1.9 ounces silver per ton was produced from Shenandoah-Dives property of which 274,687 tons of ore assaying 1.65 percent lead, 0.4 percent copper, 0.82 percent zinc with 0.063 ounce gold and 1.6 ounces silver per ton, was produced from the Silver Lake vein.

From the above it is seen that the ore mined was of very low grade.

PROPERTY RIGHTS

Under the contract Idm-E558, Docket DMEA 2991, Shenandoah-Dives Mining Company subordinated 198 patented mining claims which embraced the Silver Lake Mine. The claims are held by the operator under a 30-year lease from the American Smelting and Refining Company. The claims are as follows:

Claims	Survey No.	Claims	Survey No.
Arabian Boy	6994	Home Stake	5471
Badger	11448-A	Jaffa	12122-A
Barbadoes	14036	Jamaica	14035
Bear	280	Jocko	14163
Buckeye	232	Jupiter	14066
Buckeye No. 2	7896	Kingstone	14035
Carolina	5569-A	Lake View	14035
Dandy	7896-Am	Last Chance	11448-A
Emma	238	Last Chance	7896-Am
Emma	14036	Lena Allen	7802
Ethley Cox	14066	Lenoestiste	5570
Essex Street	9106-A	Lowville	5529
Freiberg	14047	Magnala	14035
Galena	11485-A	Manilla	14030
General Hale	14066	Martha F.F.	4952
General Merritt	15030	Maxwell	5530-A
General Miles	14066	Monte Carlo	14035
Gretchen	2163-A	Naples	14035
Happy Jack	8492	Nevada	8530-A

Claims	Survey No.
Nevada Extension	8497
Pyramid No. 3	14220
Pyramid No. 2	14220
Pyramid	2461
Rivington St.	9003-A
Rochester	4764
Round Mountain	5110-A
Royal	6198-A
Royal Tiger No. 1	769
Sedalia	14029
Seymour	96
Silver Lake	2164-A
Silver Lake Spur	6994
Smuggler	14029
Smyrna	12122-A
Solstice	5571
Tiger Extension No. 2	14036
Titusville	403
Unity	9120
Whale	4764
Adams Placer	15143
Alexandria	14024-A
Algiers	11469
Ann Harris Placer	11596
Argentine Lode	11380-A
Argentine Mill Site	11380-B
Blair Mt. Lode	13322-A
Blair Mt. Mill Site	13322-B
Blair Mt. Placer	16469
Blair Placer	841
Big Giant Ext. Lode	14320
Big Giant Lode	1156-A
Bowery Lode	155
Cairo Lode	11469
Carolina Mill Sites	5569-B
Coin Lode	13322-A
Combination Lode	16476
Contention Lode	14320
Contra Costa Lode	2329
Cremorne Lode	827
New York City	9104
Panuco	7896-Am
Pompeii	404
Porto Rico	14035

Claims	Survey No.
Prof. Neisback	11469
Prof. Newberry	14046
Prof. Percy	14066
Prof. Stelmer	7568
Prof. Wedding	11469
Prof. Zeuner	11469
Extension & Combination of Dolly Varden #2 & Ethan Allen	2617
First Chance	13322-A
Free Coinage Lode	9902**
Frithoft	16476
General Garfield Lode	828
General Grant Lode	13322-A
General Hallack Lode	14047
General Logan Lode	13322-A
General Sherman Lode	13322-A
Genoa Lode	14024
George Hesse Lode	9852
Golden Fleece Lode	11714
Grey Eagle 1/4 of	16860 1/4 of
Growler	16476
Helen Roux Lode	9852
Illinois Lode	14019
Independence	16476
Iron Mask Lode	11148
Jeanette Roux Placer	11596
J.E. Ward Mill Site	9858
Jerusalem	14012
Jess Lode 1/2 of	9426 1/2 of
Jura Lode	2388
King Solomon Lode	409
Last Chance Lode	9284
La Veta Lode	14047
Leyner Lode	14324
Lightning Attracting	16476
Little Gertie Lode	15122
Lowville Mill Site	5529-A
Manhattan Lode	13322-A
Marcia L. Lode	8801-A
Marcia L. Millsite	8801-B
Dana Lode	13322-A
Demosthenes	14196
Dick Bland Lode	13322-A

Claims	Survey No.
Dollie Blight	12671
Dolly Varden #2 Lode	2616
Dreadnaught	14320
Ellida	16476
El Paso Lode	9482-A
Whale Mill Site	9106-B
Esther Allen Lode	8801
Rochester Mill Site	8592
Sal Custer Lode	1894***
Scranton City #2 Lode	16476
Scranton City Lode	15426
Silver Star Lode	681
Smyrna Mill Site	12122-B
Snow Shed Lode	14027
Southside Lode	14012
Spring Lode	14012
Tarpon Lode	15122
Trail Lode	13322-A
Twentieth Century	16476
Vienna Placer	14057
Von Cotta Lode	14052
Iowa	480
J. W. Collins	6561
Black Diamond	4811
(Cub)	12193
(Last Chance)	
Club	12978
Crip	6647
Elk	12977
Lakeside	12818
Melville	12353
1/2 Diamond L.	561-A
Regal Tiger	48
Stag	6646
White Diamond	13011
Dump	9843-AAM
Lake Shore	13064
Key	13065
(Hillside)	12946
(Exploit)	
Galicya Boy	13139
Dump Millsite	9843-B
Maxwell Millsite	5530-B
M.D. Thatcher Placer	17699

Claims	Survey No.
Mountain Queen Lode	2389
North Star Extension Lode	7772
Panic Lode	13322-A
Perhaps	16476
Potomac Lode	457
Prof. Chandler Lode	14047
Prof. Richter Lode	14028
Prof. Winkler Lode	9842-A
Prof. Winkler Millsite	9842-B
Republic Lode	1158
Riverside Lode	8801
Hermosa Lode	19974
San Juan	19974
Piedmont	19974
Iowa	9837
Tiger Millsite	13749
2/3 American Boy	7244
Aspen	199
Chloride	411
Legal Tender	753
Mammoth	499
McGregor	423
Susquehanna	447
Ruby Placer No. 1	654
Ruby Placer No. 2	655
Millsite No. 1	424
Millsite No. 2	425
La Boca	19479
River	15112
New York	15112
Washington	15112

*Reported as 14030 in DMEA Examining Engineers report.

**Reported as 9903 in DMEA Examining Engineers report.

***Reported as 1849 in DMEA Examining Engineers report.

Defense Minerals Exploration Administration has royalty rights in the above claims.

The operator has a 15-year easement, dated July 14, 1953, on the other 1/3 of the American Boy claim, from the owner N. E. Maxwell.

The Government retains royalty rights on all ores produced from the property until its participating share in the exploration is paid in full, or not later than June 26, 1963.

GEOLOGY

General Statement

The Silver Lake-Melville lode "G" (Titusville) veins of the Shenandoah-Dives Mining Company are in the South Silverton Mining area in the western part of the San Juan mountains in southwestern Colorado. The vein and fracture systems of the area have been studied by Burbank 1/ in 1932, and more recently a detailed study of the geology has been conducted by Varnes 2/3/. The geologic information presented in this report is based almost entirely on the work of Varnes, who generously gave the writers his unpublished data on the area.

This part of the San Juan Mountains is composed principally of a series of Tertiary volcanics, consisting of flows, tuffs, and breccias of rhyolitic, andesitic, and latitic composition, having a maximum thickness of nearly

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1/ Burbank, W. S., Vein Systems of the Arrostre Basin and Regional Geologic Structure in the Silverton and Telluride Quadrangles, Colorado: Colo. Sci. Soc. Proc., vol. 13, no. 5. 1933.

2/ Varnes, D. J., Geology and Ore Deposits of the South Silverton Area, San Juan County, Colorado: Colo. Min. Assoc., address given 1948.

3/ _____ Geology of the South Silverton Mining Area, San Juan County, Colorado: unpublished paper.

5,000 feet. These volcanic rocks rest horizontally upon older tilted and eroded metamorphic rocks that range in age from Precambrian to late Cretaceous. The volcanic, and older rocks, have been intruded by numerous stocks of monzonite and diorite, by many dikes of andesitic-latitic composition, and by a few dikes of rhyolite and granite porphyry.

The dominant structural feature in this part of the San Juan mountains is the Silverton caldera, a roughly circular volcanic subsidence basin just north of the South Silverton area. Forces generated within the caldera caused the rocks near its border to break in a rather complex fracture pattern, and in the South Silverton area these fractures have been the principal control of ore deposition.

Three systems of fractures have been observed in the area. The first is an unmineralized system of fractures and dikes, usually referred to as the ring-fault system, that trend concentricly to the caldera border. The second system includes a group of highly mineralized northwest-trending shear fractures and dikes, of which the Silver Lake and latter "g" (Titusville) veins are a part, and a group of unmineralized complementary northeast-trending shear fractures. The third system, which includes the Iowa, New York, and Melville veins, is a group of very productive north-northwest- trending tension fractures.

Almost all the important metalliferous deposits in the area are in veins, which are restricted to a structural block that is bounded on the north by the ring-fault zone and caldera, on the south and west by a large granite-porphyry-filled fracture, and on the east by a group of arcuate dikes. The veins range in size from narrow fissures, a few inches wide, to broad zones

of narrow closely spaced veins over 100 feet wide. The ores are predominately low-grade gold-silver-base-metal deposits composed essentially of pyrite, galena, sphalerite, chalcopyrite, tetrahedrite-tennantite, and minor amounts of native gold. Quartz and calcite are the chief gangue minerals.

Letter "G" (Titusville) vein

The letter "G", or Titusville vein, is the longest vein in the South Silverton area and belongs to the productive northwest-trending fracture system. It has an average strike of about N. 70° W. and a northeast dip of 75°. The structure includes, through most of its length, a compound dike consisting of a number of sheets of andesite or latite and vein material ranging from thin fissures to zones of closely spaced veins up to 100 feet wide. The Tertiary Burns formation, primarily a latite flow-breccia, is the principal country rock of the dike and vein.

The southeast extension of the letter "G" vein, on the main tunnel level of the Shenandoah-Dives mine, was the exploration target of the DMEA project. The target area is below the southernmost workings along the vein between the more productive portion of the vein (Titusville mine) to the northwest and the end of the structure, a barren fault, to the southeast (fig. 2). Briefly, the work completed under the subject contract consisted of drifting south along the Malville vein (off the Silver Lake mine), then crosscutting to the letter "G" vein, and then drifting east and west along the letter "G" vein (figs. 2 and 3).

The 1,625 feet of drifting completed under the contract, plus the 12 diamond-drill holes put down by the company discovered only very low-grade or sub-marginal ore. Although the over-all vein structure and mineralization is similar to the ore zones along the structure to the northwest, the individual veins are narrow, contain less base-metal-sulfide mineralization, and apparently are very discontinuous through the dike. The total width of the dike and veins averages about 25 feet, throughout the explored area. Where the structure is cut by the crosscut from the Melville drift, it has a dip of 75° SW., the reverse of its normal dip. However, both to the east and west of this area, which is believed to be a relatively local disturbed zone, the vein resumes its normal attitude.

WORK COMPLETED UNDER THE CONTRACT

Contract Idm-E558 was signed on June 26, 1953, and exploration work was started on July 6, 1953. Exploration (fig. 3) stopped when the property was shut down on May 29, 1954. The contract was terminated on September 9, 1955, on the basis of work completed to May 29, 1954. The following work (fig. 3) was completed under the terms of the contract:

Units of Work	Footage Completed	Footage Authorized Under Contract	Time
1. Drift along Melville vein extension south, on the main (4177) level at an altitude of about 11,200 feet	266.0	about 400	July-August 1953
2. Crosscut S. 18° W., from the above drift to cut the letter "G" vein.	908.0	about 900	Aug.-Nov. 1953
3. Drift west along the letter "G" vein about 68 ft. back from the end of the crosscut.	1,136.5	An aggregate of 1700 ft. east and west of the crosscut. *	Nov. '53-March '54
4. Drift east along the letter "G" vein about 68 ft. back from the end of the crosscut.	489.0	An aggregate of 1700 ft. east and west of the crosscut. *	April-May 1954
Totals	2,799.5	3,000.0	*Same

Under the terms of the contract, 3,000 feet of combined drifting and crosscutting and 500 feet of raising were authorized. Upon termination of the contract, 200.5 feet of drifting and/or crosscutting and 500 feet of raising remained to be completed.

Shenandoah-Dives Mining Company completed 12 diamond-drill holes (fig. 3) totalling 1,228.5 feet, along the letter "G" drifts at its own expense.

EXPENDITURES UNDER THE CONTRACT

Under the terms of the contract, 3,000 feet of combined drifts and crosscut were provided for at a cost of $50.30 per foot for a total of $150,900.00. In addition, 500 feet of raise at $122.00 per foot for a total of $61,000.00 was included. Total estimated cost of the exploration project was $211,900.00. Government participation at 50 percent would have been $105,950.00.

The project was terminated before completion, the effective date of termination being set as May 29, 1954, when the property was shut down completely by the Shenandoah-Dives Mining Company. During the active life of the contract (June 26, 1953-May 29, 1954) 2,799.5 feet of drifts and crosscuts (fig. 3) at a unit cost of $50.30 per foot and a total cost of $140,814.85 was completed. Government participation of 50 percent is $70,407.42. This is in accordance with the audit report dated October 26, 1955.

Unexpended funds for 200.5 feet of drifting and/or crosscutting and 500 feet of raising allowed in the contract, but which were not completed, total $71,085.15.

EFFICIENCY OF PROJECT OPERATIONS

Shenandoah-Dives Mining Co. performed the work (fig. 3) efficiently, on a two shift basis. Advance was through hard latite, and the headings were 8- by 8.5-feet in cross-section. During 11 months of operation, average advance was 5.85 ft. per round or 11.7 ft. per day. Exploration muck was hauled about 9,000 feet to the portal of the main level tunnel.

DESCRIPTION OF DISCOVERY

No certificate of discovery has been issued, but, the Government's participation in the proceeds from any future production from Shenandoah-Dives property is assured in the termination agreement dated September 9, 1955. The contract was terminated before completion of the project, the effective date of termination is May 29, 1955.

The letter "G" structure was drifted on both east and west of the crosscut (fig. 3) for a combined distance of 1,625.5 feet. One hundred samples were taken by the applicant, across the approximate 8-feet widths of vein exposed in the drifts (fig. 3). In addition, 27 samples were taken of diamond drill core from holes (fig. 3) drilled into the drift walls.

Sampling Data

The letter "G" vein was encountered 1,023 feet from beginning point of the contract, or 757 feet from the start of the letter "G" crosscut. The vein was about 13 feet wide, with a N. 62° W. strike and a dip of 75° SW. Six samples of the vein, taken along the walls of the crosscut, were assayed with the following results:

Sample No.	Location	Width Feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver	Description
S-1	West wall of crosscut 758-764 ft. so. of its start.	6.0	0.6	0.5	1.6	0.01	1.9	Crushed latite and Sulfides
S-2	West wall of crosscut 764-771.5 So. of its start	7.5	0.8	0.2	0.35	0.01	0.5	Ditto
S-3	West wall of crosscut 758-771.5 ft. So. of its start-full width of vein.	13.5	0.4	0.25	0.4	0.01	0.5	Ditto
S-4	East wall of crosscut 760-766 ft. so. of its start.	6.0	0.8	0.2	0.3	0.01	0.85	Ditto
S-5	East wall of crosscut 766-773 ft. so. of its start.	7.0	0.5	0.3	0.2	0.01	0.2	Ditto
S-6	East wall of crosscut 760-773 ft. so. of its start.	13.0	1.2	0.2	0.35	0.02	1.3	Ditto

Sample S-7 was taken across two feet of sulfides in crushed latite in the letter "G" drift west, 120 feet west of the crosscut (fig. 3). Sampling data is as follows:

Sample No.	Location	Width Feet	Percent Lead	Percent Zinc	Percent Copper	Oz./ton Gold	Oz./ton Silver	Description
S-7	120 ft. west of crosscut.	2.0	0.1	0.1	0	0.01	0.2	Crushed latite and sulfides

Diamond drill holes 1 and 2, in the letter "G" drift west, and 396 feet west of the crosscut were drilled through the vein. The results, assaying the core of the vein intercept, are as follows:

Sample No.	Location	Depth sampled feet	Lgth. of core Assayed, in ft.	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-8	D.D.H-1	78-84.5	6.5	0.1	0.15	0.2	0.01	1.6
S-9	D.D.H-1	84.5-91.5	7.0	0.1	0.15	0.2	0.005	0.25
S-10	D.D.H-1	91.5-97.0	5.5	0.2	0.2	0.3	0.01	1.0
S-11	D.D.H-1	97.0-107.0	10.0	0.1	0.1	0.1	0.01	0.2
S-12	D.D.H-2	106.0-112.0	6.0	0.3	0.1	0.3	0.01	1.2
S-13	D.D.H-2	112.0-119.0	7.0	1.1	0.7	0.5	0.02	3.1

The letter "G" drift west (fig. 3) was sampled at approximate 10 foot intervals for a length of 590 feet to its end. Data on samples S-14 through S-62, taken over the above length, and their assay results are tabulated as follows:

Sample No.	Location	Distance West of crosscut (ft.)	Sample width feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-14	Drift West	460	7.0	0.8	0.9	0.28	0.01	1.9
S-15	Drift West	472	7.0	1.4	0.7	0.24	0.01	2.0
S-16	Drift West	485	8.0	3.2	0.6	0.36	0.01	1.7
S-17	Drift West	495	9.0	0.7	0.1	0.04	0.01	1.5
S-18	Drift West	507	9.0	0.9	---	0.14	0.01	1.8
S-19	Drift West	520	8.0	0.2	0.1	0.02	Tr.	0.5
S-20	Drift West	531	8.0	0.4	---	0.04	Tr.	0.7
S-21	Drift West	542	8.0	0.6	---	0.04	0.01	0.9
S-22	Drift West	554	8.5	1.4	---	0.08	0.01	1.2
S-23	Drift West	563	8.5	1.1	0.1	0.32	0.01	1.8
S-24	Drift West	575	8.5	3.1	0.2	0.18	0.01	1.6
S-25	Drift West	589	8.5	1.3	---	0.38	0.01	1.3
S-26	Drift West	601	9.0	2.2	---	0.56	0.02	1.8
S-27	Drift West	614	5.0	3.0	0.3	0.20	0.01	1.5
S-28	Drift West	626	5.5	6.5	0.2	0.16	0.02	2.0
S-29	Drift West	638	9.0	4.6	0.3	0.68	0.01	1.7
S-30	Drift West	651	9.0	2.2	0.1	1.04	0.01	1.3
S-31	Drift West	665	8.0	1.0	0.6	0.86	0.01	1.5
S-32	Drift West	678	8.0	0.3	---	0.22	Tr.	0.2
S-33	Drift West	691	9.0	2.2	---	0.32	0.01	1.2
S-34	Drift West	701	9.0	3.8	0.1	0.70	0.01	2.0
S-35	Drift West	712	8.5	2.0	---	0.12	0.01	0.9
S-36	Drift West	725	8.5	6.8	0.5	0.44	0.02	2.2
S-37	Drift West	739	8.5	1.5	0.2	1.45	0.01	1.5
S-38	Drift West	753	8.5	0.4	---	0.10	Tr.	0.4
S-39	Drift West	765	8.0	1.9	0.1	0.90	0.01	1.4

Sample No.	Location	Distance West of crosscut (ft.)	Sample Width feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-40	Drift West	777	8.0	2.2	0.1	1.35	0.01	1.2
S-41	Drift West	789	9.0	0.2	0.1	0.4	0.01	0.6
S-42	Drift West	802	9.0	0.1	1.8	0.2	0.01	0.2
S-43	Drift West	815	8.5	0.4	0.2	0.3	0.02	0.4
S-44	Drift West	828	8.5	0.4	0.1	1.9	0.01	1.6
S-45	Drift West	840	9.0	0.2	---	---	---	0.1
S-46	Drift West	852	8.0	0.1	0.1	0.1	0.01	0.2
S-47	Drift West	865	8.5	0.1	0.1	---	---	0.1
S-48	Drift West	878	9.0	0.1	0.1	0.3	0.01	0.3
S-49	Drift West	891	9.0	0.2	0.1	0.2	0.01	0.3
S--50	Drift West	904	8.5	0.1	0.1	0.2	---	0.1
S-51	Drift West	910	8.5	0.1	0.1	0.1	---	---
S-52	Drift West	923	9.0	---	---	0.1	0.01	0.1
S-53	Drift West	938	8.5	2.6	0.1	0.1	0.01	0.7
S-54	Drift West	950	10.0	0.1	---	---	0.01	0.4
S-55	Drift West	956	9.0	0.1	0.1	0.1	0.02	0.2
S-56	Drift West	970	8.5	---	---	---	0.01	0.1
S-57	Drift West	983	8.5	---	---	---	---	0.1
S-58	Drift West	998	8.5	0.1	---	---	0.02	0.2
S-59	Drift West	1010	8.5	0.1	0.1	---	0.01	0.1
S-60	Drift West	1023	9.0	0.1	0.1	---	---	---
S-61	Drift West	1036	8.5	---	---	---	---	---
S-62	Drift West	1050	8.5	0.1	---	---	0.01	0.1

Diamond drill holes 7 and 9, located 840 and 950 feet west of the crosscut, respectively, (fig. 3) were sampled and assayed as follows:

Sample No.	Location	Depth Sampled in feet	Length of Core Sampled-feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-63	D.D.H-7	0-6	6	0.2	0.1	0.4	0.01	0.6
S-64	D.D.H-7	6-12	6	0.1	0.1	0.4	0.03	0.3
S-65	D.D.H-9	0-6	6	0.1	0.1	0.5	0.02	0.7
S-66	D.D.H-9	6-12	6	---	0.1	0.1	0.01	0.2
S-67	D.D.H-9	12-16	4	---	0.1	0.1	0.02	0.5

Diamond drill hole No. 4 (fig. 3) was drilled northeasterly from the crosscut to cut the letter "G" vein east of the crosscut. The core assayed as follows:

Sample No.	Location	Depth Sampled in feet	Length of Core Assayed-feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-68	D.D.H-4	60-68	8	0.4	0.1	0.3	0.01	0.75
S-69	D.D.H-4	68-75	7	0.3	0.1	0.4	0.01	1.0
S-70	D.D.H-4	75-82	7	0.4	0.8	0.3	0.01	0.85
S-71	D.D.H-4	82-90	8	4.6	0.2	0.5	0.03	2.9

The letter "G" drift east (fig. 3) was sampled at approximately 10-foot intervals for a length of about 463 feet to its end. Data on the 44 samples, S-72 to S-115, taken over the above length, and their assay results are tabulated below:

Sample No.	Location	Distance East of crosscut (ft.)	Sample Width feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-72	Drift East	18	8.5	1.4	0.5	0.9	0.02	1.7
S-73	Drift East	28	8.5	3.0	0.3	1.8	0.04	2.3
S-74	Drift East	38	8.5	2.6	0.5	1.1	0.03	1.5
S-75	Drift East	48	8.5	0.5	0.2	1.0	0.03	1.0
S-76	Drift East	60	8.5	0.6	0.2	1.2	0.03	1.5
S-77	Drift East	70	8.5	0.9	0.1	2.2	0.04	3.2
S-78	Drift East	82	8.5	0.6	0.2	0.5	0.02	0.7
S-79	Drift East	94	8.5	1.0	0.1	1.2	0.03	5.8
S-80	Drift East	105	8.5	0.7	0.2	0.9	0.02	2.3
S-81	Drift East	115	8.5	0.2	0.1	0.3	0.01	0.4
S-82	Drift East	126	8.5	0.5	0.2	0.6	0.04	1.0
S-83	Drift East	138	8.5	0.7	0.6	0.1	0.01	0.8
S-84	Drift East	148	8.5	1.1	0.2	0.4	0.02	0.7
S-85	Drift East	158	8.5	0.5	0.8	0.2	0.06	0.2
S-86	Drift East	167	8.5	1.6	0.3	0.3	0.03	0.7
S-87	Drift East	174	8.5	0.2	0.4	0.2	0.12	0.4
S-88	Drift East	185	8.5	0.1	0.3	—	0.02	0.6
S-89	Drift East	196	8.5	0.1	0.2	—	0.01	0.1
S-90	Drift East	208	9.0	0.2	0.1	0.15	0.08	0.3
S-91	Drift East	220	8.5	0.1	0.7	0.3	0.01	0.4
S-92	Drift East	231	8.5	0.2	0.1	0.1	0.01	0.2
S-93	Drift East	242	8.5	0.5	0.2	0.1	0.04	0.2
S-94	Drift East	247	8.5	1.3	0.3	0.2	0.02	1.0
S-95	Drift East	259	8.5	0.3	0.7	0.15	0.07	0.3
S-96	Drift East	270	8.5	0.3	0.1	0.15	0.01	0.1
S-97	Drift East	280	8.5	0.2	0.2	0.1	0.01	0.2
S-98	Drift East	292	8.5	0.1	0.1	0.1	0.01	0.1
S-99	Drift East	303	8.5	0.1	—	0.1	0.04	0.1
S-100	Drift East	313	8.5	0.1	—	0.1	Tr.	0.1
S-101	Drift East	329	8.5	0.1	0.1	0.1	0.01	0.2
S-102	Drift East	340	8.5	0.1	0.1	0.15	0.01	0.2

Sample No.	Location	Distance East of crosscut (ft.)	Sample Width feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-103	Drift East	350	8.5	0.1	0.1	0.1	0.01	0.3
S-104	Drift East	360	8.5	0.1	0.1	0.15	0.02	0.5
S-105	Drift East	370	8.5	0.1	0.1	0.2	0.01	0.3
S-106	Drift East	381	8.5	0.1	0.1	0.1	0.01	0.2
S-107	Drift East	396	8.5	0.1	0.1	0.1	0.01	0.3
S-108	Drift East	408	8.5	0.1	0.1	0.25	0.01	0.2
S-109	Drift East	418	8.5	0.1	0.6	0.2	0.01	0.4
S-110	Drift East	429	8.5	0.1	0.1	0.1	0.01	0.1
S-111	Drift East	440	8.5	0.1	---	0.2	0.01	0.4
S-112	Drift East	452	8.5	0.1	0.1	0.15	0.01	0.3
S-113	Drift East	464	8.5	0.2	0.1	0.2	0.01	0.4
S-114	Drift East	476	8.5	0.1	0.1	0.2	0.01	0.4
S-115	Drift East	481	7.8	0.1	0.3	0.1	0.01	0.5

Cores from diamond drill holes 11, 12, 13 and 15 (fig. 3) drilled from the letter "G" drift east, were sampled and assayed. Data on the holes and the results of assays are as follows:

Sample No.	Location	Depth Sampled feet	Length of Core Assayed-feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-116	D.D.H-11	0-6	6	0.1	0.1	0.5	0.02	0.7
S-117	D.D.H-11	6-12	6	---	0.1	0.1	0.01	0.2
S-118	D.D.H-11	12-16	4	---	0.1	0.1	0.02	0.5
S-119	D.D.H-12	0-10	10	0.4	0.1	0.08	0.01	0.8
S-120	D.D.H-12	10-15	5	1.1	0.6	0.86	0.03	3.0
S-121	D.D.H-12	15-20	5	0.5	---	0.08	0.01	0.5
S-122	D.D.H-12	20-30	10	0.6	0.2	0.04	0.01	0.8
S-123	D.D.H-12	30-40	10	0.3	---	0.04	Trace	0.5
S-124	D.D.H-13	0-10	10	0.1	0.2	---	0.01	0.1
S-125	D.D.H-15	0-5	5	0.1	0.1	0.1	0.01	0.2
S-126	D.D.H-15-	5-10	5	0.2	0.1	0.6	0.01	0.4
S-127	D.D.H-15	10-15	5	0.1	0.2	0.3	0.07	0.2

Ore Reserves

Minable ore reserves in the property appear to be exhausted, and mineralized ground found by the exploration was generally very low in grade. This is shown by the results of the sampling.

Lengths of reserve blocks were chosen to reflect only assay data since no structural information is available. On the basis of drill hole data,

the structure is assumed to have an average width of 20 feet in all blocks except block IV which has a width of 50 feet. Indicated ore is assumed to extend 20 feet above and 20 feet below the level. Inferred ore is assumed to extend 100 feet above and 100 feet below the limits of indicated ore. Although this low grade mineralization may extend upward 1,200 feet to the lower Titusville workings, no information regarding the continuity is available and the heights given above are purely arbitrary.

The letter "G" drift west was sampled over its average width of 8.1 feet, and a length of 330 feet at approximate 10-feet intervals. Samples S-14 through S-40, taken over this length averaged 2.02 percent lead, 0.18 percent zinc, and 0.42 percent copper, with 0.01 ounce gold and 1.4 ounces silver per ton. This length (fig. 3) contains the best assay values obtained in the exploration and is considered as Block I in reserve estimates.

The remaining 273 feet of the letter "G" drift west (fig. 3) was sampled over an average width of 8.3 feet at approximate 10-feet intervals. The average assay value of this section of drift, including samples S-41 through S-62 was only 0.23 percent lead, 0.15 percent zinc and 0.18 percent copper, with 0.007 ounce gold and 2.7 ounces silver per ton. This will be considered as Block II.

Block III will extend from the west side of the crosscut (fig. 3) to a point 465 feet west of the crosscut. Samples S-1 through S-11, in this area average only 0.3 percent lead, 0.2 percent zinc and 0.3 percent copper, with 0.01 ounce gold and 1.7 ounces silver per ton.

Exploration along the letter "G" structure east of the crosscut (fig.3) was sampled over its drift length of 481 feet and is represented by samples S-1 through S-6 in the crosscut and by samples S-72 through S-115 in the drift. In addition, samples S-116 through S-127 are of sections of core from drill holes 4, 11, 12, 13 and 15 which were drilled from the drift east. Block IV (fig. 3) will extend from the east side of the crosscut easterly to the location of sample S-87, a distance of 180 feet. The above samples average 0.9 percent lead, 0.3 percent zinc and 0.6 percent copper, with 0.03 ounce gold and 1.2 ounce silver per ton.

The remaining part of drift exploration eastward along the letter "G" structure (fig. 3) is treated as Block V in estimates. Block V is 285 feet long and includes samples S-88 through S-115 and averages about 0.2 percent lead, 0.2 percent zinc, and 0.1 percent copper, with 0.02 ounce gold and 0.3 ounce silver per ton.

Reserves of mineralized ground explored along the letter "G" structure are listed below, but none are commercially minable under existing conditions.

<u>Block I</u>:

Indicated reserves $\left(\frac{40 \text{ ft. high} \times 330 \text{ ft. long} \times 20 \text{ ft. wide}}{12 \text{ cu ft./ton}}\right) = 22{,}000$ tons

Inferred reserves $\left(\frac{200 \text{ ft. high} \times 330 \text{ ft. long} \times 20 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 110{,}000$ tons

Average Assay

Percent			Oz./Ton	
Lead	Zinc	Copper	Gold	Silver
2.02	0.18	0.42	0.01	1.4

Block II:

Indicated reserves $\left(\frac{40 \text{ ft. high} \times 273 \text{ ft. long} \times 20 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 18{,}200$ tons

Inferred reserves $\left(\frac{200 \text{ ft. high} \times 273 \text{ ft. long} \times 20 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 91{,}000$ tons

Average Assay

Percent			Oz./Ton	
Lead	Zinc	Copper	Gold	Silver
0.23	0.15	0.18	0.007	2.7

Block III:

Inferred reserves $\left(\frac{240 \text{ ft. high} \times 465 \text{ ft. long} \times 20 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 186{,}000$ tons

Average Assay

Percent			Oz./Ton	
Lead	Zinc	Copper	Gold	Silver
0.3	0.2	0.3	0.01	1.7

Block IV:

Indicated reserves $\left(\frac{40 \text{ ft. high} \times 180 \text{ ft. long} \times 50 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 30{,}000$ tons

Inferred reserves $\left(\frac{200 \text{ ft. high} \times 180 \text{ ft. long} \times 50 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 150{,}000$ tons

Average Assay

Percent			Oz./ton	
Lead	Zinc	Copper	Gold	Silver
0.9	0.3	0.6	0.03	1.2

Block V:

Indicated reserves $\left(\frac{40 \text{ ft. high} \times 285 \text{ ft. long} \times 20 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 19{,}000$ tons

Inferred reserves $\left(\frac{200 \text{ ft. high} \times 285 \text{ ft. long} \times 20 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 95{,}000$ tons

Average Assay

Percent			Oz./Ton	
Lead	Zinc	Copper	Gold	Silver
0.2	0.2	0.1	0.02	0.3

Indicated ore reserves total 89,200 tons averaging 0.89 percent lead, 0.22 percent zinc, 0.36 percent copper, with 0.018 ounce gold and 1.0 ounce silver per ton.

Inferred ore reserves total 632,000 tons averaging 0.72 percent lead, 0.21 percent zinc, 0.34 percent copper, with 0.016 ounce gold and 1.46 ounces silver per ton.

PRODUCTION FROM DISCOVERY

No ore was stoped from the main level exposure of the letter "G" structure, but 2,325 tons of low-grade development rock from DMEA exploration is stockpiled at the Shenandoah-Dives mill.

CONCLUSIONS AND RECOMMENDATIONS

The letter "G" structure as exposed on the main (4177) level of the Shenandoah-Dives Silver Lake mine (figs. 2 and 3) contains only narrow, discontinuous veins, in a latite or andesite composite dike. The completion of 1,625.5 feet of drifting along the letter "G" structure has exposed only sub-marginal reserves of lead-zinc-copper-gold-silver ore which are too low grade to mine and concentrate profitably.

SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado
Nov. 4, 1955

DMEA
Date Rec'd.
NOV 7 1955
BUREAU OF MINES
Denver, Colorado

Mr. W. M. Traver,
Executive Officer, DMEA
Field Team, Region III
224 New Customhouse
Denver 2, Colorado.

Re: Docket DMEA 2991
(Lead,Zinc,Copper),
Contract IDM-E 558
Final Report

Dear Sir:

Enclosed please find five copies each of:-

1 Sample record by 100 ft. blocks--averages of our drift samples, omitting all diamond drill hole samples.
2 Copies of all samples taken--this a duplication of the monthly reports, to give you the complete sample record for the project.
3 Claim map showing Crosscut and Drift performance in Green and diamond drill holes in red.
4 Detailed cost of project, June 16, 1953 through May 29, 1954.

This report covers the period, June 16, 1953 through May 29, 1954. Government participation under the DMEA contract was started on July 6th, a Government Engineer giving us an official starting point on that date. Therefore, the total crosscutting and drifting amounted to 2,988.5 feet. Government participation 2,799.5 ft. A total of 1,228.5 ft. of diamond drilling was done. Ore crushed, transported over tramway and stockpiled at mill 2,325 tons. Waste removed 12,168 tons.

A vein was cut at the 758 co-or. in the crosscut. At the time we did not believe this could be the letter "G" vein because of the strike and a reverse dip of 75 degrees. The crosscut was extended beyond this point to the 908 co-or., approximately 50 feet beyond where we should have found the vein. A diamond drill hole 221 feet straight ahead failed to disclose vein structure. A drift was started from the 700 co-or. and turned to pick up the 758 vein about 100 feet west from the crosscut. After completing the turn we found only a narrow streak of lead ore that pinched out in a few feet. The drift was advanced to 360 W. co-or. At this point three diamond drill holes were driven. Two of the drill holes to the southwest disclosed ore. The drift was then turned to the southwest and at 460 W. the letter "G" vein, on proper strike and dip, showed ore with fair values, which continued to about 777 W. From 777 W. to 1050 W. we were in low grade vein structure. At this time we asked for and were granted permission to drift East from the crosscut. A fair grade of ore was found from 18 E. to 105 E. Only low grade vein material was found the remainder of the distance East to Co-or 481 when we suspended operations. The last 100 feet of drifting to the East was on good vein structure showing quartz and heavy iron, and on proper dip and strike of the letter "G" vein. The above indicates that we hit the letter "G" vein (758 in the X-C) in a faulted Zone.

Yours truly,

Edwin A. Larson

Edwin A. Larson, Res. Mgr.

EAL:1
cc: B.F.S.-Denver
K.C. Office

LETTER "G" VEIN

Assays and values of ore by 100 ft. blocks
Averaged from daily drift samples
Co-ordinates East & West from Crosscut

	Au Oz.	Ag Oz.	Pb %	Cu %	Zn %	Gross Value	60 % Net Smelter
Metal Prices	$35.00	.90	.15	.40	.12	$	$
460 W - 500 W	.01	1.77	1.52	.23	.60	9.78	5.87
500 W - 600 W	.007	1.22	1.12	.15	-	5.90	3.54
600 W - 700 W	.011	1.40	2.75	.50	.20	14.37	8.62
700 W - 800 W	.01	1.27	2.34	.68	.14	14.28	8.57
800 W - 900 W	.008	.40	.21	.38	.30	5.03	3.02
900 W - 1000 W	.01	.20	.30	.10	-	2.23	1.34
1000 W - 1050 W	.01	.10	.10	-	-	.74	.38
18 E - 100 E	.03	2.21	1.32	1.23	.26	17.46	10.48
100 E - 200 E	.034	.72	.57	.35	.28	7.02	4.21
200 E - 300 E	.03	.31	.35	.15	.28	4.25	2.55
300 E - 400 E	.014	.24	.10	.10	.10	2.05	1.23
400 E - 481 E	.01	.33	.10	.20	.16	2.93	1.76

(Diamond Drill hole at 316 E Average 11.3% Fe)

SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado.

DRIFT SAMPLES FOR THE MONTH OF JANUARY 1954

Metal prices:		
	Au	$35.00
	Ag	.90
	Pb	.13
	Cu	.29
	Zn	.095

Date	Sample No.		Width ft.	Au Oz.	Ag Oz.	Pb %	Cu %	Zn %	Value Gross	Value Net-60%
1/29/54	1093	Co-or 460 W	7.0	.01	1.9	.8	.28	.9	$ 7.47	$4.48
1/30/54	1094	" 472 W	7.0	.01	2.0	1.4	.24	.7	8.51	5.11
2/1/54	1095	" 485 W	8.0	.01	1.7	3.2	.36	.6	13.43	8.06

SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado

DRIFT SAMPLES FOR THE MONTH OF FEBRUARY 1954

				Au	Ag	Pb	Cu	Zn		
			Metal Prices	$35.00	$ .90	$ .12	$ .29	$ .09		
Date	Sample No.		Width Ft.	Au Oz.	Ag Oz	Pb %	Cu %	Zn %	Value Gross	Value Net-60%
2/2/54	1096	495 W drift	9.0	.01	1.5	.7	.04	.1	$ 3.79	$ 2.27
2/3/54	1097	507 W drift	9.0	.01	1.8	.9	.14	-	4.94	2.96
2/4/54	1098	520 W drift	8.0	Tr.	.5	.2	.02	.1	1.23	.74
2/5/54	1099	531 W drift	8.0	Tr.	.7	.4	.04	-	1.82	1.09
2/6/54	1100	542 W drift	8.0	.01	.9	.6	.04	-	2.83	1.70
2/8/54	1240	554 W drift	8.5	.01	1.2	1.4	.08	-	5.25	3.15
2/9/54	1241	563 W Drift	8.5	.01	1.8	1.1	.32	.1	6.65	3.99
2/10/54	1242	575 W Drift	8.5	.01	1.6	3.1	.18	.2	10.63	6.38
2/11/54	1243	589 W Drift	8.5	.01	1.3	1.3	.38	-	6.84	4.10
2/12/54	1244	601 W Drift	9.0	.02	1.8	2.2	.56	-	10.85	6.51
2/13/54	1245	614 W.Drift	5.0	.01	1.5	3.0	.20	.3	10.60	6.36
2/15/54	1246	626 W Drift	5.5	.02	2.0	6.5	.16	.2	19.39	11.63
2/16/54	1247	638 W Drift	9.0	.01	1.7	4.6	.68	.3	17.40	10.44
2/17/54	1249	651 W Drift	9.0	.01	1.3	2.2	1.04	.1	13.01	7.81
2/18/54	1250	665 W Drift	8.0	.01	1.5	1.0	.86	.6	10.17	6.10
2/19/54	1251	678 W Drift	8.0	Tr	.2	.3	.22	-	2.18	1.31
2/20/54	1254	691 W Drift	9.0	.01	1.2	2.2	.32	-	8.57	5.14
2/22/54	1255	701 W Drift	9.0	.01	2.0	3.8	.70	.10	15.51	9.31
2/23/54	1256	712 W Drift	8.5	.01	.9	2.0	.12	-	6.66	4.00
2/24/54	1257	725 W Drift	8.5	.02	2.2	6.8	.44	.50	22.45	13.47
2/25/54	1258	739 W Drift	8.5	.01	1.5	1.5	1.45	.20	14.07	8.44
2/26/54	1259	753 W. Drift	8.5	Tr.	.4	.4	.10	-	1.90	1.14
2/27/54	1260	765 W Drift	8.0	.01	1.4	1.9	.90	.10	11.57	6.94
3/1/54	1261	777 W Drift	8.0	.01	1.2	2.2	1.35	.10	14.72	8.83

SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado

DRIFT SAMPLES FOR THE MONTH OF MARCH 1954

				Au.	Ag	Pb	Cu	Zn			
			Metal Prices	$35.00	$ .90	$ .12	$ .29	$ .09			
Date	Sample No.		Width Ft.	Au Oz.	Ag Oz.	Pb %	Cu %	Zn %	Value Gross	Value Net-60%	
3/2/54	1262	Test hole	7.0	.01	.4	.2	.3	.2	$ 3.29	$ 1.97	
3/2/54	1263	789 W. Drift	9.0	.01	.6	.1	.4	.1	3.63	2.18	
3/3/54	1264	802 W. Drift	9.0	.01	.2	.4	.2	1.8	5.89	3.53	
3/4/54	1265	815 W. Drift	8.5	.02	.4	.4	.3	.2	4.12	2.47	
3/5/54	1266	828 W. Drift	8.5	.01	1.6	.2	1.9	.1	13.47	8.08	
3/6/54	1267	840 W. Drift	9.0	-	.1	.2	-	-	.57	.34	
3/8/54	1428	840 DDH 0-6'		.01	.6	.2	.4	.1	3.87	2.32	Avg $2.34
3/9/54	1429	840 DDH 6-12'		.03	.3	.1	.4	.1	4.06	2.44	
3/10/54	1268	852 W. Drift	8.0	.01	.2	.1	.1	.1	1.53	.92	
3/11/54	1269	865 W. Drift	8.5	-	.1	.1	-	.1	.60	.36	
3/12/54	1270	878 W. Drift	9.0	.01	.3	.1	.3	.1	2.78	1.67	
3/13/54	1271	891 W. Drift	9.0	.01	.3	.2	.2	.1	2.44	1.46	
3/15/54	1272	904 W. Drift	8.5	-	.1	.1	.2	.1	1.67	1.00	
3/16/54	1273	910 W. Drift	8.5	-	-	.1	.1	.1	1.00	.60	
3/17/54	1274	923 W. Drift	9.0	.01	.1	-	.1	-	1.02	.61	
3/18/54	1275	938 W. Drift	8.5	.01	.7	2.6	.1	.1	7.98	4.79	
3/19/54	1276	950 W. Drift	10.0	.01	.4	.1	-	-	.95	.57	
3/22/54	1430	950 DDH 0-6'		.02	.7	.1	.5	.1	4.65	2.79	$1.18
	1431	950 DDH 6-12'		.01	.2	-	.1	.1	1.29	.77	
	1432	950 DDH 12-16'		.02	.5	-	.1	.1	1.91	1.15	
3/24/54	1277	956 W. Drift	9.0	.02	.2	.1	.1	.1	1.88	1.13	
3/25/54	1278	970 W. Drift	8.5	.01	.1	-	-	-	.44	.26	
3/26/54	1279	983 W. Drift	8.5	-	.1	-	-	-	.09	.05	
3/27/54	1280	998 W. Drift	8.5	.02	.2	.1	-	-	.77	.46	
3/29/54	1281	1010 W. Drift	8.5	.01	.1	.1	-	.1	.77	.46	
3/30/54	1282	1023 W. Drift	9.0	-	-	.1	-	.1	.35	.21	$.36
3/31/54	1283	1036 W. Drift	8.5	-	-	-	-	-	-	-	
4/1/54	1284	1050 W. Drift	8.5	.01	.1	.1	-	-	.68	.41	

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

DATE April 1954

Metal Prices $35. .90 12¢ 29¢ 9¢

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
1285	18 E. Drift 4/5	8.5'	.02	1.7	1.4	.9	.5	$ 11.71	$ 7.03
1286	28 E. Drift 4/6	8.5'	.04	2.3	3.0	1.8	.3	21.65	12.99
1287	38 E. Drift 4/7	8.5'	.03	1.5	2.6	1.1	.5	15.92	9.55
1288	48 E. Drift 4/8	8.5'	.03	1.0	.5	1.0	.2	9.31	5.58
1289	60 E. Drift 4.9	8.5'	.03	1.5	.6	1.2	.2	11.16	6.70
1290	70 E. Drift 4/10	8.5'	.04	3.2	.9	2.2	.1	19.38	11.62
1291	82 E. Drift 4/12	8.5'	.02	.7	.6	.5	.2	6.03	3.62
1292	78 E. Test Hole, 5 ft. left side of drift		.08	1.4	.8	1.2	.2	13.30	7.98
1293	78 E. Test Hole, 6 ft. right side of drift		.02	.4	.1	.5	.2	4.56	2.74
1294	94 E. Drift 4/13	8.5'	.03	5.8	1.0	1.2	.1	15.81	9.49
1295	105 E. Drift 4/14	8.5'	.02	2.3	.7	.9	.2	10.03	6.02
1296	115 E. Drift 4/15	8.5'	.01	.4	.2	.3	.1	3.11	1.87
1297	111 E. Test Hole, 10 ft. left side of drift		.02	.7	1.1	.3	.1	5.89	3.53
1298	111 E. Test Hole, 8 ft. right side of drift		.02	.6	.2	.3	.2	3.92	2.35

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

DATE April 1954

Metal Prices $35. .90 12¢ 29¢ 9¢

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
1299	126 E. Drift 4/16/54	8.5'	.04	1.0	.5	.6	.2	$ 7.34	$ 4.40
1300	138 E. Drift 4/17/54	8.5'	.01	.8	.7	.6	.1	6.41	3.85
1433	148 E. Drift 4/19/54	8.5'	.02	.7	1.1	.4	.2	6.65	3.99
1434	146 E. Test Hole 7 feet left side		.02	.3	.6	.2	.1	3.75	2.25
1435	158 E. Drift 4/20/54	8.5'	.06	.2	.5	.2	.8	6.08	3.65
	165 E. Dia.Drill Hole # 291 40 ft Right Side								
1540	0 to 10'		.01	.8	.4	.08	.1	2.67	1.60
1541	10' to 15'		.03	3.0	1.1	.86	.6	12.46	7.48
1542	15' to 20'		.01	.5	.5	.08	-	2.46	1.48
1543	20' to 30'		.01	.8	.6	.04	.2	3.10	1.86
1544	30' to 40'		tr	.5	.3	.04	-	1.40	.84
1547	0 to 10' (cuttings from DDH)		.16	1.3	.4	.12	.1	8.61	5.17
1548	10' to 20' (cuttings from DDH)		.04	1.7	.7	.64	.3	8.86	5.32
	165 E. Dia.Drill Hole # 290 10 ft left side								
1538	0 to 10'		-	.1	.1	-	.2	.69	.41
1539	Cuttings, 0 to 10'		.01	.2	.1	-	1.4	3.29	1.97
	95 E Dia.Drill Hole # 292 22 ft Right side								
1545	0 to 10'		.01	.2	.1	.1	.4	2.07	1.24
1546	10' to 22'		.01	.1	.2	.1	.5	2.40	1.44
1549	0 to 10' (cuttings)		.01	.2	.1	.1	.2	2.23	1.34
1550	10' to 22' (cuttings)		.03	.3	.3	.1	.6	3.70	2.22

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

DATE April 1954

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
			$35.	.90	12¢	29¢	9¢		
1436	167 E. Drift 4/23/54	8.5	.03	.7	1.6	.3	.3	7.80	4.68
1437	174 E. Drift 4/24/54	8.5	.12	.4	.2	.2	.4	6.92	4.15
1438	185 E. Drift 4/26/54	8.5	.02	.6	.1	-	.3	2.02	1.21
1439	196 E. Drift 4/27/54	8.5	.01	.1	.1	-	.2	1.04	.62
1440	208 E. Drift 4/28/54	9.0	.08	.3	.2	.15	.1	4.60	2.76
1441	204 E. Test Hole	8.0	Tr.	.1	.1	-	.1	.51	.31
1442	220 E. Drift 4/29/54	8.5	.01	.4	.1	.3	.7	3.95	2.37
1443	231 E. Drift 4/30/54	8.5	.01	.2	.2	.1	.1	1.77	1.06
1541	Dia. Drill Hole # 291 10' to 15'								
	Vanadium .05								
	Uranium .01								
	Molybdenum .08								
	Manganese 2.4								
1444	242 E. Drift 5/1/54	8.5	.04	.2	.5	.1	.2	3.72	2.23
1445	247 E. Drift 5/3/54	8.5	.02	1.0	1.3	.2	.3	6.42	3.85

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

DATE May 1954

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
			$35.	.90	12¢	29¢	9¢		
1446	259 E. Drift	8.5'	.07	.3	.3	.15	.7	5.57	3.34
1447	264 E. Test Hole 8 feet Footwall		Tr.	.1	.1	-	.15	.60	.36
1448	270 E. Drift	8.5'	.01	.1	.3	.15	.1	2.21	1.33
1451	280 E. Drift	8.5'	.01	.2	.2	.1	.2	1.95	1.17
1552	292 E. Drift	8.5'	.01	.1	.1	.1	.1	1.44	.86
1453	303 E. Drift	8.5'	.04	.1	.1	.1	-	2.31	1.39
1454	313 E. Drift	8.5'	Tr.	.1	.1	-	.1	.51	.31
	316 E. Dia. Drill Hole # 294								
1551	0 - 5 ft. Left Side		.01	.2	.1	.1	.1	1.53	.92
1552	5 - 10 ft. " "		.01	.4	.2	.6	.1	4.85	2.91
1553	10 - 15 ft. " "		.07	.2	.1	.3	.2	4.97	2.98
	(Dia.Drill samples average 11.3 Iron)								
1455	329 E. Drift	8.5'	.01	.2	.1	.1	.1	1.53	.92
1456	340 E. Drift	8.5'	.01	.2	.1	.15	.1	1.82	1.09
1457	350 E. Drift	8.5'	.01	.3	.1	.1	.1	1.62	.97
1458	360 E. Drift	8.5'	.02	.5	.1	.15	.1	2.44	1.46
1459	370 E. Drift	8.5'	.01	.3	.1	.20	.1	2.20	1.32
1460	381 E. Drift	8.5'	.01	.2	.1	.10	.1	1.53	.92

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

DATE May 1954

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
			$35.	.90	12¢	29¢	9¢		
1461	396 E. Drift	8.5	.01	.3	.1	.1	.1	$ 1.62	$ .97
1462	408 E. Drift	8.5	.01	.2	.1	.25	.1	2.40	1.44
1463	418 E. Drift	8.5	.01	.4	.1	.20	.6	3.19	1.91
1464	429 E. Drift	8.5	.01	.1	.1	.10	.1	1.53	.92
1465	440 E. Drift	8.5	.01	.4	.1	.20	-	2.11	1.27
1466	452 E. Drift	8.5	.01	.3	.1	.15	.1	1.91	1.15
1467	464 E. Drift	8.5	.01	.4	.2	.20	.1	2.53	1.52
1468	476 E. Drift	8.5	.01	.4	.1	.20	.1	2.29	1.37
1469	481 E. Drift	7.5	.01	.5	.1	.30	.2	3.14	1.88
1450	990 W. Drift .02 Uranium								
1449	167 E. Drift .02 Uranium								

SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado
DMEA 2991
IDM-D 558
Advance, July 6, 1953
to May 29, 1954 2,799.5 ft.
Diamond Drilling 1,228.5 ft.
LAST CHANCE 7896 AMD
PANUCO 7896 AMD
PROFESSOR MEISLACK 11469
PROFESSOR ZEUNER 11469
PROFESSOR WEDDING 11469
MARTIGAN LOY 7344
DDH
6/1/54
6/1/54
July 5th '53
400E
300E
200E
100E
100W
200W
300W
400W
500W
600W
700W
800W
900W
1000W
850W
8
7
6
5
4
3
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1
0
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SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado

Letter "G" Crosscut and Drift.
June 16, 1953 to May 29, 1954

Total advance	2,988.5 ft.*
Diamond drilling	1,228.5 ft
Ore stockpiled	2,325 tons
Waste Removed	12,168 tons

* Government participation, D.M.E.A. Contract 2,799.5 feet

	Total	Cost/ft. Basis 2,988.5 ft.
Labor - Miners	$ 41,004.53	$ 13.72
Liability Insurance	2,362.63	.79
Payroll Tax	1,301.08	.44
Explosives	10,845.51	3.63
Electric Caps	3,700.84	1.24
Track & Ditch	6,533.111	2.19
Air, Water & Vent. Lines	7,456.24	2.49
Electric Power	18,924.21	6.33
Drill Steel	5,496.75	1.84
Sharpening	2,651.42	.89
Supervision - Supt.	9,000.00	3.01
- Shift Bosses	10,200.00	3.41
Clerk	4,200.00	1.41
M&R Compressor	1,722.73	.58
" Drills	2,622.70	.88
" Locomotives	1,741.05	.58
" Cars & Dumper	1,694.60	.57
" Elec Plant & Trolley	2,273.47	.76
" Edison Mine Lamps	1,719.09	.57
" Mucking Machine	1,865.82	.62
Engineering & Assaying	749.05	.25
Lubrication	142.39	.05
Tools	150.37	.05
Diamond Drilling	2,804.93	.94
Timbering	252.95	.08
Stockpiling ore at Mill	692.67	.23
Total	$ 142,108.14	$ 47.55
Government D.M.E.A. Contract 2991 2,799.5 feet @ 25.15	70,407.43	23.55
	$ 71,700.71	$ 24.00

Does not include Aerial tramway costs of transporting men, material and ore to mill stockpile (approx. $9,660.)
Depreciation of equipment is not included

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

204 New Customhouse
Denver 2, Colorado

June 12, 1953.

Memorandum

To: Secretary to the Operating Committee, Defense Minerals Exploration Administration

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2991 (Lead-Zinc), Shenandoah-Dives Mining Company, San Juan County, Colorado.

Enclosed are the original and three copies of the final report on Docket No. DMEA-2991.

The proposed project consists of crosscutting 1300 feet to cut the Letter G vein, drifting 1700 feet on the vein, and raising 500 feet on the vein.

The estimated cost of the project is $211,900.00. The amount of Government participation would be $105,950.00.

We recommend that this application be approved and an exploration project contract be prepared.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

JFS:cmm

cc: WHTraver w/copy of Final Report
AHKoschmann w/copy of Final Report
Mining Division w/copy of Final Report
DMEA w/copy of Final Report
Subject
AHKoschmann (2)
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

June 12, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2991 (Lead-Zinc), Shenandoah-Dives Mining Company, San Juan County, Colorado.

Enclosed are nine copies of the final report on Docket No. DMEA-2991 by Scott W. Hazen, Jr., Mining Engineer, United States Bureau of Mines, and D. J. Varnes, Geologist, United States Geological Survey.

The proposed work consists of crosscutting 1300 feet to cut the Letter "G" vein, drifting 1700 feet on the vein, and raising 500 feet on the vein.

The estimated cost of the work is $211,900.00.

We agree with the examining team that this application be approved.

W. H. King

W. H. King

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
June 11, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 2991, Shenandoah-Dives Mining Company (Lead-zinc), San Juan County, Colorado

Please find enclosed the original and eight copies of the "Summary, Conclusions, and Recommendations", by Scott W. Hazen, Jr. and D. J. Varnes and of Hazen's engineering report on the subject docket.

Hazen concludes the applicant company has a 20,000-ton-a-month production potential and in addition maintains custom milling facilities which are the main support for the town of Silverton and the surrounding area. The proposed exploration has every chance of success as ore in the Letter "G" vein can be expected to continue to depths equal to other veins in the San Juan region and furnish an ore supply to the mill for a number of years. He recommends a short-form contract for 3,000 feet of drifting at $50.30 a foot, or $150,900.00, and 500 feet of raising at $122.00 a foot, or $61,000.00—a total of $211,900.00.

I concur with his conclusions and recommendations.

W. M. Traver

W. M. Traver

enclosures

WMT/cb

cc: 8
DMEA 2991
Chron .

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 2991

Shenandoah-Dives Mining Company

San Juan County, Colorado

Lead-Zinc

Scott W. Hazen, Jr.
Bureau of Mines

D. J. Varnes
Geological Survey

June 11, 1953

DMEA 2991

SHENANDOAH-DIVES MINING COMPANY
SAN JUAN COUNTY, COLO.

Summary, Conclusions, and Recommendations

By Scott W. Hazen, Jr.
Mining Engineer
Bureau of Mines

D. J. Varnes
Geologist
Geological Survey

DMEA 2991

SHENANDOAH-DIVES MINING COMPANY
SAN JUAN COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Scott W. Hazen, Jr. and D. J. Varnes

The Shenandoah-Dives Mining Company, of Silverton, San Juan County, Colo., has applied for a Defense Minerals Exploration Administration loan to extend the main level of the mine about 1,300 feet to cut the Letter "G" vein, drift 1,700 feet on the vein, and then drive a 500-foot raise on the vein to connect with the old upper workings.

The Letter "G" vein is known to have a surface outcrop over 11,000 feet long. Earlier underground work at higher levels extended along a length of about 5,000 feet over the proposed area of exploration. The maximum available back is about 2,000 feet. The vein material occupies a strong shear fracture, which had already been injected with dike material in several stages prior to mineralization. It is the habit in the Silverton area for veins which follow dikes to be more continuous, although not necessarily more productive, than those which do not follow dikes. The Letter "G" vein is considered to be one of the master fractures which controlled development of many other veins in the South Silverton Mining District. As a whole, the geologic setting is favorable to the proposed exploration.

There are two partially developed mines on the upper portion of the vein. These mines operated prior to 1910. Their assay records

indicate several ore shoots which could be mined at present low metal prices and other areas which could be mined at slightly better metal prices. Charles A. Chase, Executive Vice-President of the Shenandoah-Dives Mining Company, who has been in active charge of the mining for about 25 years, estimates there will be a 15-year ore reserve developed on this Letter "G" vein. It is the only possible source of ore for the company, as all other known veins in the company's sphere of operation have been developed and mined. Present ore reserves are practically nonexistent and are far too low in value to be mined at a profit. The average ore being mined when the mine closed in April 1953 had a net smelter value of $4.00 per ton, while mining costs were averaging $6.00 per ton. All known or possible ore reserves in the veins being mined are of equal or even lower value.

The mine is situated in the rugged, mountainous San Juan County but has proper facilities to operate all winter. Through its custom mill facilities, the company has been the mainstay of most other mining operations in the Silverton area. It has employed about 150 men at the mine and mill and produced 18,000 to 20,000 tons of ore per month since 1930. With careful management and supervision it was able to continue operations even through the depression years of the 1930's.

Claims on which the exploration will be performed are owned by the American Smelting and Refining Company. The Shenandoah-Dives

Mining Company has a lease on the claims. Subordination agreements will be necessary. It also appears that the lease should be amended to permit a lien against the lease and to incorporate Government repayment royalties as a specific charge. Both parties have outstanding development "losses" which are specifically allowed for on a repayment schedule in the lease. The exploration will cross a small angular fraction of "open" ground near the beginning point. The American Smelting and Refining Company has verbally indicated it will arrange to have the fraction covered by location as soon as the area is accessible. The crosscutting will cross the American Boy claim, No. 7244, in which the American Smelting and Refining Company holds only two-thirds ownership. The remaining one-third ownership is held by D. J. Maxwell, McClintic Building, Midland, Texas. Near the 1,400-foot point of the proposed drifting on the Letter "G" vein, the work will progress on to "open" ground unless the old system of apex rights will hold valid at this time. Vertical side lines of claims would not cover the exploration drifting beyond the 1,400-foot point.

The Shenandoah-Dives Mining Company has the facilities and equipment to produce 20,000 tons of ore per month and also has maintained a custom milling program which is absolutely essential to the survival of many other small mining operations in the district. The mine and mill employed an average of 150 men, plus keeping at least another 50 men working through the custom mill facilities. Actually, the entire mining and business community of Silverton, 1,000 people, is completely dependent upon the Shenandoah-Dives Mining Company.

There is no doubt that the company is faced with a complete lack of ore reserves unless the exploration program is carried out. Without abnormally high lead-zinc prices, it is not conceivable that the mine can operate again except to finish pulling broken ore and old stope fills. This could be accomplished in 6 months. Completion of the exploration program as proposed is expected to make available a large tonnage of ore and keep a major producing property in operation, as well as facilitate other mining in the district.

The exploration proposed is recommended at a total cost of $211,900.00. Government participation at 50 percent will be $105,950.00. The contract can be prepared on a short form MF-200(A).

Drifting costs have been calculated at $50.30 per foot, or $150,900.00 for 3,000 feet. Exploration raising costs have been calculated at $122.00 per foot, or $61,000.00 for 500 feet.

Although total time for completion has been calculated at 16 months, delays and driving the production portion of the raise will increase the time. It is recommended that 24 months be allowed for completion time.

DMEA 2991

SHENANDOAH-DIVES MINING COMPANY
SAN JUAN COUNTY, COLORADO

Engineering Report

By Scott W. Hasen, Jr.
Mining Engineer
Bureau of Mines

DMEA 2991

SHENANDOAH-DIVES MINING COMPANY
SAN JUAN COUNTY, COLORADO

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DMEA 2991

SHENANDOAH-DIVES MINING COMPANY
SAN JUAN COUNTY, COLORADO

ENGINEERING REPORT

By

Scott W. Hasen, Jr.

INTRODUCTION

The Shenandoah-Dives Mining Company, of Silverton, San Juan County, Colo., has applied for a Defense Minerals Exploration Administration loan to extend the main level of the mine to the south about 1,300 feet to cut the Letter "G" vein, drift 1,700 feet westerly on the Letter "G" vein, and then drive a 500-foot raise on the vein to connect with the old upper workings. The exploration will eventually open up a vein which is known to have a surface outcrop over 11,000 feet long, and to have been exposed underground along a length of 5,000 feet and with an available back of 2,000 feet maximum. The vein has a dike wall and, based on mining on other veins in the immediate vicinity, lead-copper-zinc mineralization is expected to extend in depth to the exploration tunnel level.

Assay maps made prior to 1908 from two old mines operated at that time indicate ore bodies have been found from surface to the bottom of the old workings, a vertical range of 2,000 feet. Assay values indicate the ore can be profitably mined at present low metal prices. Charles A. Chase, Executive Vice-President of the Shenandoah-Dives Mining Company expects to open up 15 years' ore reserve, or approximately 3,000,000 tons.

The company has operated continuously from 1928 to April 1953 when it was forced to close because of low-grade ore and low metal prices. Examination of the mine and stope records indicates the mine cannot be expected to reopen unless new sources of ore are found. Twenty-five years of continuous operation has completely depleted the ore on the three major veins which the company has worked. The operation has employed 130 men at the mine and 20 men in the 750-ton mill and has operated a custom milling service which has sustained many other mining operations in the district.

ACKNOWLEDGMENTS

Charles A. Chase, Executive Vice-President of the Shenandoah-Dives Mining Company, John Holmgren, Mine Superintendent, and Edwin A. Larson, Office Manager, furnished all the data and assistance necessary for the mine examination and report.

LOCATION, TOPOGRAPHY, AND CLIMATE

The mine is situated in the rugged, mountainous San Juan County of Colorado (fig. 1). The mill is in the Animas River Valley, 2-1/2 miles northeast of Silverton, and the mine is in Arrastre Basin, 2 miles south of the mill. A 2-mile aerial tramway connects the mill and mine (fig. 2). All materials, supplies, and employees are transported to the mine by way of the tram. A very steep road does exist between the mill and mine, but it is seldom used and is not maintained in winter. Elevations are approximately 9,600 feet at the mill and 11,200 feet at the mine. The cliffs of the cirque basin

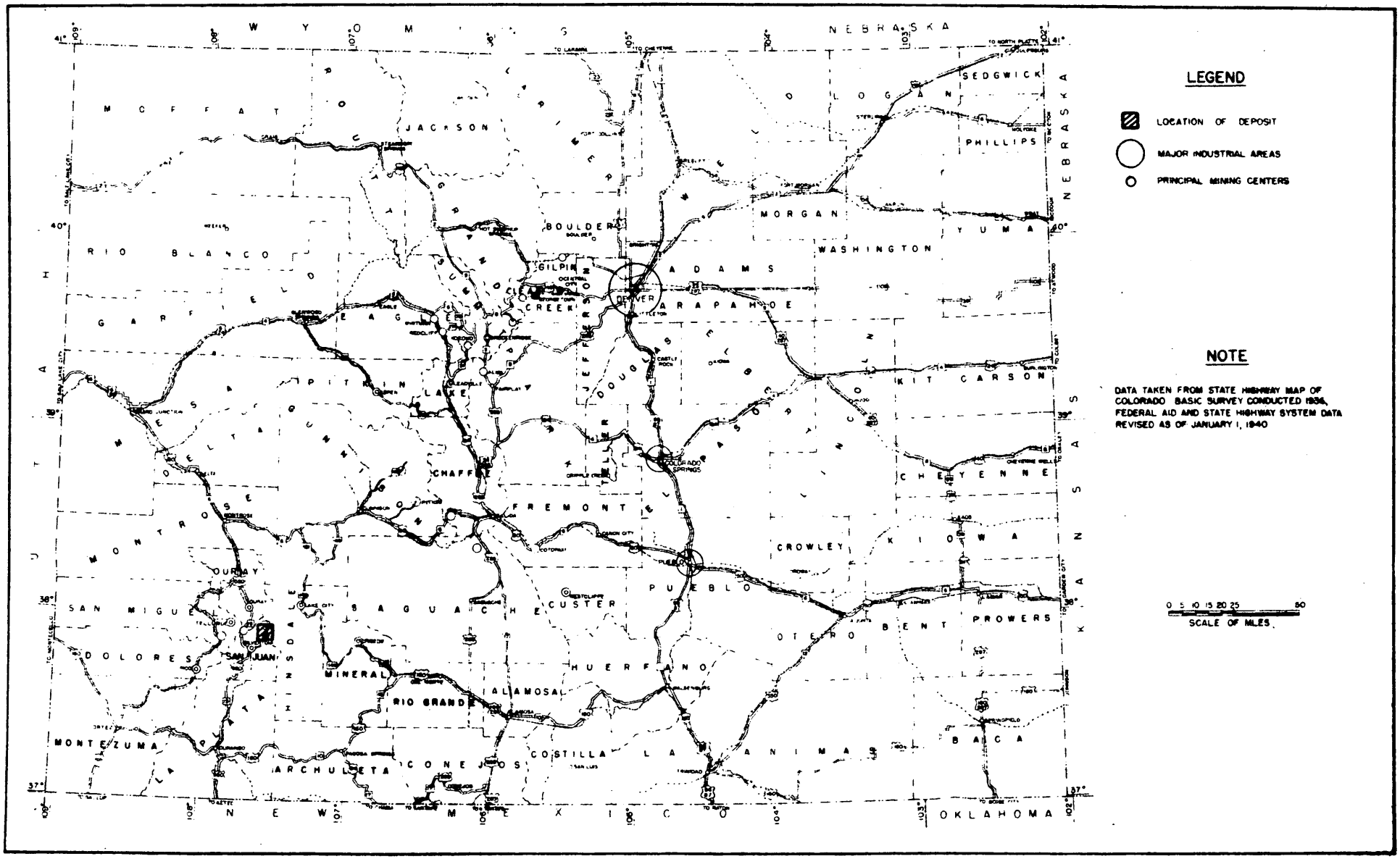

FIGURE 1. - LOCATION MAP, SHENANDOAH-DIVES MINING COMPANY, SAN JUAN COUNTY, COLO. (DMEA 2991).

rise almost vertically directly behind the mine buildings. The numerous vein outcrops are found in Silver Lake Basin, a higher valley to the south, and on the 13,000-foot peaks and ridges south of the mine.

Most of the miners live in Silverton and ride the tram back and forth to work. A boardinghouse-bunkhouse is maintained at the mine. With the aid of the tram, all-year operations are maintained, even during the most severe winters.

Electric power is obtained locally from the Western Colorado Power Company. Most mine supplies are obtained locally at Silverton or at Durango, Colo., 55 miles south of Silverton. Mine and mill equipment is available at Denver, Colo. Freight service is maintained by trucks and during the summer and part of the winter by the narrow-gauge line of the Denver and Rio Grande Western Railroad.

HISTORY AND PRODUCTION

The history of the mines of Silver Lake Basin is a story of early attempts to operate small mines on single claims in a rugged, mountain area where long and severe winters isolate the miners much of the year. Prospecting began in 1870 and most claims were located by 1876. In 1887 Edward G. Stoiber consolidated a large group of claims along nearly 4 miles of the Silver Lake vein and over a mile along the Titusville - Buckeye or Letter "G" vein. He also covered portions of the Royal, Professor Stelzner, and Whale - Rochester veins. This grouping was known as the Silver Lake Mines. They developed the

Silver Lake, Melville, New York, and Letter "G" veins through the Unity tunnel level, which is approximately 475 feet above the Shenandoah-Dives Mining Company's main level. The Letter "G" vein was explored and developed between 1904 and 1908, and no work was done after that time. Silver Lake Mines continued operating until 1918 or 1919. The property was later acquired by the American Smelting and Refining Company.

The property owned by the Shenandoah-Dives Mining Company represents a consolidation of the Shenandoah-Dives, North Star, and Mayflower holdings, which was effected in 1925. The company began operations shortly thereafter and in 1928 and 1929 utilized the old Iowa mill in Arrastre Basin for milling the ore. In 1930 the new mill was erected in the Animas Valley, and the ore was handled by tram from the mine. The company was able to continue operating throughout the depression years.

In 1936 an agreement was made with the American Smelting and Refining Company to drive a 4,000-foot crosscut to open its holdings, formerly the Silver Lake mines group. The Silver Lake vein was cut at 3,220 feet, and the Melville - Royal - Black Diamond vein was cut at 4,177 feet. The American Smelting and Refining Company attempted to operate through an agreement whereby the ore was hauled, crushed, trammed, and milled for a flat rate per ton by the Shenandoah-Dives Mining Company. The system did not operate smoothly, and in 1942 the Silver Lake mines group was leased to the Shenandoah-Dives Mining Company. A new 30-year lease has been signed by both companies and is effective January 1, 1953.

Production by the Silver Lake Mines for the period of 1902 to 1918, inclusive, is listed in table 1. Production data prior to 1902 are not available, although a copy of a statement by Stoiber is submitted to show that the operation was producing about 70,000 tons of mill ore per year in 1899.

Various production records of the Shenandoah-Dives Mining Company are listed in tables 2, 3, and 4.

TABLE 1/ - Production by Silver Lake Mines
(Earlier data on production not available)

Year	Tons	Gold ounces per ton	Gold total ounces	Silver ounces per ton	Silver total ounces	Lead percent	Lead tons	Copper percent	Copper tons
1902	83,496	0.161	13,470	3.20	267,574	0.922	768.822	1.068	889.548
1903	98,076	.168	16,513	4.55	446,113	1.750	1,718.473	1.003	982.532
1904	89,863	.162	14,612	6.10	548,608	2.255	2,025.787	1.130	1,016.386
1905	69,950	.112	7,817	6.23	435,397	2.995	2,095.883	1.068	746.561
1906	18,720	.100	1,874	6.17	115,809	1.770	330.763	.740	138.565
1907	52,716	.117	6,161	5.80	305,406	1.870	985.075	.982	516.907
1908	58,915	.129	7,612	4.95	291,928	1.294	762.607	.885	521.106
1909	5,301	.170	900	4.71	24,972	2.922	154.927	1.140	60.544
1910	4,540	.213	967	4.92	22,354	2.160	98.216	1.200	54.563
1911	9,381	.091	858	3.88	36,418	1.146	107.635	.602	56.456
1912	20,398	.107	2,182	4.18	84,386	1.608	327.885	.558	113.841
1913	12,179	.212	2,581	4.44	54,049	7.630	928.043	.439	53.460
1914	14,133	.227	3,207	4.73	66,927	4.240	599.235	.483	68.281
1915	29,652	.147	4,371	1.72	50,907	1.130	334.863	.408	120.934
1916	29,190	.126	3,683	1.98	57,805	1.082	315.967	.558	162.677
1917	18,069	.096	1,744	1.74	31,485	2.133	385.421	.461	83.198
1918	16,066	.083	1,340	1.77	28,425	2.035	327.325	.463	74.324
Total	630,645	0.142	89,892	4.52	2,868,563	1.94	12,266.727	0.896	5,659.883

Figures from company reports

(Data all from Bureau of Mines records)

Emmanuel-Dives Mining Company
Silverton, Colorado

Exhibit 1

THE MINE RECORD, PRESENTED IN THREE PERIODS: 1. Prior to Production, 1926-27; 2. Iowa Hill Operation, 1928-29; 3. Current Operation, 1930-52;

Page 2

YEAR	DRIFTING Total Lin. ft.	DRIFTING Productive Lin. ft.	DRIFTING Productive Sq. ft.	DRIFTING Productive Tons	CROSSCUTTING Total Lin. ft.	CROSSCUTTING Productive Lin. ft.	CROSSCUTTING Productive Sq. ft.	CROSSCUTTING Productive Tons	RAISING Total Lin. ft.	RAISING Productive Lin. ft.	RAISING Productive Sq. ft.	RAISING Productive Tons
1926-27	3,584				505				555			
1928-29	2,860	2,314	15,459	8,928	224		210	928	1,363	863	13,349	7,414
1930	3,123	2,456	21,042	13,291	140	98	959	548	700	529	10,341	6,053
1931	4,615	4,348	34,560	23,206	899	143	346	502	1,881	1,599	26,204	15,681
1932	1,999	1,791	14,279	9,281	404	55	170	212	1,092	1,092	19,256	12,102
1933	2,532	1,687	13,333	7,443	208	66	197	214	2,004	1,182	19,219	9,799
1934	2,076	1,267	13,707	7,139	519	24	434	293	2,299	1,440	22,085	12,411
1935	3,412	3,070	37,482	20,134	27	27	217	44	974	951	17,918	9,112
1936	3,827	3,203	24,952	17,402	776	213	1,471	750	1,132	754	12,165	6,681
1937	2,422	2,329	23,285	13,675	131	49	122	156	749	521	8,307	4,531
1938	2,071	1,819	13,203	10,542	83	40	46	143	571	468	9,536	5,533
1939	1,500	1,203	11,193	6,299	153	23	201	94	636	257	9,504	5,037
1940	3,142	2,854	28,541	13,825					927	418	5,766	3,173
1941	2,872	2,695	31,360	12,[illegible]	20	20	28	44	503	503	13,448	6,650
1942	1,588	1,485	18,121	7,968	232	144	549	1,021	170	470	8,762	3,345
1943	2,497	2,438	26,179	12,291	202	159	1,047	1,129	191	191	2,954	1,403
1944	3,339	3,339	32,543	17,530								
1945	1,935	1,617	16,382	9,083					71	71	1,152	697
1946	2,681	1,725	14,419	8,419	19	19	64	100	229	152	2,644	1,414
1947	2,915	1,462	14,062	8,017	47	17	291	168	645	105	2,305	1,205
1948	1,732	1,732	17,696	10,227	1,037	1,037	9,061	5,486	859	516	9,248	4,649
1949	3,248	2,803	26,367	15,506	158	158	1,343	830	642	364	6,660	3,358
1950	1,383	1,383	12,335	8,321					24	24	423	241
1951	1,351	1,321	11,636	8,365	81	35	280	230	231	231	3,690	2,589
1952	1,597	1,335	11,261	7,753	255	255	1,808	2,118	215	215	3,487	2,154
1930-52	37,657	49,362	471,218	268,904	5,391	2,587	18,634	14,152	17,405	12,351	215,018	118,515
TOTALS	64,101	51,676	486,677	277,832	6,120	2,587	18,844	15,080	19,323	13,214	228,367	125,929

YEAR	SINKING Total Lin. ft.	SINKING Productive Lin. ft.	SINKING Productive Sq. ft.	SINKING Productive Tons	STOPING Sq. ft.	STOPING Tons	TOTAL ORE Tons	TOTAL WASTE Excavated Tons	WORK ROOMS Cu.ft.	DRILL HOLE EXPLORATION Lin. ft.
1926-27										309
1928-29					59,349	45,071	62,341	15,571	46,418	329
1930					111,415	98,484	118,376	5,459	15,300	426
1931					156,402	141,357	180,746	11,269	11,460	406
1932					167,868	161,720	183,315	5,935	4,564	
1933					235,545	167,044	184,500	18,259	15,795	1,610
1934	42	36	372	204	251,808	181,539	201,786	19,886		2,745
1935	194	194	4,629	2,785	127,295	79,163	111,313	3,261	47,788	844
1936	119	89	1,734	2,130	275,540	174,548	201,511	11,429	19,173	1,170
1937	331	96	1,369	745	239,360	171,393	190,500	8,524	21,151	867
1938	87	87	1,336	862	239,623	191,248	208,328	6,809	3,958	2,014
1939	162	85	1,468	982	187,536	129,120	141,532	9,557	41,550	1,126
1940	12				284,326	179,002	196,000	6,961	9,714	1,813
1941					343,220	208,789	228,765	1,210		1,507
1942					225,435	123,833	136,564	698	1,993	113
1943					290,300	167,888	182,711	687	8,658	286
1944					212,704	135,259	152,789	272		678
1945					228,827	136,583	146,363	1,889		882
1946					230,168	140,902	150,735	9,027	13,877	741
1947					214,217	134,016	143,406	14,210		1,212
1948					180,916	114,066	134,428	2,055		663
1949					228,518	138,077	157,771	3,819		1,673
1950					320,073	197,441	206,003			342
1951					224,661	144,204	155,388	472		705
1952					194,915	102,495	114,520	1,540		389
1930-52	941	587	10,908	7,708	5,170,472	3,418,071	3,827,350	143,228	214,981	22,212
TOTALS	941	587	10,908	7,708	5,229,821	3,463,142	3,889,691	158,799	261,399	22,850

TOTAL DEVELOPMENT & EXPLORATION

Major Openings:	Feet
Drifting,	64,100
Crosscutting,	6,120
Raising,	19,323
Sinking,	941
Totals,	90,484
Drill-Hole Explor.	22,850
All Development and exploration,	113,334

CONTRIBUTIONS OF ORE

	1928-9	1930-52	1952
Development,	27.7 %	10.7 %	10.5 %
Stoping,	72.3 %	89.3 %	89.5 %

WIDTHS OF ORE:

Development,	6.9 ft.	7.3 ft.	9.3 ft.
Stoping,	9.1 "	8.5 ft.	6.7 "
Totals,	8.5 "	8.3 "	6.9 "

RECONCILEMENT, MINE AND MILL TONNAGES:

			Tons
Ore from Mine, not excavated by Company	(Dumps, 117,238 Tons) (Fills, 80,158 ") (Other, 29,597 ")	-	226,993
Mined, as shown above,		3,889,691	
Mined, above 1900 level, omitted from the above record,		5,193	3,894,884
Total,			4,121,877
Milled, as shown,			4,184,601
Balance called for at Mine,			-62,724
Excavated reserve reported at Mine,			99,491
Not accounted for, partly dilution,			162,215

Shenandoah-Dives Mining Co.
Silverton, Colorado

Page 1

SHENANDOAH-DIVES MINING COMPANY

GRADE & TONNAGE OF ORE EXCAVATED, 1942 thru 1952
FROM SHENANDOAH-DIVES, 3220, 3490 & 4177 VEINS

MINE ASSAY RECORD OF ORE EXCAVATED (NOTE: $ Value is 60% of the gross market price)

Shenandoah-Dives

Year	Tons	Au	Ag	Pb	Cu	Zn	$ Value $/Ton	$ Value Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	86,441	.127	1.75	1.15	.16	--	4.63	400,107	11,109.711	153,275.79	1,008.7735	138.0445	—
1943	110,528	.170	2.17	2.64	.18	--	6.82	753,691	18,850.654	240,104.68	2,915.6922	195.6629	—
1944	116,887	.134	[illegible]	1.60	.09	--	4.85	566,666	15,715.571	152,6[illegible]	1,870.5335	[illegible]	--
1945	109,439	.100	1.10	1.81	.09	--	4.11	449,806	10,971.210	120,291.26	1,976.7005	95.1850	--
1946	126,365	.109	1.06	1.12	.06	.97	3.71	462,571	13,810.375	133,420.03	1,417.9135	79.0345	1,2[illegible].7776
1947	145,850	.111	[illegible]	1.26	.07	.57	5.40	787,990	16,221.023	271,300.12	1,843.4997	[illegible].1970	[illegible]
1948	132,750	.063	2.45	1.33	.10	.59	5.02	766,913	9,557.391	374,111.16	2,113.0955	129.9208	901.3673
1949	147,229	.048	[illegible]	1.14	.12	.56	4.38	644,869	6,998.657	353,147.40	1,671.8059	179.1227	824.4659
1950	[illegible],621	.050	[illegible]	1.40	.12	.42	[illegible]	450,724	4,881.550	275,052.[illegible]	1,[illegible].0827	[illegible].0370	[illegible]
[illegible]	19,097	.041	[illegible]	[illegible]	[illegible]	.06	6.48	123,744	791.219	58,627.52	[illegible].1163	[illegible].7128	129.4[illegible]
(to Raise) 1952	1,722	.029	[illegible]	[illegible]	[illegible]	.12	2.82	[illegible]	67.802	[illegible]	[illegible].4890	[illegible]	[illegible]
	1,112,941	.098	1.96	1.50	.11	.63	4.86	5,412,020	109,974.966	2,111,926.45	16,711.7151	1,196.0861	4,3[illegible]

1946 - 1952 609.646 Tn This Tonnage Assay For Zn.

3220 Vein - Silver Lake

Year	Tons	Au	Ag	Pb	Cu	Zn	$/Ton	Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	15,387	.087	1.93	.76	.52	--	4.07	62,611	1,344.588	29,769.21	112.2090	79.6910	--
1943	22,645	.092	2.24	1.51	.67	--	5.03	113,993	2,088.700	50,802.50	340.9852	151.3959	—
1944													
1945													
1946													
1947	4,892	.058	1.06	.47	.41	.99	3.46	16,910	285.167	5,207.64	22.9090	19.9129	48.5472
1948	12,988	.104	2.72	1.63	.45	1.19	7.19	93,363	1,356.460	35,367.80	212.2879	59.1236	154.[illegible]
1949	30,369	.048	1.96	1.48	.39	.98	5.14	156,183	1,457.044	59,569.07	450.3346	119.3374	298.1431
1950	59,088	.064	1.66	1.68	.43	1.18	5.27	311,285	3,757.757	98,198.79	994.0463	251.8937	699.6772
1951	70,871	.055	1.33	1.91	.36	.77	5.74	406.913	3,928.788	94,410.53	1,350.7880	256.8213	544.7406
1952	58,447	.055	1.14	1.82	.30	.86	5.31	310.458	3,206.880	66,404.79	1,066.4660	172.5952	504.9253
	274,687	.063	1.60	1.65	.40	.82	5.36	1,471,716	17,425.384	439,730.33	4,555.0251	1,110.7710	2,250.4620

1947 - 1952 236,655 Tn This Tonnage Assayed for Zn

3490 Vein

Year	Tons	Au	Ag	Pb	Cu	Zn	$/Ton	Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	26,473	.092	1.71	.90	.38	--	3.99	105,534	2,441.550	45,373.84	238.4640	102.0895	--
1943	16,942	.097	1.86	.60	.40	--	3.88	65,693	1,637.006	31,504.61	101.8450	67.9189	--
(Raising) 1952	867	.014	.13	.04	.02	.11	0.50	432	11.809	116.62	.3229	.2113	.9549
	44,282	.092	1.74	.77	.38	.11	3.88	171,659	4,090.364	76,995.07	340.6319	170.2197	0.9549

1952 867 Tn Assayed For Zn

 MINE ASSAY RECORD OF ORE EXCAVATED

4177 Vein

Year	Tons	Au	Ag	Pb	Cu	Zn	$ Value $/Ton	$ Value Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	8,263	.091	1.94	.40	.41	—	3.71	30,671	753.466	16,028.17	33.2800	33.8295	—
1943	33;936	.055	1.87	.57	.45	—	3.05	103;496	1,871.334	63,549.64	193.1546	152.0167	—
1944	35,902	.103	3.16	1.16	.83	—	5.74	205,968	3;705.772	113,356.04	417.4910	298.0995	—
1945	36;924	.084	2.40	1.66	.88	—	5.34	197,218	3,087.600	88,736.53	613.4200	326.6645	—
1946	30,111	.081	2.71	1.37	.81	.61	5.08	151.510	2,436.631	81,735.04	413.2900	242.8465	183.2083
1947	17,015	.079	2.35	.51	.71	.29	5.36	91,194	1,345.719	40,036.45	87.4882	120.2534	49.6411
1948	2;150	.058	2.04	1.03	.27	.64	4.48	9,639	125.116	4,391.12	22.0662	5.8500	13.6666
1949	7,663	.044	1.48	1.90	.50	.87	5.46	41,829	338.416	11,307.69	145.9520	38.0794	66.9309
1950	61,519	.055	1.92	2.40	.56	.68	6.36	391,423	3,409.968	118,394.72	1,478.4895	342.2075	418.0311
1951	65,418	.048	1.76	1.90	.48	.56	6.08	397,806	3,149.995	114,941.29	1,245.7959	312.6235	367.9586
1952	53,474	.047	1.58	0.90	.41	.45	4.23	226,224	2,538.436	84,447.52	483.3284	216.9239	240.0968
	352,375	.065	2.09	1.46	.59	.56	5.24	1,846,978	22,762.453	736,924.21	5,133.7558	2,089.3944	1,339.5334

*1946 - 1952 237,350 Ton. Tonnage Assayed for Zinc

TOTAL ALL MINED

Year													
1942	136,564	.114	1.79	1.02	.26	—	4.35	598,923	15,649.315	244,447.01	1,397.7265	353.6545	--
1943	184,051	.133	2.10	1.93	.31	--	5.63	1,036,873	24,447.694	385,961.43	3,551.6770	566.9944	--
1944	152,789	.127	1.73	1.50	.21	--	5.06	772,634	19,421.143	264,984.56	2,288.0245	407.0615	--
1945	146,363	.096	1.43	1.77	.29	—	4.42	647,024	14,058.810	209,027.79	2,590.1205	421.8495	--
1946	156,476	.104	1.38	1.17	.21	.90	3.97	614,081	16,247.006	215,155.07	1,831.2035	321.8810	1,411.9859
1947	167,757	.106	1.89	1.16	.14	.55	5.34	896,094	17,851.909	316,550.21	1,953.8969	239.3633	926.1898
1948	167,888	.066	2.46	1.40	.13	.64	5.18	869,915	11,038.967	413,870.08	2,347.4487	224.8944	1,069.4577
1949	185,261	.048	2.29	1.22	.18	.64	4.55	842,881	8,794.117	424,024.16	2,268.0925	336.5395	1,193.5449
1950	217,228	.056	2.26	1.76	.33	.76	5.31	1,153,432	12,049.275	491,646.04	3,829.6287	712.1902	1,524.3371
1951	155,388	.051	1.60	2.00	.38	.67	5.98	928,463	7,920.002	247,979.34	3,115.7022	591.6726	1,038.1978
1952	114,520	.051	1.33	1.37	.34	.67	4.73	542,053	5,824.930	151,930.37	1,567.6069	390.8453	765.5792
	1,784,285	.086	1.89	1.50	.26	.68	4.99	8,902.373	153,303.168	3,365,576.06	26,741.1279	4,566.9462	7,929.2924

*1946 - 1952 1,164,515 Ton Assayed for Zinc

Metal Prices

Year	Au	Ag	Pb	Cu
1942 - 1946	$ 35	.7111	.065	.12
1947 - 1948	35	.90	.1255	.195
1949	35	.90	.131	.173
1950	35	.90	.105	.17
1951 - 1952	35	.90	.13	.20

	Tons	Au	Ag	Pb	Cu	Zn	$/ton	$	Au Oz.	Ag Oz.	Pb Ton	Cu Ton	Zn Ton
Melville Fills 1952	4,941	0.053	1.33	2.00	0.31	0.68	5.70	28,149	264.330	6,593.63	98.6070	15.2735	33.3890

Shenandoah-Dives Mining Co., Inc.
Silverton, Colorado

Exhibit #2 Page 3

Letter to J. W. O.

A SUMMARY OF PRODUCTION

YEAR	TONS ORE	GROSS VALUE Total	GROSS VALUE Per Ton	CONCENTRATE MADE Total	CONCENTRATE MADE Per Ton	PREMIUMS Total	PREMIUMS Per Ton	NET RETURNS Total	FROM SMELTER Per Ton	FROM SMELTER Per Cent
1928-29 (Iowa Mill)	47,810	$ 654,327.86	$ 13.69	$ 570,599.90	$ 11.93	(Included in Net Return)		$ 386,330.32	$ 8.08	59.0
1930-39	1,874,678	10,775,614.16	5.91	9,104,343.63	4.99			6,767,509.20	3.71	62.8
1940	212,891	1,528,736.16	7.18	1,242,414.30	5.83			824,138.70	3.87	53.9
1941	231,519	1,465,394.43	6.33	1,208,965.80	5.22			854,145.96	3.69	58.3
1942	168,772	1,270,491.57	7.53	983,280.91	5.83	53,180.50	.32	806,133.19	4.78	63.4
1943	156,763	1,232,750.65	7.86	968,068.48	6.17	79,619.39	.51	843,511.38	5.38	68.4
1944	142,635	1,598,838.08	11.21	1,216,136.34	8.53	56,606.93	.40	1,031,359.26	7.23	64.5
1945	152,084	1,372,708.76	9.03	1,032,479.96	6.79	55,477.00	.36	826,524.18	5.43	60.2
1946	175,121	1,232,831.40	7.04	952,088.02	5.44	176,441.27	1.01	867,015.24	4.95	70.3
1947	172,125	1,544,970.95	8.97	1,169,256.74	6.79	69,193.20	.40	979,498.57	5.69	63.4
1948	165,283	1,604,822.08	9.71	1,262,914.97	7.64			1,044,812.82	6.32	65.1
1949	186,072	1,591,308.39	8.55	1,326,975.39	7.13			1,011,397.92	5.44	63.5
1950	202,947	1,864,765.23	9.18	1,558,890.98	7.68			1,142,898.11	5.63	61.3
1951	196,097	2,286,446.57	11.66	2,029,599.84	10.35			1,448,120.82	7.38	63.3
1952	149,804	1,841,771.91	12.29	1,655,434.09	11.05			1,108,441.17	7.40	60.2
TOTALS	4,184,601	$ 31,865,778.20	$ 7.62	$ 26,281,449.35	$ 6.28	$ 490,518.29		$ 19,941,836.84	$ 4.77	62.6

METALS IN CONCENTRATES

YEAR	GOLD Ounces	GOLD Price	GOLD Value	SILVER Ounces	SILVER Price	SILVER Value	LEAD Pounds	LEAD Price	LEAD Value	COPPER Pounds	COPPER Price	COPPER Value	ZINC Pounds	ZINC Price	ZINC Value	TOTAL VALUE
1928-29 (Iowa Mill)	11,585.770	$ 20.58	$ 238,456.18	191,274.43	$ .544	$ 104,108.98	952,624	$ .065	$ 62,332.23	951,976	[illegible]	[illegible]				$ 570,599.90
1930-39	199,056.106	28.49	5,670,306.97	3,084,109.91	.517	1,595,453.40	13,436,627	.045	608,021.15	12,410,157	.089	1,110,065.00	2,312,833 (3 yrs.)		120,497.11 (3 yrs.)	9,104,343.63
1940	14,544.448	35.00	509,055.63	248,160.53	.711	176,466.92	4,431,878	.052	230,188.89	795,861	.115	91,633.78	3,751,003	.063	235,019.08	1,242,414.30
1941	14,973.950	"	524,088.22	315,746.67	.711	224,527.44	3,333,159	.058	193,460.03	911,041	.120	109,538.47	2,134,934	.075	157,351.64	1,208,965.80
1942	14,850.009	"	519,750.26	256,596.15	.711	182,465.51	2,191,933	.065	142,475.65	569,821	.120	68,378.52	851,042	.0825	70,210.97	983,280.91
1943	17,526.008	"	613,410.25	164,250.88	.711	116,798.77	1,848,251	.065	120,136.40	429,837	.120	51,580.44	801,729	.0825	66,142.62	968,068.48
1944	24,469.580	"	856,435.21	127,980.27	.711	91,006.74	2,195,567	.065	142,711.81	326,270	.120	39,152.40	[illegible]	.0825	86,930.18	1,216,136.34
1945	17,238.189	"	603,336.59	142,967.86	.711	101,664.39	2,258,893	.065	146,828.02	404,047	.120	48,485.64	1,602,004	.0825	132,165.32	1,032,479.96
1946	11,940.788	"	417,927.56	131,095.12	.886	116,204.44	2,234,240	.094	210,125.36	406,885	.150	60,984.48	1,666,754	.0881	146,846.18	952,088.02
1947	15,534.645	"	543,711.90	167,233.18	.900	150,509.85	1,880,507	.147	277,247.64	274,864	.213	58,410.23	1,327,400	.1050	139,377.12	1,169,256.74
1948	11,241.154	"	393,440.31	302,685.57	.900	272,416.98	2,198,225	.183	402,796.01	336,966	.225	75,694.58	829,017	.1430	118,567.09	1,262,914.97
1949	8,820.227	"	308,707.95	417,087.78	.900	375,378.98	2,866,742	.150	430,114.02	415,345	.187	77,832.34	1,152,109	.1171	134,942.10	1,326,975.39
1950	10,424.341	"	364,851.95	408,819.86	.900	367,937.84	3,284,666	.134	441,756.82	658,476	.219	144,592.21	1,731,943	.1384	239,752.16	1,558,890.98
1951	8,232.101	"	288,123.53	325,522.37	.901	293,343.47	4,920,379	.175	861,088.17	1,046,216	.245	256,322.57	1,838,877	.1799	330,722.10	2,029,599.84
1952	6,390.212	"	223,657.37	224,621.68	.900	202,159.49	4,453,476	.163	724,346.76	1,062,855	.245	260,499.44	1,523,520	.1508	244,871.03	1,655,434.09
TOTALS	389,019.768		$12,075,259.88	6,508,152.26		$4,370,443.20	52,487,167		$4,993,628.96	[illegible]		$ 2,618,822.61	22,544.957		$2,223,294.70	$ 26,281,449.35

OWNERSHIP AND EXTENT

Claims upon which the exploration will be performed are owned by the American Smelting and Refining Company, 600 Pacific National Life Building, Salt Lake City 1, Utah. The group of claims is known as the Silver Lake mines. Shenandoah-Dives Mining Company has a 30-year lease, beginning on January 1, 1953, on the entire group of nearly 200 claims. All taxes are paid up-to-date by Shenandoah-Dives Mining Company. A complete list of the claims is given in table 5.

The American Smelting and Refining Company has been notified concerning the application for an exploration loan, and it is expected that the company will sign the "Owner's Consent to Lien," form MF-103. Both parties to the lease have outstanding development "losses" which are specifically allowed for on a repayment schedule in the lease. All allowable mining and milling costs are specifically enumerated in the lease, and division of profits is detailed. It may be necessary for the participants to amend the lease to recognize the Government royalties as a cost of operation and an allowable lien against the property.

Shortly after the point of beginning, the exploration drift or crosscut will cross a small fraction of "open" ground. This is between the Elk and American Boy claims at coordinate 27 (fig. 4). San Juan County records show this ground as open and not covered by located or patented claim. The American Smelting and Refining Company has verbally agreed to have this area covered by location as soon as the snow melts and the spot is accessible.

EXHIBIT "A"

Claim	Survey No.	Claim	Survey No.
Arabian Boy	6994	Pyramid #3	14220
Badger	11448-A	Pyramid #2	14220
Barbedoes	14036	Pyramid	2461
Bear	280	Rivington Street	9003-A
Buckeye	232	Rochester	4764
Buckeye #2	7896	Round Mountain	5110-A
Carolina	5569-A	Royal	6198-A
Dandy	7896-Am	Royal Tiger #1	769
Emma	238	Sedalia	14029
Emma	14036	Seymour	96
Eckley Cox	14066	Silver Lake	2164-A
Essex Street	9106-A	Silver Lake Spur	6994
Freiburg	14047	Smuggler	14029
Galena	11448-A	Smyrna	12122-A
General Hale	14066	Solstice	5571
General Merritt	14030	Tiger Extension #2	14036
General Miles	14066	Titusville	403
Gretchen	2163-A	Unity	9120
Happy Jack	8492	Whale	4764
Home Stake	5471	Adams Placer	15143
Jaffa	12122-A	Alexandria	14024-A
Jamaica	14035	Algiers	11469
Jocko	14163	Ann Harris Placer	11596
Jupiter	14066	Argentine Lode	11380-A
Kingstone	14035	Argentine Mill Site	11380-B
Lake View	14035	Blair Mt. Lode	13322-A
Last Chance	11448-A	Blair Mt. Mill Site	13322-B
Last Chance	7896 Am	Blair Mt. Placer	16469
Lena Allen	7802	Blair Placer	841
Leucosticte	5570	Big Giant Extension Lode	14320
Lowville	5529	Big Giant Lode	1156-A
Magnala	14035	Bowery Lode	155
Manilla	14030	Cairo Lode	11469
Martha V.F.	4952	Carolina Mill Site	5569-B
Maxwell	5530-A	Coin Lode	13322-A
Monte Carlo	14035	Combination Lode	16476
Naples	14035	Contention Lode	14320
Nevada	8530-A	Contra Costa Lode	2329
Nevada Extension	8497	Cremorne Lode	827
New York City	9104	Dana Lode	13322-A
Pannoo	7896 Am	Demosthenes	14196
Pompeii	404	Dick Bland Lode	13322-A
Porto Rico	14035	Dollie Blight	12671
Professor Neisback	11469	Dolly Varden #2 Lode	2616
Professor Newberry	14046	Dreadnaught	14320
Professor Percy	14066	Ellida	16476
Professor Stelzner	7568	El Paso Lode	9842-A
Professor Wedding	11469	Whale M.S.	9106-B
Professor Zeuner	11469	Esther Allen Lode	8801

Exhibit "A" (Cont.) Page 2.

Claim	Survey No.	Claim	Survey No.
Extension and Combination		Rochester Mill Site	8592
of Dolly Varden No. 2 and		Sal Custer Lode	1849
Ethan Allen	2617	Scranton City #2 Lode	16476
First Chance Lode	13322-A	Scranton City Lode	15426
Free Coinage Lode	9903	Silver Star Lode	681
Frithoft	16476	Smyrna Mill Site	12122-B
General Garfield Lode	828	Snow Shed Lode	14027
General Grant Lode	13322-A	Southside Lode	14012
General Hallack Lode	14047	Spring Lode	14012
General Logan Lode	13322-A	Tarpon Lode	15122
General Sherman Lode	13322-A	Trail Lode	13322-A
Genoa Lode	14024	Twentieth Century	16476
George Hesse Lode	9852	Vienna Placer	14057
Golden Fleece Lode	11714	Von Cotta Lode	14052
Grey Eagle 1/4 of	16860 1/4 of	Iowa	480
Growler	16476	J. W. Collins	6561
Helena Roux Lode	9852	Black Diamond	4811
Illinois Lode	14019	Cub)	12193
Independence	16476	Last Chance)	
Iron Mask Lode	11448	Club	12978
Jeanette Roux Placer	11596	Grip	6647
J. E. Ward Mill Site	9858	Elk	12977
Jerusalem	14012	Lakeside	12818
Jess Lode 1/2 of	9426 1/2 of	Melville	12353
Jura Lode	2388	1/2 Diamond L.	561-A
King Solomon Lode	409	Royal Tiger	48
Last Chance Lode	9284	Stag	6646
La Veta Lode	14047	White Diamond	13011
Leyner Lode	14324	Dump	9843-A Am
Lightening Attracting	16476	Lake Shore	13064
Little Gertie Lode	15122	Key	13065
Lowville Mill Site	5529-B	Hillside)	
Manhattan Lode	13322-A	Exploit)	12946
Marcia L. Lode	8801-A	Galicya Boy	13139
Marcia L. Mill Site	8801-B	Dump Mill Site	9843-B
Maxwell Mill Site	5530-B	Iowa Mill Site	9837
M. D. Thatcher Placer	17699	Tiger Mill Site	13749
Mountain Queen Lode	2389	2/3 American Boy	7244
North Star Ext. Lode	7772	Aspen	199
Panic Lode	13322-A	Chloride	411
Perhaps Lode	16476	Legal Tender	753
Potomac Lode	457	Mammoth	499
Professor Chandler Lode	14047	McGregor	423
Professor Richter Lode	14028	Susquehanna	447
Professor Winkler Lode	9842-A	Ruby Placer #1	654
Professor Winkler Mill Site	9842-B	Ruby Placer #2	655
Republic Lode	1158	Mill Site #1	424
Riverside Lode	8801	Mill Site #2	425
Rochester	4764	La Boca	19479

The American Smelting and Refining Company owns two-thirds of the American Boy claim, No. 7244. The remaining one-third ownership is held by D. J. Maxwell, McClintic Building, Midland, Texas.

Drifting beyond approximately 1,400 feet on the Letter "G" vein will cross out of located or patented claim ground unless the old system of apex rights will hold valid at this time. This will involve apex rights on the Titusville claim, which is owned by the American Smelting and Refining Company and included in the lease.

DESCRIPTION OF THE DEPOSITS

Reports describing the geology and ore deposits of Arrastre Basin and adjacent areas have been written by Ransome,[1] Burbank,[2] and Varnes.[3] The following general description of the deposits is largely from their reports.

Most of the rocks near Silverton and in the vicinity of Arrastre Basin are volcanics which rest upon pre-Cambrian schist and remnants of Paleozoic quartzite and limestone. The schists have been exposed in the Highland Mary mine, southeast of the Shenandoah-Dives, but the workings of the latter mine are in the overlying Eureka

1/ Ransome, F. L., Economic Geology of the Silverton Quadrangle: Geological Survey Bull. 182, 1901.
2/ Burbank, W. S., Vein Systems of the Arrastre Basin and Regional Geologic Structure in Silverton and Telluride Quadrangles, Colorado: Colorado Scientific Society Proceedings, vol. 13, no. 5, 1933.
3/ Varnes, D. J., Geology and Ore Deposits of the South Silverton Area, San Juan County, Colorado, Paper presented at annual convention of Colorado Mining Association, Denver, Colorado, February 7, 1948.

rhyolite and Burns latite. These two volcanic formations thin out toward the east. The present face of the drift on the 4,177 vein is in a flow-breccia of the Eureka rhyolite and all the exploration is expected to be in the Eureka rhyolite.

Burbank has recognized and described the main structural feature of the region as being a large caldera. It lies north of Silverton and is roughly in the shape of a shield with a diameter of about 8 miles. The Animas River Valley forms the southeasterly side of a downfaulted central block. A ring fault zone surrounds the caldera, and in the vicinity of the Shenandoah-Dives mill in the Animas River Valley the displacement is about 2,000 feet. Outside the ring fault there is a second zone a few miles in width wherein shearing and faulting have occurred. Stocks of monzonite have been intruded into the ring fault zone. Some of the outer zone fractures were filled by andesite and latite dikes. Apparently, mineralizing solutions have been introduced at intervals during movements in and around the caldera. Some of the veins occupy fractures which are radial to the caldera and appear to be concentrated within areas leading outward toward other intrusive stocks (fig. 3). On the south side of the caldera most of the veins occupy shear fractures. The Shenandoah-Dives - North Star - Mayflower vein system is one of these shears, and it strikes N. 45° to 50° W. and dips 70° to the northeast. Stoping along 7,000 feet of this vein and through a vertical range in excess of 2,000 feet has accounted for most of the production of the Shenandoah-Dives Mining Company.

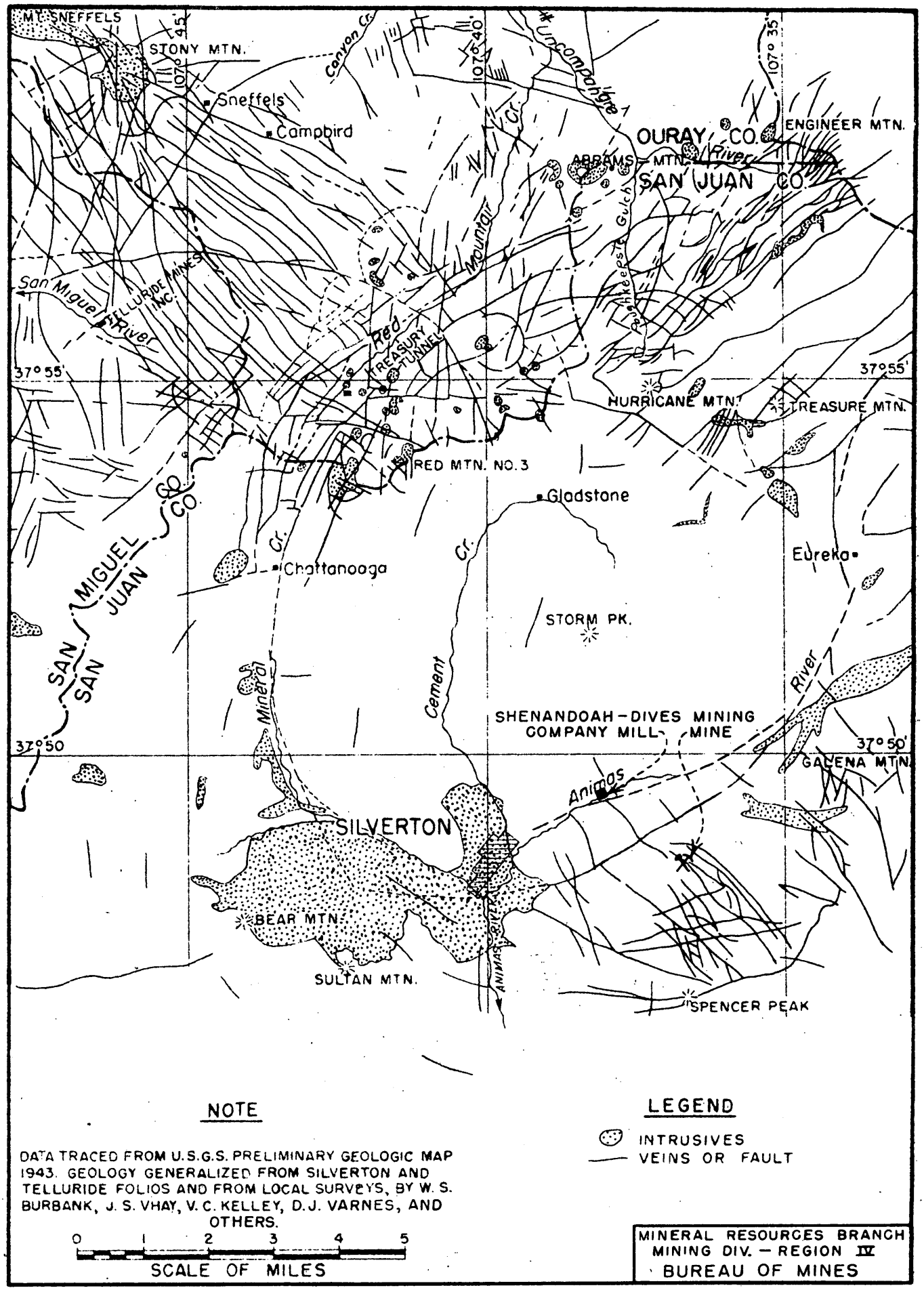

FIGURE 3 - GEOLOGIC MAP, SHENANDOAH - DIVES MINING CO., SILVERTON AREA, SAN JUAN COUNTY, COLO. (DMEA 2991)

The Silver Lake or 3,220 vein strikes northwest-southeast similar and about parallel to the Shenandoah-Dives - North Star - Mayflower vein, but the Silver Lake is much flatter, dipping 50° northeast.

The Melville or 4,177 vein curves away from the Silver Lake vein and strikes nearly north-south. The vein dips irregularly from 80° to 65° to the west. Production by the Shenandoah-Dives Mining Company from the Silver Lake and Melville veins has been considerably less than from the Shenandoah-Dives - North Star - Mayflower vein. Stoping widths on all the veins have varied from 4 feet to as much as 10 feet.

MINEABLE ORE RESERVES

Ore reserves at the mine are nearly exhausted. Actually, the company had been losing money since the fall of 1952. The ore being mined had an average net smelter value of only $4.00 per ton, and mining costs were averaging $6.00 per ton.

On April 1, 1953, an estimated 7,800 tons of broken ore, net smelter value of $6.00 per ton, remained in the "44" stope on the Shenandoah-Dives vein. The 900 drift on this vein had no ore left in it.

The Silver Lake or 3,220 vein had an estimated 42,100 tons of broken ore remaining in the stopes on April 1, 1953. Average net smelter values for ore in the back of these stopes are:

No. 6 stope	$4.31 per ton
No. 7 stope	5.53
No. 8 stope	2.04
No. 9 stope	5.09
No. 10 stope	2.81
200 level drift	$1.72 to $1.50 per ton

Broken ore in the stopes on the 4,177 or Melville vein on April 1, 1953, amounted to 29,000 tons. Average net smelter values for the ore in the back of these stopes are:

No. 617 stope	$1.96 per ton
No. 618 stope	2.57
No. 370-18 stope	2.57
No. 370-20 stope	4.06
No. 370-21 stope	5.16
370 drift east and west	$1.50 to $2.00 per ton

The 600 level (617 and 618 stopes) has the largest tonnage. Pillars in stopes above this area have been blasted, and old stope fill has been pulled. The estimated average net smelter value of the old stope fill is $5.00 per ton. This fill has been classed as stope "overdraw." The reserves of stope fill are unknown.

Total known broken ore reserve:

Shenandoah-Dives vein	7,800 tons
Silver Lake vein	42,100
4,177 or Melville vein	29,000
	78,900 tons
Less tonnage pulled April 1 to 15, 1953	6,000
Total known reserve of broken ore	72,900 tons

Ore reserves on the Letter "G" vein are shown on figure 8. These are values represented by assays taken during the years of 1903 to 1908 when the mines were being operated by the Silver Lake Mines. Sample distances are at 5-foot and 10-foot intervals. Total width of assay and total dollar value are given. Individual assay widths and individual assays for gold, silver, copper, and lead are not given. It is not possible to apply a percentage increase to adjust the dollar value to the present time. The old dollar values of the ore were based

on $19.50 gold, $0.50 silver, $0.40 per unit lead, and $1.50 per unit copper and are generally higher than net smelter values of existing Shenandoah-Dives ore.

Chase's estimate of 15 years' ore reserve, or approximately 3,000,000 tons, from the Letter "G" vein may be optimistic, but he is the authority for Arrastre Basin and has 25 years' mining experience in the particular area. The Letter "G" vein has dikes associated with it, and in this area the presence of a dike along the fissure tends to increase the probability of mineralization at depth. The earlier mining has progressed to within 500 feet of the main Shenandoah-Dives crosscut level. All the other veins have been mined to the crosscut level, although this depth is, no doubt, nearing the limit of economic ore.

PRESENT STATUS

Exploration and Development

The Shenandoah-Dives Mining Company has been in continuous operation since 1928. During this period the company has drifted 64,100 feet, crosscut 6,120 feet, raised 19,323 feet, completed 941 feet of sinking, drilled 22,850 feet in drill hole exploration, and produced 4,121,877 tons of ore.

In 1928 and 1929 initial development accounted for 27.7 percent of the ore, but since that time development has produced only about 10.7 percent of the ore. The company states that it has followed out all the known veins and has no future possiblities for development of more ore along these veins. Exploration raises have also been

driven on "end zones" to check for possible widening of the veins between exploration levels. Except for the low-grade ore being produced when the mine closed in April 1953, all available ore has been stoped. Figures 4, 6, and 7 show the mine workings.

The steep mountain country is favorable for development by an adit, and the main working level known as the Mayflower level has been driven at an elevation of 11,200 feet. This is about 2,000 feet below the summit of Little Giant Mountain, where the Shenandoah-Dives - North Star - Mayflower vein crosses the mountain. Mining operations have been carried out from the Mayflower level by raises and levels driven at 150-foot intervals. The first major raise driven was 1,700 feet long. This raise has been used to transport men and supplies and to lower ore.

Shrinkage stoping has been used to extract the ore. The drifts are protected by pillars. When possible, the drifts have been driven to the end of the ore bodies and mining has been in retreat from these extremities of the ore. Recently this has not been possible as the ore development has not kept pace with production requirements.

Mining and Milling Equipment and Facilities

Production averaged 18,000 tons of ore per month, with a mine crew of 130 men and a mill crew of 20 men. Custom milling work was handled with the regular crew at the mill.

Mine facilities include a five-story bunkhouse-boardinghouse, change rooms, offices, and shops necessary for servicing mining equipment. Underground haulage is by 60- and 80-horsepower trolley motors

using 75- and 105-cubic-foot mine cars. A 30-inch gage track is used.

Shops, compressor, and crushers are installed underground. The compressor is a 2,080-cubic-foot-per-minute Chicago Pneumatic unit, and air is distributed underground with 8-inch, 6-inch, and 4-inch lines. Ore is dropped from the underground ore pocket to a Telsmith primary crusher and then to a Symons cone secondary crusher. Crushed ore is then delivered to the aerial tramway and transported 2 miles to the 750-ton flotation mill.

All mine supplies are received at the mill and transported by tram to the mine. A short jig-back tram connects the main tram mine terminal with the mine portal.

PROPOSED EXPLORATION AND DEVELOPMENT PROGRAM

It is proposed to extend the present 4,177 or Melville vein drift for approximately 400 feet along the vein and then establish a bearing, estimated S. 18° W., and drive by crosscutting directly to the Letter "G" vein. This will total an estimated 1,300 feet. It is then proposed to drift 1,700 feet westerly along the Letter "G" vein. These two items are to total 3,000 feet. It is then proposed to drive a 500-foot raise on the Letter "G" vein to connect with old upper workings on the vein. These old workings are now drained in their lowest levels by old drifts and crosscuts to surface but are caved, and some water can be expected in the old workings. The drifts and crosscuts are to be driven 8-1/2 by 8-1/2 feet in size, which is necessary to accommodate the haulage equipment. The raise is to be driven 6 by 14 feet in size. The company desires to drive the 220

feet of 4- by 6-foot doghole connecting drifts from the raise at 40-foot intervals at the same time but at company expense. The company also wants to drive the sublevel stations. These items, as well as the ore pass raise, were considered to be preparation for mining and the time and money involved were deducted in the cost estimates. There is no question as to the reasoning or good mining practice involved, but these items were not considered as exploration. The exploration and raise details are shown on figures 4 and 5. Completion times have been cut to a minimum in figuring costs. Delays will be encountered, and driving the production portion of the raise will increase the total time necessary for completion. It is recommended the contract be written to be completed in 24 months.

ESTIMATED COSTS OF THE PROJECT

No new facilities, buildings, fixtures, or installations are needed.

No rehabilitation or repairs are necessary as the applicant has completed all of this work.

The applicant desires the contract prepared on a short form, if possible. The only major supplies not on hand are ventilation pipe, electric power cable to hoist at raise, explosives, and bits. All equipment is available at the mine.

The applicant has shown a total cost of the exploration project as $229,630.00, but this does not include supplies on hand, depreciation, and purchase of ventilation pipe. The sum of the total money requested is as follows;

Total shown	$229,630.00
Depreciation for drifting period, based on 60 months for total facilities listed	74,452.08
Depreciation for raising period	43,838.76
Supplies listed as on hand	14,398.25
Plus ventilation pipe, drift	3,900.00
Plus ventilation pipe, raise	500.00
Revised total	$366,719.09

In computing the exploration costs, only equipment and facilities directly used with and for the exploration have been included in depreciation. The supervision costs have been halved on the consideration that the supervisors will be actually on company time and work for half the period of duty. Tramway operation has been divided approximately the same way.

Drifting and crosscutting costs have been calculated at $50.30 per foot, or $150,900.00.

Item	Cost per foot	Percent
Labor	$24.56	48.82
Supervision and engineering	4.24	8.43
Supplies	14.99	29.80
Depreciation	6.51	12.94
	$50.30	99.99

Raising costs have been calculated at $122.00 per foot, or $61,000.00.

Item	Cost per foot	Percent
Labor	$ 58.36	47.84
Supervision	14.85	12.17
Supplies	26.20	21.48
Depreciation	22.57	18.50
	$121.98	99.99
Use	$122.00	

Total money required is $211,900.00.

The raising cost is high, but labor costs for the period involved will permit the raisemen (8 men) to average only about $400.00 per month. The drifting operation will permit the men in the drift heading (6 men) to average $600.00 per month if they maintain the stiff time schedule used. The completion time for drifting has been reduced to 10 months, rather than the 12 used by the applicant. These earnings and costs are not excessive for similar work in the region. Other operating companies are paying at least $600.00 to $800.00 and as high as $1,200.00 per month on contracts. Raising time was used

at 6 months but does not include the extra time for driving the production portion of the work, doghole drifts, and stations.

Drifting - Crosscutting

The drifting and crosscutting will be accomplished on a two-shift basis, 6 days per week. The applicant company operates on a 7-1/2-hour day or 45-hour week, which requires 5 hours overtime per week. This schedule has been investigated and approved by the Wage Stabilization Board.

Three miners will be used in the drift heading. Drift size is 8-1/2 by 8-1/2 feet and is necessary to accommodate the large mine cars and other equipment.

A two-machine jumbo will be used and a 6-foot round blasted on each shift. This will amount to 300 feet per month, or 10 months for the 3,000 feet of drifting and crosscutting.

Estimated Costs of Drifting and Crosscutting

Labor

Miners, six, three on each shift
They will drill, blast, muck out, and tram the rock.
Contract price at $16.00 per foot,
3,000 feet at $16.00 per foot — $ 48,000.00

Helper, underground
One required on day shift to drill plugs and hang air line, water line, ventilation pipe, and trolley line.
Paid at rate of $1.78 per hour, or $84.55 per week of 45 hours, including overtime.
48 weeks at $84.55 per week — 4,058.40

Electrician

One required to service and maintain tramway, trolley, motors, trolley motor generators, mine lamps, compressor motors, and so forth.

Paid on salary basis at $410.00 per month, 10 months at $410.00 per month $ 4,100.00

Shopman-compressorman

Two required, one on each shift, mechanic rating. They will grind bits and sharpen steel, as well as tend compressor, and work on the jig-back tram handling supplies from tram to mine.

Paid at rate of $1.60 per hour, or $76.00 per week of 45 hours, including overtime.

48 weeks at $76.00 per week, times 2 7,296.00

Tramway operation

This normally requires one man at each end on each shift, or four men. The company believes it will be able to work out a system using watchmen and overtime to permit operation on $1,140.00 labor cost per month. All mining equipment, supplies, and manpower must be transported by the tram. Although the tram is absolutely essential to the exploration, it would be used to move a small maintenance crew and supplies if the exploration was not undertaken, An arbitrary division is made at splitting the cost at $600.00 per month.

10 months' operation at $600.00 6,000.00

<u>Supervision</u>

Superintendent

Although no other mining or rehabilitation is anticipated during the exploration, it does not seem justifiable to charge more than 50 percent of the superintendent's time to the exploration project.

Paid at the monthly rate of $750.00.

10 months at $375.00 3,750.00

Shift bosses

Two men, one on each shift. Again, it is assumed these men will patrol the entire mine, checking for caves and repair work. The single heading on exploration will not utilize their full time. One-half of the cost is considered justified.

Paid at the rate of $425.00 per month.

10 months at $212.50, times 2	$ 4,250.00

Office charges

The office manager's monthly salary has been prorated in the application and $350.00 of the $625.00 per month has been charged. This is an equitable charge as most of his work will be dealing with the exploration accounting.

10 months at $350.00	3,500.00

Engineering

To be hired on a when-actually-employed basis.

Estimated at $25.00 per day.

Total cost	500.00
Total payroll	$ 81,454.40

Payroll tax

Social security	1.5 percent	
Unemployment insurance	.3	
	1.8 percent	1,466.18

Workman's compensation and occupational disease insurance

$4.27 per $100.00 of payroll	3,477.92
Total Labor and Supervision	$ 86,398.50

Materials and Supplies

Explosives

The applicant's estimated cost of $4.00 per foot is conservative as a 30-hole round is expected to take 125 pounds of powder at $18.10 per 100 pounds, plus the cost of 30 electric detonators.

3,000 feet at $4.00 per foot	$ 12,000.00

Power, electric

For compressor, tram, haulage underground, et cetera. The Western Colorado Power Company believes the 200-horsepower four-stage compressor can be cut to single-stage operation and power bills cut to $4.50 per foot.

3,000 feet at $4.50 per foot	13,500.00

Drill steel and bits

The applicant's estimate is based on previous drifting costs for 1947 and is considered accurate.

3,000 feet at $2.20 per foot	6,600.00

Track

Sufficient track, including splice bars, is on hand to complete the exploration.

Actual cost, used.

3,000 feet 52-pound track at $1.33 per foot	3,990.00
Bolts and spikes	310.00

Ventilation pipe

Current price for 11-inch metal pipe is $1.30 per foot

3,000 feet at $1.30 per foot	3,900.00

Air line

3,270 feet 4-inch air line and couplings on hand (270 feet used to bring pipe to heading)

	2,975.70

Water line

3,000 feet of water line.

2,575 feet on hand (2-inch and 1-inch)	888.75
425 feet at $0.35 per foot	148.75

Ties

1,000 ties at $0.65 each	650.00
Total Materials and Supplies	$ 44,963.20

Depreciation	Equipment valuation
One 200-horsepower 125-kilowatt 250-volt Synchronous motor generator set, complete with switches, value $7,500.00. One 75-horsepower 75-kilowatt 250-volt motor generator set, value $2,500.00. The small unit will be used most of the time and the larger unit will be necessary when mucking. Accordingly, depreciation is calculated at an average of using the larger unit only.	$ 7,500.00
One 2,080-c.f.m. Chicago-Pneumatic compressor, four-stage, with 200-horsepower electric motor	18,500.00
One 80-horsepower 9-ton trolley locomotive	13,000.00
Electric shop, equipment lamps, charging panel, et cetera	1,000.00
Eight 125-cubic foot mine cars and dumpers	14,000.00
One Kimco 21-B mucking machine (new)	5,000.00
One two-column jumbo, hydraulic operated (homemade)	1,000.00
Shop equipment, steel sharpeners, forges, general shop equipment	1,500.00
One 1,800-c.f.m. 20-horsepower Ingersoll-Rand blower and motor	2,600.00
Two Gardner-Denver drifters (new) cost for 2 machines	2,140.00
One Gardner-Denver drifter (used) for reserve use	760.00
Air hoses, water hoses, oilers	200.00
Tramway, company value set at $150,000.00. Exploration use is evaluated at one-third	50,000.00
Total valuation of equipment	$117,200.00

Depreciation on 60-month basis:
$117,200.00 ÷ 60 = $1,953.34 per month

Total Depreciation for 10 months	$ 19,533.40
Total Estimated Costs of Drifting and Crosscutting	$150,895.10
Cost per foot, 3,000 feet of drifting and crosscutting (8-1/2 by 8-1/2 feet)	$ 50.298
Use	$ 50.30

This cost breaks down as follows:

Item	Cost per foot	Percent
Labor	$24.56	48.82
Supervision and engineering	4.24	8.43
Supplies	14.99	29.80
Depreciation	6.51	12.94
	$50.30	99.99

Raising

The applicant's representatives state that the dogholes crosscuts, 20 feet long at 40-foot intervals, must be driven during the raising. From a practical viewpoint of mining, there is no argument, but, as a matter of exploration, it is the opinion of the examining engineer that the dogholes are preparation for mining and not exploration. The expense of driving the 220 feet of doghole drifts at $10.00 per foot should be borne by the applicant company.

The same is true of the sublevel stations and the control chutes. There is an advantage in servicing the raise work with the extra station room. It is, however, considered preparation for mining, rather than exploration. The cost of the 90 feet of station crosscut at $14.00 per foot and the control chutes should be borne by the applicant company.

Operating time for driving the dogholes and station crosscut should be disallowed to reduce charges of supervision and depreciation. An estimated reduction of 1 month is considered equitable. This reduces the time to 6 months.

Estimated Costs of Raising

Labor

Miners, contract
500 feet of 6- by 14-foot exploration raise on the vein will be driven in two shifts and under contract. Three men will be used in the raise and one hoistman at the bottom of the raise; all are figured in the contract price. Although this seems a high price it figures about $400.00 per month per man, which is less than average for good contract miners.
500 feet at $35.00 per foot — $ 17,500.00

Electrician
Same duties as in drifting and including installing 3,000 feet of 2,300-volt cable to raise and electric hoist and substation for hoist.
6 months at $410.00 per month — 2,460.00

Shopman-compressorman
Same duties as under drifting, two needed on each shift.
26 weeks at $76.00 per week, times 2 — 3,952.00

Tramway operation
Same as in drifting.
6 months at $600.00 per month — 3,600.00

Supervision

Superintendent
One-half charged to exploration.
Monthly salary, $750.00.
6 months at $375.00 per month — $ 2,250.00

Shift bosses
Two required, same as drifting. One-half charged to exploration.
Monthly salary, $425.00.
6 months at $212.50 per month, times 2 — 2,550.00

Office charges
6 months at $350.00 per month — 2,100.00

Engineering
To be hired on when-actually-employed basis.
4 days at $25.00 per day — 100.00

Total payroll — $ 34,512.00

Payroll tax
Social security and unemployment insurance, at 1.8 percent — 621.22

Workmen's compensation and occupational disease insurance
$4.27 per $100.00 of payroll — 1,473.58

Total Labor and Supervision — $ 36,606.80

Materials and Supplies

Explosives
The raise round is figured at 30 holes and a 5.5-foot round. The applicant has estimated $3.00 per foot for explosives, including electric detonators.
500 feet at $3.00 per foot — $ 1,500.00

Power, electric
Compressor, tram, haulage underground,, raise hoist, ventilation fan.
500 feet at $4.50 per foot — 2,250.00

Drill steel and bits		
Estimated cost at $1.25 per foot.		
500 feet at $1.25 per foot	$ 625.00	
Ventilation pipe		
500 feet, 8-inch, at $1.00 per foot	500.00	
Air line		
500 feet, 2-inch, at $0.65 per foot	325.00	
Water line		
500 feet, 1-inch, at $0.35 per foot	175.00	
Timber		
Ladders, stulls, chute lining, et cetera. Rough sawed lumber can be purchased for $70.00 per thousand, delivered to the mill. Round timber can be purchased at $0.22 per linear foot.		
Estimated timber cost, $3.00 per foot.		
500 feet at $3.00 per foot	1,500.00	
Hoist cable		
Hoist at bottom of raise, need 1,100 feet.		
1,100 feet 9/16-inch hoist cable	225.00	
Power cable		
For hoist. Must be advanced 3,000 feet from present location.		
3,000 feet, 2,300-volt power cable, underground, at $2.00 per foot	6,000.00	
Total Materials and Supplies		$ 13,100.00

Depreciation	Equipment valuation
Motor generator set	$ 7,500.00
Compressor	18,500.00
Locomotive	13,000.00
Electric shop, equipment	1,000.00
Mine cars	14,000.00
Shop equipment	1,500.00
Blower, 20-horsepower (ventilation)	2,600.00
Stopers, two	1,560.00
Air hoses, oilers, water hoses	200.00
Hoist, 35-horsepower, electric	3,000.00
Tramway	50,000.00
Total valuation of equipment	$112,860.00

Depreciation on 60-month basis:
$112,860.00 ÷ 60 = $1,881.00 per month

Total Depreciation for 6 months	$ 11,286.00
Total Estimated Costs of Raising	$ 60,992.80
Cost per foot, 500 feet of raising (6 by 14 feet)	$ 121.986
Use	$ 122.00

This cost breaks down as follows:

Item	Cost per foot	Percent
Labor	$ 58.36	47.84
Supervision	14.85	12.17
Supplies	26.20	21.48
Depreciation	22.57	18.50
	$121.98	99.99

Total Money Requirements

Drifting and crosscutting (8-1/2 by 8-1/2 feet) 3,000 feet at $50.30 per foot	$150,900.00
Raising (6 by 14 feet) 500 feet at $122.00 per foot	61,000.00
Total	$211,900.00

Completion times have been cut to a minimum in figuring costs. Delays will be encountered, and driving the production portion of the raise will increase the total time necessary for completion. It is recommended the contract be written to allow completion in 24 months.

Diamond drilling to check walls has not been included and is considered a company responsibility.

PROPOSED FINANCING

The Shenandoah-Dives Mining Company has almost all the supplies, materials, equipment, and facilities on hand to perform the exploration proposed. The company is expecting that a proportion of the exploration funds will be furnished by the American Smelting and Refining Company as owners of the property. Such arrangements have been made in the past. The applicant's stockholders have signified willingness to furnish the money necessary to complete the program and have told the management to proceed.

CONCLUSIONS

The Shenandoah-Dives Mining Company has the facilities and equipment to produce 20,000 tons of ore per month. It has also maintained a custom milling program which is absolutely essential to the survival of many other small mining operations in the district. The mine and mill employed an average of 150 men, plus keeping at least another 50 men working through the custom mill facilities.

There is no doubt the company is faced with a complete lack of ore reserves unless the exploration program is carried out. The mine cannot operate again without abnormally high lead-mine prices, except to complete pulling broken ore and stope fills. This could be accomplished in 6 months.

The proposed exploration will eventually open up the Letter "G" vein, which is known to have been exposed underground along a length of 5,000 feet with an available back of 2,000 feet maximum. The vein has a dike wall and mineralization is expected to continue in depth, as it has on the other veins already mined. Assay records indicate several ore shoots which could be mined at present low metal prices. Chase's expected 15-year ore reserve may be optimistic, but the reserve should be large, although nothing definite can be estimated, except on the basis of the old maps.

RECOMMENDATIONS

It is recommended that the proposed exploration be approved at a cost of $211,900.00 and a contract prepared on short form MF-200 (A). Drifting and crosscutting costs have been calculated at $50.30 per foot, or $150,900.00 for 3,000 feet.

	Cost per foot
Labor	$24.56
Supervision and engineering	4.24
Supplies	14.99
Depreciation	6.51
	$50.30

Exploration raising costs have been calculated at $122.00 per foot, or $61,000.00 for 500 feet.

		Cost per foot
Labor		$ 58.36
Supervision		14.85
Supplies		26.20
Depreciation		22.57
		$121.98
	Use	$122.00

Total time for drifting has been taken as 10 months. Total time for driving the exploration portion of the raise has been taken as 6 months. This cuts the completion times to a minimum for cost figuring. Delays will be encountered, and driving the production portion of the raise will increase the total time necessary for completion. It is recommended the contract be written to allow completion in 24 months.

pm
eb

SEP 15 1955

BUREAU OF MINES
Denver, Colorado

TERMINATION AGREEMENT

It is agreed this 9th day of September, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Shenandoah-Dives Mining Co., hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E558, Docket No. DMEA-2991, dated June 25, 1953, hereinafter called the "Contract," that:

1. Effective May 29, 1954, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Government shall contribute only to the fixed unit costs of work performed prior to said effective date.

3. 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.

4. 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 the royalty on production provided for in the Contract, in the same manner and amount as if certification of discovery or development had been made, such certification being hereby waived.

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

By _____
Administrator, Defense Minerals Exploration Administration

SHENANDOAH-DIVES MINING CO.

By _____

Submitted by Mr. W. L. Dare

Date submitted May 17, 1954

Mining Division
Date Rec'd
MAY 27 1954
BUREAU OF MINES
Denver, Colorado

WDK
ST
B Kochanowski
Dare
CMK
File

IOSA

RESULTS OF SPECTROGRAPHIC ANALYSIS

May 25, 1954

Serial No.	Lot No.	Spectro No.	Elements																				
Shenandoah-Dives Mining Company Latter "G" vein, Silver Lake Group, San Juan County, Colorado			Li	Na	K	Cu	Ag	Au	Be	Mg	Ca	Sr	Ba	Zn	Cd	Hg	La	B	Al	Ga	In	Tl	Ti	Zr
27721	WLD-67	1244	-	-	+	+	tr.	-	-	+	+	-	-	tr.	-	-	-	-	+	tr.	-	-	+	tr.
IMEA 2991 - contract Ida-E558																								

			Hf	Th	Si	Ge	Sn	Pb	V	Cb	Ta	P	As	Sb	Bi	Cr	Mo	W	U	Te	Mn	Fe	Co	Ni
			-	-	+	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	+	+	-	-

			Ru	Rd	Pd	Os	Ir	Pt	Ce
			-	-	-	-	-	-	-

Remarks
+ - Present
- - Absent
d - Indeterminate
Trace

cc: Traver
King

Heber E. Peterson

Royalty File E 558

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

OME
DEPARTMENT OF THE INTERIOR
AUG 29 1963
REGION III
DENVER, COLORADO

AUG 26 1963

Memorandum

To: Chief, Fiscal Section
Division of Administrative Services
Office of the Secretary

From: Chief, Contract Administration & Audit Division (Signed) E. D. Talbert

Subject: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Co.
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

Enclosed are the original and two thermofax copies of an August 21 letter from Standard Metals Corporation, 264 South Fourth East, Moab, Utah, requesting refund of an overpayment of $4,995.27 in DMEA royalty under the subject contract. This amount was found to be an overpayment of royalty by a Royalty Audit Certificate dated May 15, 1963.

Please make this refund from 14X4401, note the vouchering information on the thermofax copies, and return those copies to OME.

Enclosure

EDTalbert/cac 8/26/63

cc: Director's reading file
CA & A Division
Region III w/c inc. letter

Reg. III

STANDARD METALS CORP
264 SOUTH FOURTH EAST
MOAB UTAH

PHONE ALPINE 3-5681

WM. R. McCORMICK, PRESIDENT

August 21, 1963

OME
DEPARTMENT OF THE INTERIOR
AUG 29 1963
REGION III
DENVER, COLORADO

U. S. Department of Interior
Office of Minerals Exploration
Washington 25, D.C.

Attention: Mr. George Fumich, Jr.

Re: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Co.
Letter "G" Vein Project
Silver Lake Mine
SanJuan County, Colorado
Contract Idm-E558

Dear Mr. Fumich:

Standard Metals Corporation, 264 South 4th East, Moab, Utah, hereby makes formal application for refund of overpayment of DMEA Royalty in the amount of $4,995.27.

Evidence of overpayment reflected in the audit of Mr. C. E. Fisher, O.M.E. Auditor in report dated June 26, 1963.

Very truly yours,
STANDARD METALS CORPORATION

Wm. R. McCormick
President

WRMc:lf

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

OME
DEPARTMENT OF THE INTERIOR
AUG 29 1963
REGION III
DENVER, COLORADO

AUG 26 1963

Memorandum

To: Chief, Fiscal Section
Division of Administrative Services
Office of the Secretary

From: Chief, Contract Administration & Audit Division

Subject: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Co.
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract 14m-E358

Enclosed are the original and two thermofax copies of an August 21 letter from Standard Metals Corporation, 264 South Fourth East, Moab, Utah, requesting refund of an overpayment of $4,995.27 in DMEA royalty under the subject contract. This amount was found to be an overpayment of royalty by a Royalty Audit Certificate dated May 15, 1963.

Please make this refund from 1AX4401, note the vouchering information on the thermofax copies, and return those copies to OME.

Enclosure

EDTalbert/cac 8/26/63

cc: Director's reading file
CA & A Division
Region III w/c inc. letter

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

OME
DEPARTMENT OF THE INTERIOR
AUG 19 1963
REGION III
DENVER, COLORADO

AUG 14 1963

Mr. James M. Hansen
Office Manager
Standard Metals Corporation
264 South Fourth East
Moab, Utah

Re: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-K558

Dear Mr. Hansen:

Your August 7 letter requests advice as to the disposition of a refund for overpayment of royalty under the referenced contract. A check of our records, however, fails to disclose the receipt of a claim for refund.

It is a statutory requirement that claims against the United States shall be presented in writing and bear the signature and address of the claimant. Prompt consideration will be given the matter upon receipt of a specific claim, which may be made by either invoice or letter.

Sincerely yours,

George Fumich, Jr.

Director

EDTalbert/ama 8-14-63

cc:
Docket
Director's Reading File
CA & A Division
Reg. III w/c inc. ltr.
Fiscal Section

Reg. III

STANDARD METALS CORP.
264 SOUTH FOURTH EAST
MOAB, UTAH

PHONE ALPINE 3-5681

August 7, 1963

OME
DEPARTMENT OF THE INTERIOR
AUG 19 1963
REGION III
DENVER, COLORADO

U. S. Department of the Interior
Office of Minerals Exploration
Washington 25, D. C.

Attention: Mr. George Fumich Director

Re: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Gentlemen:

On June 15 we received a letter from the Denver O. M. E. office that contained a copy of the Report of Royalty Review by Mr. C. E. Fisher, O. M. E. Auditor. This review reflected an overpayment by Standard Metals Corporation of $4,995.27. To date we have not received a refund or application for refund.

Will you kindly check on this refund and advise us on its disposition.

Very truly yours,
STANDARD METALS CORPORATION

James M. Hansen
Office Manager

JMH:lf
CC: O. M. E.
Bldg. 20 - Federal Center
Denver, Colorado

STANDARD METALS CORP.
264 SOUTH FOURTH EAST
MOAB, UTAH

PHONE ALPINE 3-5681

August 7, 1963

E558

OME
DEPARTMENT OF THE INTERIOR
AUG 9 1963
REGION III
DENVER, COLORADO

U. S. Department of the Interior
Office of Minerals Exploration
Washington 25, D. C.

Attention: Mr. George Fumich - Director

Re: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Gentlemen:

On June 15 we received a letter from the Denver O. M. E. office that contained a copy of the Report of Royalty Review by Mr. C. E. Fisher, O. M. E. Auditor. This review reflected an overpayment by Standard Metals Corporation of $4,995.27. To date we have not received a refund or application for refund.

Will you kindly check on this refund and advise me on its disposition.

Very truly yours,
STANDARD METALS CORPORATION

J. M. Hansen

James M. Hansen
Office Manager

JMH:lf
CC: O. M. E.
Bldg. 20 - Federal Center
Denver, Colorado

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

OME
DEPARTMENT OF THE INTERIOR
AUG 5 1963
REGION III
DENVER, COLORADO

JUL 30 1963

Standard Metals Corp.

Silverton, Colorado

Re: MMA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "S" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Ldm-8558

Gentlemen:

By the terms of the subject Exploration Project contract, as amended, and the royalty agreement in Paragraph 4 of the Termination Agreement, dated September 9, 1955, all minerals mined or produced from June 26, 1953, to June 26, 1963, were subject to the Government's royalty as set forth in said contract.

As the period during which production was subject to royalty has now expired, the Government according to its present records retains no claim or lien against the property subject to the contract or any future production therefrom. We, therefore, are closing our books and records on this contract.

Sincerely yours,

George Fumich, Jr.

Director

MMerrithew/mm
6/26/63
cc: American Smelting and Refining Company
Director's Reading File
Region III (2)
CA&A Division
Docket
Code 500

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

OME
DEPARTMENT OF THE INTERIOR
AUG 5 1963
REGION III
DENVER, COLORADO

JUL 30 1963

Standard Metals Corp.

Silverton, Colorado

Re: IMMA-2921 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "U" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract I4s-2538

Gentlemen:

By the terms of the subject Exploration Project contract, as amended, and the royalty agreement in Paragraph 4 of the Termination Agreement, dated September 9, 1955, all minerals mined or produced from June 24, 1953, to June 24, 1963, were subject to the Government's royalty as set forth in said contract.

As the period during which production was subject to royalty has now expired, the Government according to its present records retains no claim or lien against the property subject to the contract or any future production therefrom. We, therefore, are closing our books and records on this contract.

Sincerely yours,

George Turnich, Jr.

Director

MHarrithew/mm
6/26/63
cc: American Smelting and Refining Company
Director's Reading File
Region III (3)
CAAA Division
Docket
Code 500

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

OME
DEPARTMENT OF THE INTERIOR
AUG 5 1963
REGION III
DENVER, COLORADO

JUL 30 1963

American Smelting and Refining Company
120 Broadway
New York 5, New York

Re: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Rivas Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-2558

Gentlemen:

Enclosed is a self-explanatory letter of today to Standard Metals Corp. under the subject contract.

This correspondence relates to the Owner's Consent to Lien executed by you on July 15, 1953, under the Defense Minerals Exploration Administration program.

Sincerely yours,

George Fumich, Jr.

Director

Enclosure

MMerrithew/mm
6/26/63
cc: Director's Reading File
Region III (2)
Docket
Code 500

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

OME
DEPARTMENT OF THE INTERIOR
AUG 5 1963
REGION III
DENVER, COLORADO

JUL 30 1963

American Smelting and Refining Company
120 Broadway
New York 5, New York

Re: MMLA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "B" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Ldr-2358

Gentlemen:

Enclosed is a self-explanatory letter of today to Standard Metals Corp. under the subject contract.

This correspondence relates to the Owner's Consent to Lien executed by you on July 15, 1953, under the Defense Minerals Exploration Administration program.

Sincerely yours,

George Fumich, Jr.

Director

Enclosure

MMarrithew/mm
6/26/63
cc: Director's Reading File
Region III (2)
Docket
Code 500

Building 20 - Federal Center
Denver 25, Colorado

June 12, 1963

Mr. James N. Hansen
Office Manager
Standard Metals Corp.
264 South Fourth East
Moab, Utah

Re: [redacted]-2991 (Lead-Zinc)
Contract [redacted]-E558
Shenandoah-Dives Mining Co.
(Latter "G" Vein Project)
Silver Lake Mine
San Juan County, Colorado

Dear Mr. Hansen:

Enclosed is a copy of the Report of Royalty Review on the subject contract dated May 15, 1963, covering the period June 16, 1959, through April 8, 1963.

Sincerely yours,

Original signed by

Hugh N. Connors
Acting Field Officer, OME
Region III

Enclosure

cc Chief, Division of Field Operations, OME
E. D. Talbert, Acting Chief
Contract Administration and Audit Division
Royalty Corres. E558
Chron
HNC/lm

Building 20 - Federal Center
Denver 25, Colorado

June 12, 1965

Memorandum

To: Fiscal Section, Division of Administrative Services
Office of the Secretary, Department of the Interior
Washington 25, D. C.

From: Acting Field Officer, OME, Region III

Subject: MMEA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Co.
(Letter "C" Vein Project)
Silver Lake Mine
San Juan County, Colorado

Attached is the original Report of Royalty Review dated May 15, 1965, on the subject property covering the period June 16, 1959, through April 8, 1965.

Original signed by

Hugh M. Connors

Attachments

cc Chief, Division of Field Operations, OME
E. D. Talbert, Acting Chief
Contract Administration and Audit Division
Royalty Corres. Idm-E558
Chron
HMC/lm

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

ROYALTY AUDIT CERTIFICATE

I have examined the production, sales, and royalty accounts and records pertaining to the sale of concentrates by Standard Metals Corporation for the period June 16, 1959, through April 8, 1963, from property known as the Letter "G" Vein Project, Silver Lake Mine, located in San Juan County, Colorado, on which royalty is payable to the U. S. Government under terms of Contract Idm-E558, Docket DMEA-2991 (lead, copper, zinc), dated June 26, 1953, with

Shenandoah-Dives Mining Company
Silverton, Colorado

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

The audit established the total value of concentrates subject to Government royalty for this period to be $83,219.85 and the amount of royalty payable at rates specified in the contract to be $3,922.14.

A prior Report of Royalty Review found no sales subject to royalty for the period June 26, 1953, through June 15, 1959. The royalty account as of the latter date was:

Total Royalty Payable	$ -0-
Total Royalty Paid	-0-
Balance of Royalty Due	$ -0-

As of April 8, 1963, the royalty account of this project was found to be:

Total Royalty Payable	$3,922.14
Total Royalty Paid	8,917.41
Overpayment of Royalty	$4,995.27

C. E. Fisher

C. E. Fisher, OME Auditor

May 15, 1963

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

ROYALTY AUDIT REPORT

I. INTRODUCTION

On April 8, 1963, an audit was made of the production, sales, and royalty accounts and records pertaining to the value of concentrates sold during the period June 16, 1959, through April 8, 1963, by Standard Metals Corporation from property known as the Letter "G" Vein Project, Silver Lake Mine, located in San Juan County, Colorado, on which royalty is payable to the U. S. Government under terms of Contract Idm-E558, Docket DMEA-2991 (lead, copper, zinc), dated June 26, 1953, with

Shenandoah-Dives Mining Company
Silverton, Colorado

Shenandoah-Dives Mining Company merged with Marcy Exploration Company in 1957 and was known thereafter as Marcy-Shenandoah Company. In 1959 Marcy-Shenandoah sold a 50 percent interest to Standard Uranium Corporation and the operation was set up as Shenandoah, Ltd., with Standard as the operating partner. In 1960 Standard purchased the remaining 50 percent interest and became the sole owner of all former Shenandoah mining and milling property. In May 1960 Standard Uranium changed the corporate name to Standard Metals Corporation.

This audit was performed in the Silverton, Colorado, office of Standard Metals Corporation where the records were made available for examination by Edwin Larson, chief clerk and metallurgical accountant.

II. GENERAL INFORMATION

Work under the exploration contract was terminated by an agreement dated September 9, 1955, effective May 29, 1954, which includes the following provision:

> "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 the royalty on production provided for in the Contract, in the same manner and amount as if certification of discovery or development had been made, such certification being hereby waived."

Article 6, as amended by Annex I, of the contract provides that royalty is payable to the Government on all minerals mined or produced from the land which is the subject of the exploration project

contract for a period of 10 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. The land subject to the contract is set forth in Article 2 and Annex II of the contract and consists of numerous patented claims held by the Operator under a 30 year lease from American Smelting and Refining Company. The latter executed an Owner's Consent to Lien dated July 15, 1953, granting to the Government a lien upon such land until the royalty claim is fully paid or 10 years have elapsed from the date of the contract, whichever occurs first.

A Report of Royalty Review dated June 15, 1959, stated that no royalty had been paid to the Government on any production from the date of the contract, June 26, 1953, through June 15, 1959, and that inspection reports by field representatives of the Government disclosed no production on which the Government was entitled to royalty.

A Report of Review in lieu of final cost audit dated October 26, 1955, stated that the allowable exploration costs amounted to $140,814.85 with the Government's participation on a 50 percent basis being $70,407.43.

III. SCOPE OF AUDIT AND FINDINGS

The only sales of production from Silver Lake Mine during the period covered by this audit consisted of 39,851.544 tons of ore milled from August 1960 through January 1961. This tonnage included newly mined ore, part of a mill stockpile, and ore from shrinkage stopes. A total of 1,340.626 tons of concentrates resulted from the milling and were sold to American Smelting and Refining Company for $178,348.24. Royalty of $8,917.41, being 5 percent of the net smelter returns, was paid to the Government.

Mr. Larson stated that these were the only sales of production from Silver Lake Mine since the date of the exploration contract. He also advised that the two-mile tram between the mine and the mill is presently inoperative and cannot be put into operation without extensive and costly repairs.

During my pre-audit work in the OME Washington, D. C., office the statement furnished by Standard Metals Corporation in support of the royalty payment made by that company was recomputed. During the site audit test checks were made with the mill records and the settlement statements in Mr. Larson's possession. It was

determined that the basis used in computing the value of the production on which royalty was paid was fair and equitable and in line with usual operating practices. The basis used in the computation was also used in computing the value of ore custom milled for others during part of the period and in settlements made with the landowners.

The production on which Government royalty was paid included approximately 22,781 tons of ore from shrinkage stopes. This ore was broken prior to the date of the exploration contract. Thus, 57.165 percent of the production milled (39,851.544 tons) during the period August 1960 through January 1961 came from ore not subject to Government royalty. The existence of a broken ore reserve prior to the date of the exploration contract was noted in a June 11, 1953, Report of Examination by Field Team, Region IV (now Region III) which indicated approximately 72,900 tons of broken ore in stopes when the Operator's mill was closed in April 1953.

Also included in the production on which Government royalty was paid were 800 tons of ore from a stockpile at the mill. This ore was part of 2,325 tons crushed, transported over tramway, and stockpiled at the mill during the exploration period as indicated in the Operator's final report of exploration work accomplished dated November 4, 1955, and in the Field Team's final report dated January 1957.

Inasmuch as the 1,525 tons remaining in the stockpile was "mined or produced" during the royalty repayment period, the Government's lien for royalty applies only to production prior to June 26, 1963, and the probability of any further production prior to that date is remote, it is believed to be in the interest of all concerned to assign a value to such stockpiled ore and compute the amount of the Government's royalty on such assigned value. For the purpose of this computation it is considered that the stockpiled ore has a value of $4.475 per ton, the amount per ton realized from the production concentrated and sold during the months August 1960 through January 1961.

IV. CONCLUSION

A summary analysis of the production, sales, and royalty payable and paid during the period covered by this audit and since the date of the exploration contract follows:

Ore milled	39,851.544 tons
Concentrates produced	1,340.626 tons
Milling ratio	30 to 1

Net smelter returns:

Metal	Quantity	Average Price	Amount
Gold	1,046.144 oz.	$35.00/oz.	$ 36,615.03
Silver	44,818.59 oz.	91¢/oz.	40,781.52
Lead	773,913 lbs.	11.64¢/lb.	90,052.17
Copper	345,962 lbs.	29.84¢/lb.	103,236.31
Zinc	83,558 lbs.	11.98¢/lb.	10,008.08
Total metal value			$280,693.11

Less: Smelter, freight, umpire and treatment charges	102,344.87
Net return ($4.475/ton ore-$133.034/ton cons.)	$178,348.24
Deduct 57.165 percent not subject to Government royalty (See Section III)	101,952.77
Sub-total, Value of concentrates	$ 76,395.47
Add: Value of 1,525 tons stockpiled ore at $4.475/ton (See Section III)	6,824.38
Total value subject to Government royalty	$ 83,219.85

Royalty Payable		
On concentrates @ 5%	$3,819.77	
On stockpile @ 1½%	102.37	$ 3,922.14
Royalty Paid		8,917.41
Overpayment of Royalty		$ 4,995.27

C. E. Fisher

C. E. Fisher, OME Auditor

May 15, 1963

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

MAY 17 1963

Memorandum

To: Acting Field Officer, Region III

From: E. D. Talbert, Chief
Contract Administration and Audit Division

Subject: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

The original and two copies of a Royalty Audit Certificate and Royalty Audit Report covering the subject contract are enclosed. If you concur in the facts stated therein, please make the following distribution:

(a) Original to the Fiscal Section, Division of Administrative Services, Office of the Secretary, U. S. Department of the Interior, Washington 25, D. C.;
(b) One copy for Standard Metals Corporation; and
(c) One copy for your files.

As evidence of your concurrence, a copy of your letter transmitting the copy to Standard Metals Corporation should be furnished this Division. If for any reason you do not concur, the original and both copies of the report should be returned to this Division with your comments.

Enclosures

OME
DEPARTMENT OF THE INTERIOR
MAY 20 1963
REGION III
DENVER, COLORADO

Building 20 - Denver Federal Center
Denver 25, Colorado

May 20, 1963

Memorandum

To: E. D. Talbert, Chief
Contract Administration and Audit Division

From: Acting Field Officer, OME, Region III

Subject: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

The Royalty Audit Certificate and Royalty Audit Report dated May 15, 1963, will be held for processing, by Mr. Connors, who is expected to return from a vacation June 10, 1963.

Mr. Connors, who visited this project and obtained information concerning royalty due February 7, 1963 (see his memo to Selfridge dated February 7, 1963) is best qualified to assess the Certificate and Report.

Original Signed by
T. M. Romalo

T. M. Romalo

cc: Chief, Division of Field Operations
OME, Washington, D. C. (2)

Royalty Corres File Idm-E558
Chron
TMR/mf

STANDARD METALS CORP.
264 SOUTH FOURTH EAST
MOAB, UTAH
PHONE ALPINE 5-5681

Silverton, Colorado
May 9, 1963

Mr. Clarence E. Fisher, OME Auditor
U. S. Department of Interior
Office of Minerals Exploration
Washington 25, D. C.

Re: DMFA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

Dear Mr. Fisher:

In reply to your letter of April 30, the following will provide the information you requested.

Shenandoah-Dives Mining Company no longer exists. Shenandoah Company merged with Marcy Exploration Company in 1957 and was known thereafter as Marcy-Shenandoah Company. In 1959 Marcy-Shenandoah sold a 50% interest to Standard Uranium Corporation, and the operation was set up as Shenandoah, Ltd., with Standard as the operating partner. In 1960 Standard purchased the remaining 50% interest and is now the sole owner of all former Shenandoah mining and milling property. In May, 1960, Standard Uranium changed the corporate name to Standard Metals Corporation.

The following is the breakdown of ore milled from Silver Lake Mine during the period August, 1960, to January, 1961:

Newly mined ore from Letter "G" Area	16,000 Tons	(Approx.)
From stockpile at mill	800 Tons	(Approx.)
From shrinkage stopes - ore broken prior to DMEA Control	22,781 Tons	(Approx.)
Total	39,581 Tons	

Ore stockpiled during the development program	2,325 Tons	
Stockpiled ore - milled during period 8/60-1/61	800 Tons	(Approx.)
Balance of low-grade ore in mill stockpile	1,525 Tons	

There has been no ore milled from Silver Lake Mine since January, 1961.

The above information covers the questions asked in your letter; however, if you find you need any further information, I will be happy to give you any assistance I can.

Very truly yours,

STANDARD METALS CORPORATION

By Sgd. E. A. Larson
E. A. Larson, Chief Clerk

April 30, 1963

Mr. Edwin Larson
Chief Clerk and Metallurgical Accountant
Standard Metals Corporation
Silverton, Colorado

Re: MMA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract L4m-8358

Dear Mr. Larson:

In connection with my recent audit of the sales of concentrates subject to royalty under the referenced exploration project contract, your clarification of several points is solicited.

From our conversation I understand that the Shenandoah-Dives Mining Company no longer exists as a legal entity. Am I correct in my understanding? If so, when and how was it dissolved?

The October 15, 1962, reply to our MMM Form 63 inquiry states that 39,851.344 tons of ore was "produced" subsequent to January 14, 1960, from the land subject to the contract. The statement submitted in support of the royalty payment indicates that this tonnage was "milled" during the period August 1960 through January 1961. When was the ore actually broken and in what part of the property under the contract? Where was it stored prior to milling?

The final report dated November 4, 1955, of Shenandoah-Dives Mining Company states that during the exploration period 2,325 tons of ore was crushed, transported over the tramway, and stockpiled at the mill. Is this 2,325 tons a part of the 39,851.344 tons? If not, what was the disposition of the 2,325 tons?

Your answers to these questions will be sincerely appreciated as was your cooperation during my April 8 visit to your office.

Sincerely yours,

Clarence E. Fisher
MMM Auditor

EEFalbert/ama 4-30-63

cc:
Docket
Director's Reading File
CA & A Division
Mr. Fisher

Building 20 - Federal Center
Denver 25, Colorado

March 12, 1963

Mr. James M. Hansen
Office Manager
Standard Metals Corp.
264 South Fourth East
Moab, Utah

Re: DMEA-2991 (Lead-Zinc)
Contract IDm-E558
Shenandoah-Dives Mining Co.
(Letter "G" Vein Project)
Silver Lake Mine
San Juan County, Colorado

Dear Mr. Hansen:

I have been advised that Mr. Clarence E. Fisher will visit your office on or about April 8, 1963 to make a royalty audit of the captioned account.

Any courtesies shown Mr. Fisher will be greatly appreciated.

Sincerely yours,

Original signed by

Hugh M. Connors
Acting Field Officer, OME
Region III

cc Chief, Division of Field Operations, OME
E. D. Talbert, Chief
Contract Administration and Audit Division
Clarence E. Fisher
Royalty Corres E558
Chron

HMC/lm

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

OME
DEPARTMENT OF THE INTERIOR
FEB 14 1963
REGION III
DENVER, COLORADO

FEB 12 1963

Memorandum

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

This is in reference to your February 7 memorandum covering the referenced royalty matter. Concerning your last paragraph, we see no reason to plan an audit of the company books, at this time.

Permit us to say that we feel that you have handled this collection in a most zealous and commendable manner. It is no fun for any of us to have to function as a "bill collector;" there are a lot of other jobs that are more interesting and more congenial. Nevertheless, we all must take "the bitter with the sweet" and do whatever we can to look after the Government's interests.

George C. Selfridge

OME
DEPARTMENT OF THE INTERIOR
FEB 14 1963
REGION III
DENVER, COLORADO

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

Memorandum

FEB 12 1963

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: IMRA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Ida-8358

This is in reference to your February 7 memorandum covering the referenced royalty matter. Concerning your last paragraph, we see no reason to plan an audit of the company books, at this time.

Permit us to say that we feel that you have handled this collection in a most zealous and commendable manner. It is no fun for any of us to have to function as a "bill collector;" there are a lot of other jobs that are more interesting and more congenial. Nevertheless, we all must take "the bitter with the sweet" and do whatever we can to look after the Government's interests.

George C. Selfridge

Building 20 - Federal Center
Denver 25, Colorado

February 7, 1963

Memorandum

To: George C. Selfridge, Chief
Division of Field Operations, OME
Washington 25, D. C.

From: Acting Field Officer, OME, Region III

Subject: DMEA-2991 (Lead-Copper-Zinc)
Contract Dim-E558
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

On my recent visit to Moab, I called on the Standard Metals Corp. regarding the royalty due on the subject contract.

I asked Mr. James Hansen if I could see all of his records regarding the milling of the DMEA ore in question. He accompanied me to the accounting department where I examined all of their records. I satisfied myself that all of the DMEA ore was segregated, weighed, sampled, and assayed before it became commingled with other ore constituting the mill heads. Mr. Hansen believes, and I agree, that to duplicate all of these records is unreasonable.

I told him that if he would give me a check for $6,242.19 I would be content. He gave me a check for that amount and I recommend that it be accepted as payment in full for DMEA ore milled between August 1960 and January 1961.

If this is not satisfactory, I suggest that an auditor call at the main office in Moab of the Standard Metals Corp. and be prepared to stay several weeks to complete the audit.

Hugh M. Connors

HMC/lm
cc Royalty Corres. E558
Chron

OMEA-2991 (Lead-Zinc)
Contract Idn 2558
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Milled by
STANDARD METALS CORPORATION

August 1960 thru January 1961

39,851.544 Tons Milled
38,510.918 Tons Tailings
1,340.626 Tons Concentrates Produced

	Assays		Metals		Value $	Total $	Per Ton Milled $
INCOME:							
Value of Ore to Mill:							
Gold	.0325	Oz.	1,297.574	Oz.	45,415.09		1.1396
Silver	1.427	Oz.	56,858.89	Oz.	31,429.53		1.0973
Lead	1.04	%	828,780.	Lbs.	96,555.17		2.4229
Copper	.54	%	429,635.	Lbs.	178,696.36		3.2294
Zinc	.34	%	274,390.	Lbs.	24,155.02		.8645
						356,820.39	8.9537
LESS:							
Tailings Losses:							
Gold	.0065	Oz.	251.430	Oz.	8,800.06		.2208
Silver	.313	Oz.	12,040.30	Oz.	10,918.01		.2740
Lead	.071	%	54,867.	Lbs.	6,503.00		.1632
Copper	.108	%	83,673.	Lbs.	25,439.77		.6389
Zinc	.248	%	190,832.	Lbs.	24,446.94		.6134
						76,127.78	1.9103
Gross Value of Concentrates:			(Rec'y %)				
Gold	.780	Oz.	80.6	1,046.144	Oz.	36,615.03	.9188
Silver	33.43	Oz.	78.8	44,818.59	Oz.	40,781.52	1.0233
Lead	28.96	%	93.4	773,913.	Lbs.	90,052.17	2.2597
Copper	12.90	%	80.5	345,962.	Lbs.	103,236.31	2.5905
Zinc	3.12	%	30.4	83,558.	Lbs.	10,008.08	.2511
						280,693.11	7.0434
LESS:							
Price Discounts					61,758.11		1.5497
Freight on Concentrates					19,755.96		.4957
Umpire					244.25		.0061
Base Treatment Charge					20,586.55		.5166
						102,344.87	2.5681
NET SMELTER RETURN						$178,348.24	$4.4753

ROYALTY equals 1½% of Net Smelter $2,675.22

Balance due @ 5% $6,242.19 Paid 2-5-63
OME

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

OME
DEPARTMENT OF THE INTERIOR
FEB 1 1963
REGION III
DENVER, COLORADO

Memorandum

JAN 29 1963

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

Your memorandum of November 13, 1962, requested a copy of the subject contract for the Standard Metals Corporation and expressed the belief that no further difficulty would be encountered in collecting the additional royalty of $6,242.19 due to the Government on August 1960 through January 1961 production.

A copy of the contract, together with amendments and termination agreement, was sent to you by my November 19 memorandum and subsequently forwarded to the Standard Metals Corporation by your November 21 letter. We have no record of payment of the additional royalty or further correspondence. Accordingly, if you have not already done so, another demand for payment is suggested.

In a letter dated October 25, 1962, the Standard Metals Corporation stated that no extra copies of the settlement sheets were available but that full use of its files would be given to you. In view of this statement your advice will be appreciated as to whether, during your November 7 visit to the Standard Metals Corporation's office, you checked the reported $178,348.24 value of production against the supporting settlement sheets.

George C. Selfridge.

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

OME
DEPARTMENT OF THE INTERIOR
FEB 1 1963
REGION III
DENVER, COLORADO

Memorandum

JAN 29 1963

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

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George C. Selfridge

Building 20 - Federal Center
Denver 25, Colorado

November 21, 1962

Mr. James M. Hansen
Office Manager
Standard Metals Corp.
264 South Fourth East
Moab, Utah

Re: DMSA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Co.
(Letter "G" Vein Project)
Silver Lake Mine
San Juan County, Colorado

Dear Mr. Hansen:

Attached is a copy of the captioned Contract, together with a copy of the Amendments and the Termination Agreement which I promised to obtain for you.

Yours very truly,

signed

Hugh M. Connors
Acting Field Officer, OME
Region III

Attachments

cc Chief, Division of Field Operations, OME (2)
Royalty Corres Idm-E558
Chron
HMC/lm

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

OME
DEPARTMENT OF THE INTERIOR

Memorandum NOV 19 1962 NOV 21 1962
REGION III
DENVER, COLORADO

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: DMEA-2991 (Lead-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

As requested in your memorandum of November 13, we are enclosing a copy of the referenced contract, together with a copy of the amendments and termination agreement.

Enclosures

George C. Selfridge

Building 20 - Federal Center
Denver 25, Colorado

November 13, 1962

Memorandum

To: George C. Selfridge, Chief
Division of Field Operations, OME
Washington 25, D. C.

From: Acting Field Officer, OME, Region III

Subject: DMMA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Co.
(Letter "G" Vein Project)
Silver Lake Mine
San Juan County, Colorado

Attached are the original and one copy of my letter to Mr. Hansen. Will you please forward me a copy of the contract for use of the Standard Metals Corporation.

Standard Metals Corporation inherited the subject project but did not receive a copy of the contract. They thought that 5% royalty on $4.96 per ton ore was not justified. After explaining the provisions of the contract and that the Government lost more money on this exploration project than the Standard Metals Corporation, their attitude changed and it is my belief that we will have no further difficulty in collecting the amount of royalty due the Government.

Original signed by

Hugh M. Connors

Attachments
cc Idm-E558 Royalty Corres.
Chron

Building 20 - Federal Center
Denver 25, Colorado

November 13, 1962

Mr. James H. Hansen
Office Manager
Standard Metals Corp.
264 South Fourth East
Moab, Utah

Re: DMEA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Co.
(Letter "O" Vein Project)
Silver Lake Mine
San Juan County, Colorado

Dear Mr. Hansen:

This will confirm my understanding of the agreements we reached in your office November 7, 1962.

I am to obtain a copy of the captioned contract for you.

You are to request two copies of each settlement sheet from AMARCO and furnish the breakdown of the amount of DMEA concentrates in each lot and forward the settlement sheets to this office. You are to give a copy of the contract, which I will supply you, to your Legal Department and recommend that the royalty be paid the Government as specified in the contract.

I enjoyed meeting you and was happy to have the chance to explain the royalty provisions of the contract to you.

Yours very truly,

Original signed by

Hugh M. Connors
Acting Field Officer, OME
Region III

cc Chief, Division of Field Operations, OME (2)
Idm-E558 Contract Corres.
Chron
HMC/lm

(2)

STANDARD METALS CORP.
264 SOUTH FOURTH EAST
MOAB, UTAH

PHONE ALPINE 3-5681

October 25, 1962

OME
DEPARTMENT OF THE INTERIOR
OCT 29 1962
REGION III
DENVER COLORADO

Mr. Hugh M. Connors
Acting Field Officer
U.S. Department of the Interior
Minerals Exploration
Building 20 - Federal Center
Denver 25, Colorado

D.M.E.A. - 2991 (Lead-Zinc)
Contract Idm - E558
Shenandoah-Dives Mining Co.
San Juan County, Colorado

Dear Mr. Connors,

We believe that our payment as remitted satisfies the requirements of the contract for ore milled in 1960. We do not have a copy of the contract so we calculated the payment on the basis of D.M.E.A. question and answer pamphlet #204413 0-52-2. Quote "The rate begins at 1½ percent if your net smelter returns are $8.00 per ton or less etc." Our net smelter return was $4.4753 per ton and the royalty payment was duly made.

I am sorry to report that we do not have extra copies of the settlement sheets representing the net smelter return of $178,348.24 nor do we have any way of separating the D.M.E.A. production from our custom milling returns. We have a complete file of all smelter returns here in Moab and we will be happy to give you or your representative full use of the file while in this office.

Yours very truly,
STANDARD METALS CORPORATION

J. M. Hansen

James M. Hansen
Office Manager

JMH:lf

Building 20 - Federal Center
Denver 25, Colorado

October 29, 1962

Mr. James H. Hansen
Office Manager
Standard Metals Corp.
264 South Fourth East
Moab, Utah

Re: DMMA-2991 (Lead-Zinc)
Contract IBm-8558
Shenandoah-Dives Mining Company
(Letter "G" Vein Project)
Silver Lake Mine
San Juan County, Colorado

Dear Mr. Hansen:

This responds to your letter of October 25, 1962 regarding the royalty due the Government under the captioned contract.

I plan to arrive in Moab the night of November 6. I will bring my office copy of the contract with me and I should like to discuss it with you and Mr. McCormick the morning of November 7, 1962.

Yours very truly

Original signed by

Hugh M. Cannorm
Acting Field Officer, OME
Region III

cc Chief, Division of Field Operations, OME
with copy of Mr. Hansen's letter dated 10/25/62
Royalty Corres E558
Chron
HMC/lm

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

OCT 19 1962 OME
DEPARTMENT OF THE INTERIOR
OCT 22 1962
REGION III
DENVER, COLORADO

Memorandum

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: DMEA-2991 (Lead-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

The $2,675.22 check submitted with your October 17 memorandum has been forwarded to the Department's Fiscal Section for deposit to the royalty account under the subject contract.

Your letter to the Standard Metals Corporation has been dated and mailed. Your chronological and royalty file copies are enclosed. Please note that I have taken the liberty of adding a postscript: "Please forward two copies of each settlement sheet represented by the aggregated net smelter returns of $178,348.24".

George C. Selfridge.

Enclosures

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

OCT 1 0 1962
OME
DEPARTMENT OF THE INTERIOR
OCT 22 1962
REGION 2
DENVER, COLORADO

Memorandum

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: DMEA-2991 (Lead-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-X558

The $2,675.22 check submitted with your October 17 memorandum has been forwarded to the Department's Fiscal Section for deposit to the royalty account under the subject contract.

Your letter to the Standard Metals Corporation has been dated and mailed. Your chronological and royalty file copies are enclosed. Please note that I have taken the liberty of adding a postscript; "Please forward two copies of each settlement sheet represented by the aggregated net smelter returns of $178,348.24".

George C. Selfridge

Enclosures

Building 20 - Federal Center
Denver 25, Colorado

OCT 1 9 1962

Mr. William R. McCormick
President and General Manager
Standard Metals Corporation
264 South 4th East
Moab, Utah

Re: EMEA-2991 (Lead-Zinc)
Contract IBm-E558
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Dear Mr. McCormick:

This will acknowledge receipt of your check for $2,675.22 which will be credited to your royalty account.

Please note in Article 6 of the contract that royalty due the Government is payable on the net smelter returns, in whatever form disposed of, including concentrates. The total amount due the Government, therefore, on your net smelter return of $178,348.24 is $8,917.41, which leaves a balance due the Government of $6,242.19.

Will you please advise when we may expect to receive your check for $6,242.19 to bring this royalty account into balance.

Yours very truly,

Original signed by

Hugh M. Connors
Acting Field Officer, OME
Region III

cc Chief, Division of Field Operations, OME (2)
Royalty Corres. E558
Chron
HMC/lm

P.S. Please forward two copies of each settlement sheet represented by the aggregated net smelter returns of $178,348.24.

Building 20 - Federal Center
Denver 25, Colorado

October 17, 1962

AIRMAIL
Memorandum

To: George C. Selfridge, Chief
Division of Field Operations, OME
Washington 25, D. C.

From: Acting Field Officer, OME, Region III

Subject: DMEA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Enclosed are the following:

(1) Standard Metals Corporation check No. 7029 for $2,675.22 on which the attached tab states

"When detached and paid, check becomes a receipt in full payment of the above account. No other receipt is necessary"

(2) The original statement of ores and concentrates produced between August 1960 and January 1961

(3) My letter to the Operator for your consideration and advice.

If you feel that my letter to the Operator is satisfactory and we can accept this check on the royalty account, will you please date and mail my letter to the Operator and return the chron and royalty correspondence copies to this office for our files.

Original signed by

Hugh M. Connors

Attachments
cc Royalty Corres. E558
Chron

Building 20 - Federal Center
Denver 25, Colorado

September 10, 1962

Mr. W. R. McCormick, President
Standard Uranium Corp.
264 South Fourth East
Moab, Utah

Re: DMSA-2991 (Lead-Zinc)
Contract Min-8558
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Dear Mr. McCormick:

I was in the San Juan country last week and stopped in your office above Silverton. Mr. Hutchinson, your superintendent, was not in but I talked to Mr. Edwin A. Larson who informed me that due to many changes in personnel after the death of Mr. Charles Chase, he had no knowledge that the captioned project was obligated to pay royalty.

You will note from the attached photocopy of the Termination Agreement dated September 9, 1955, signed by Benjamin F. Stapleton, Jr., who was then president of Shenandoah-Dives Mining Company, that a Royalty Agreement was contained in Paragraph 4.

Will you please advise when we may expect to receive your check for the past due royalty.

Yours very truly,

Hugh M. Connors
Acting Field Officer, OME
Region III

Enclosure
cc Edwin A. Larson
Standard Metals Company
P. O. Box 247
Silverton, Colorado

cc Chief, Division of Field Operations, OME (2)
E558
Chron

Field Team copy
DMEA
Date Rec'd.

SEP 15 1955

BUREAU OF MINES
Denver, Colorado

TERMINATION AGREEMENT

It is agreed this 9th day of September, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Susquehanna-Sixes Mining Co., hereinafter called the "Operator," parties to that certain Exploration Project Contract Identified, Contract No. DMEA-6991, dated June 28, 1953, hereinafter called the "Contract," that:

1. Effective May 29, 1955, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Government shall contribute only to the fixed unit costs of work performed prior to said effective date.

3. 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.

4. 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 the royalty on production provided for in the Contract, in the same manner and amount as if certification of discovery or development had been made, such certification being hereby waived.

Royalty Agreement

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 duplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C. M. Mitchenson
Contracting Officer, Defense Minerals
Exploration Administration

SUSQUEHANNA-SIXES
MINING CO.

By Bryan T. Stolz Jr.
President

Building 20 - Federal Center
Denver 25, Colorado

August 16, 1962

Mr. W. R. McCormick, President
Standard Uranium Corp.
264 South Fourth East
Moab, Utah

Re: DMEA-2991 (Lead-Zinc)
Contract IDm-E558
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Dear Mr. McCormick:

The "Request for Information on Certified Project and Project under Royalty Agreement" recently returned from your office stated that you had produced 39,851.544 tons of ore with a value of $178,348.24. In accordance with the provisions of the captioned contract, royalty is due the Government from the sale of this ore.

Will you please forward this office two copies of each settlement sheet representing the sale of this ore so that we may determine the amount of royalty due the Government.

Yours very truly,

Original signed by

Hugh M. Connors
Acting Field Officer, OME
Region III

HMC/lm
cc Chief, Division of Field Operations, OME
E558
Chron

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

OME
DEPARTMENT OF THE INTERIOR
AUG 1 5 1962
REGION III
DENVER, COLORADO

AUG 1 0 1962

Memorandum

To: Acting Field Officer, Region III

From: ACTING Chief, Division of Field Operations

Subject: DMEA-2991 (Lead-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

We were surprised, when we received the completed MME Form 63, that this company had milled ore to the extent indicated. Will you, therefore, make the proper demand for royalty payment, requesting copies of settlement sheets and appropriate royalty payment on the basis of individual settlement sheets. A copy of Form 63 is attached.

W. R. Griswold

Enclosure

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

JUL 28 1952

Re: IMEA-2991 (Lead-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

Standard Uranium Corp.
264 South Fourth East
Moab, Utah

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

W. R. Griswold

W. R. Griswold, Chief
Division of Minerals

MME Form 63
Revised 3-62

OME
DEPARTMENT OF THE INTERIOR
AUG 15 1962
REGION III
DENVER, COLORADO

REQUEST FOR INFORMATION ON CERTIFIED PROJECT AND PROJECT UNDER ROYALTY AGREEMENT

1. Since January 14, 1960, has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes ☐ No ☑

2. Since January 14, 1960, has there been any production from the land subject to the contract? Yes ☒ No ☐

   A. If so and it was shipped, give quantity, value, and name and address of purchaser.

	Quantity	Value
American Smelting & Refining Co. Leadville, Colo. & Amarillo, Texas	39,851.544 tons	$ 178,343.24

   B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity		Estimated Grade	Location
Ore		Tons		
Concentrates		Tons		
Other		Tons		

3. Since , has any production been transported through workings (see of contract)? Yes ☐ No ☒

   A. If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name Robert M Hunt Title

Address Date

4511

Building 20 - Federal Center
Denver 25, Colorado

March 18, 1960

Mr. James B. King, Jr.,
Office Manager
Standard Uranium Corp.
264 South Fourth East
Moab, Utah

Re: Docket No. 2991 (Lead-zinc-copper)
Contract No. Ida-E558
Shenandoah-Dives Mining Company
(Letter G vein, Silver Lake Mine)
San Juan County, Colorado

Dear Mr. King:

Reference is made to your letter of March 16, 1960 wherein you request copies of contract No. Ida-E558 and the Termination Agreement dated September 9, 1955. In regard to furnishing you a copy of contract No. Ida-E558, our file copy is about the fifth carbon and too indistinct for reproduction purposes.

The contract consists of: form MF 200(A) (February 1952); Annex I; Annex II (three pages); Exhibit "A"; form MF-203, Owners Consent to Lien, executed by the American Smelting & Refining Company; copies of Location Certification on the American Girl and Lorraine lode claims; and two maps -- Figure 4, Plan and Claim Map, and an otherwise unidentified map showing mining claims in relation to workings on the Letter "G" vein. In addition, Amendment No. 1 was executed to modify the description of the work to be performed on the Letter G vein.

We have no facilities for reproducing the maps and, as stated above, our carbon copy of the contract is too blurred for reproduction purposes; however, if you will advise the portions of the contract that are missing from your files, we will attempt to provide you with replacements.

A photocopy of the Field Team's copy of the Termination Agreement is enclosed.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, OME
Field Team, Region III

JWT/ms
cc: Chem. Op. Comm. (2)
Rylty corres E558
w/cy ltr Mar 16/1960
Chron

Enclosure

STANDARD URANIUM CORP.
264 SOUTH 4TH EAST
MOAB, UTAH

March 16, 1960

Mr. J. W. Townsend,
Executive Officer, OME
Field Team, Region III
Building 20, Federal Center
Denver 25, Colorado

Re: Docket No. DMEA 2991 (Lead-Zinc-Copper)
Contract No. Idm-E558
Shenandoah-Dives Mining Company
(Letter G vein, Silver Lake mine)
San Juan County, Colorado

Dear Mr. Townsend:

Your letter of January 18, 1960 addressed to Mr. Wood has been referred to me for answer. I wish to advise you that the 30-year lease on the property between American Smelting and Refining Company and Shenandoah-Dives Mining Company has been assigned to Standard Uranium Corporation, as the original lease was assigned to Shenandoah, Limited. I will send you copies of this instrument as soon as I can have them copied.

Will you please send me a copy of the contract No. Idm-E558 and the termination agreement dated September 9, 1955. In checking our files I find that our copy of the contract is not complete.

Very truly yours,

STANDARD URANIUM CORPORATION

James B. King Jr.

James B. King, Jr.
Office Manager

JBK:mo

OME
DEPARTMENT OF THE INTERIOR
MAR 16 1960
REGION III
DENVER, COLORADO

Building 20 - Federal Center
Denver 25, Colorado
January 18, 1960

Mr. Russell L. Wood
Assistant General Manager
Standard Uranium Corporation
264 South Fourth East
Moab, Utah

Re: Docket No. DMEA 2991 (Lead-Zinc-Copper)
Contract No. Idm-E558
Shenandoah-Dives Mining Company
(Letter G vein, Silver Lake mine)
San Juan County, Colorado

Dear Mr. Wood:

Thank you for your letter of January 14, 1960, in reply to my letter of January 4.

Neither Mr. Tomlin or you clarified the matter as to whether or not there has been any change in the property rights of the property originally subordinated under Contract Idm-E558. Was the 30-year lease on the property between American Smelting and Refining Company and Shenandoah-Dives Mining Company assigned to the new partnership? If so, please forward two copies of the instrument that was executed to effect the assignment.

Regarding your inquiry relative to the maps, reports and procedures to be used in reference to the contract, there are no specific requirements as such, except the payment of royalty on production from the subordinated lead. Each royalty payment must be accompanied by three copies of settlement sheet, load detail sheets and such, which show the basis for the royalty payment.

It is assumed that you have access to a copy of Contract Idm-E558 and to the Termination Agreement dated September 9, 1955 terminating the contract, wherein the Government's rights to percentage royalty on production was established; however, if your files do not contain pertinent information in reference to the contract please advise.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, OME
Field Team, Region III

JWT:ltm

cc: Chmn. Op. Comm.(2)
Hasler
Roy. Corres. E558
Chron.

STANDARD URANIUM CORP.
264 SOUTH 4TH EAST
MOAB, UTAH

January 14, 1960

OME
DEPARTMENT OF THE INTERIOR
JAN 18 1960
REGION III
DENVER, COLORADO

Mr. J. W. Townsend
Executive Officer, OME
Building 20 - Federal Center
Denver 25, Colorado.

Re: Docket No.DMEA 2991 (Lead-Zinc-Copper)
Contract No. Idm-E558
Shenandoah-Dives Mining Company
(Letter G Vein, Silver Lake Mine)
San Juan County, Colorado.

Dear Mr. Townsend:

I am in receipt of your letter to me of January 4, 1960, and your letter to Mr. Tomlin dated December 14, 1959, in regard to Docket No. DMEA 2991, Contract No. Idm-E558.

I presume that Mr. Tomlins reply as to the present ownership of the land has been completed to your satisfaction. Therefore, I shall confine my reply to the information requested in the third paragraph of your letter of December 14th.

There has been no production from the land subordinated under the contract since January 1, 1959. We have done considerable development, drifting, and raising on these lands but have not been able to save any ore from this work. The drifting has consisted of extending the drift on the Letter G vein to a point below the cross-cut on the Unity level. A raise has been started to connect these two points. This raise will extend approximately 450 feet and it is anticipated that it will be completed during late February of 1960. The immediate purpose of this raise, of course, is to provide ventilation and access to the upper levels on the Letter G vein. Our plans from this point will depend somewhat upon what we encounter in driving this raise. If ore of commercial grade is encountered and the market situation is satisfactory stopes will be started on the upper levels first to be produced through the Letter G workings. In addition certain ground opened up by the original DMEA contract on the Shenandoah-Dives main level will undoubtedly be stoped during the next year. At the present time we have six to eight men engaged in this development project.

We will be most happy to cooperate with your office with regard to this project. In as much as we are not generally familiar with the regulations which were in existence at the time this contract was entered into we would appreciate receiving from your office instructions as to just what maps and reports and procedures are to be used.

Very truly yours,

STANDARD URANIUM CORPORATION

Russell L. Wood

Russell L. Wood
Assistant General Manager

RLW:mo

Building 20 - Federal Center
Denver 25, Colorado
January 4, 1960

Mr. Russel L. Wood
Standard Uranium Corporation
Moab, Utah

Re: Docket No. DMEA 2991 (Lead-Zinc-Copper)
Contract No. Idm-E558
Shenandoah-Dives Mining Company
(Letter G Vein, Silver Lake Mine)
San Juan County, Colorado

Dear Mr. Wood:

Reference is made to the letter from this office to Mr. S. Stokes Tomlin, Jr., dated December 14, 1959, a copy of which was forwarded to you at the time of writing.

Mr. Tomlin advised by letter of December 28, 1959, that the referenced Silverton area property had been transferred to a partnership, Shenandoah, Limited, of which the operating partner is the Standard Uranium Corporation. He suggested that requests be made of you for any additional information.

We will appreciate a reply from you at an early date regarding the balance of information requested in my letter of December 14, 1959 to Mr. Tomlin.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, OME
Field Team, Region III

JWT:ltm

cc: Chmn. Op. Comm. (2)w/cpy
Roy. Corres. E558)Tomlin's ltr.
Chron. dtd. 12/28/59

MARCY - SHENANDOAH CORPORATION

Minerals Resources Development

DURANGO, COLORADO • ATLANTA, GEORGIA

Reply to:

830 W. Peachtree St., N.W.
Atlanta 8, Georgia

December 28, 1959

Mr. J. W. Townsend, Executive Officer, OME
Field Team, Region III
United States Department of the Interior
Office of Minerals Exploration
Building 20 - Federal Center
Denver 25, Colorado

Re: Docket No. DMEA 2991 (Lead-Zinc-Copper)
Contract Idm-E558
Shenandoah Dives Mining Company
(Letter G Vein, Silver Lake mine)
San Juan County, Colorado

Dear Mr. Townsend:

This letter is to notify you that all of our interest in the Silverton area have been transferred to a partnership, Shenandoah Ltd. The operating partner is the Standard Uranium Corporation of Moab, Utah. I suggest you write to Russell Wood for additional information.

Sincerely,

OME
DEPARTMENT OF THE INTERIOR
DEC 29 1959
REGION III
DENVER, COLORADO

Building 20 - Federal Center
Denver 25, Colorado
December 14, 1959

CERTIFIED MAIL

Mr. S. Stokes Tomlin, Jr.
Marcy-Shenandoah Corporation
Jarvis Building
Durango, Colorado

Re: Docket No. DMEA 2991 (Lead-Zinc-Copper)
Contract Idm-E558
Shenandoah Dives Mining Company
(Letter G Vein, Silver Lake mine)
San Juan County, Colorado

Dear Mr. Tomlin:

We would like to have our files bought up-to-date by receipt of advise from you regarding any change in the name of the operating company or changes in property rights that in any way might effect the Government's interests and provisions of the referenced contract.

It will be appreciated if you will give a brief account of all that has transpired since the DMEA contract was terminated by Agreement dated September 9, 1955. If there has been any change in the land ownership or status of the original lease pertaining to the land subordinated under the contract, please forward two copies of any instrument that was executed in conjunction with the change.

In addition to the foregoing, please advise if there has been any production from the lands subordinated under the contract since January 1, 1959, and also advise your plans regarding operations in that part of the property in the near future.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, CMR
Field Team, Region III

JWT:ltm
cc: Chmn. Op. Comm. (2)
Roy. Corres. E558
Chron.

cc: Mr. Russell L. Wood
Standard Uranium Corp.
Moab, Utah

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado

June 22, 1959

Memorandum

TO: J. W. Townsend, Executive Officer, OME Field Team, Region III

From: Donald T. Finch, OME Auditor

Subject: Docket No. DMEA 2991 (Lead-Zinc-Copper) Contract No. Idm-E558 Shenandoah-Dives Mining Company, (~~Little~~ G Vein, Silver Lake Mine) San Juan County, Colorado LETTER

Enclosed is your copy of Report of Royalty Review covering subject contract for the period June 26, 1953 to June 15, 1959, inclusive.

Donald T. Finch

Donald T. Finch

Enclosure

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF ROYALTY REVIEW

I have reviewed the files of the Executive Officer, OME Field Team, Region III, Denver, Colorado pertaining to Contract Idm-2558, Docket No. IMEA 2991, dated June 26, 1953, with

Shenandoah-Dives Mining Company
Silverton, Colorado

for the purpose of determining the amount of royalties due the U. S. Government on the sales of Lead-Copper-Zinc, from property referred to as Little G Vein, Silver Lake Mine, located in San Juan County, Colorado, during the period June 26, 1953 to June 15, 1959.

Pseudo Certification was effected in Termination Agreement dated September 9, 1955, and accordingly royalty is payable on all production from the land described in Article 2 of the contract for a maximum period of 10 years from the date of the contract. A Report of Review in lieu of final cost audit dated October 26, 1955, indicated accepted costs under the exploration contract amounting to $140,814.85 with the Government's contribution on a 50 percent basis being $70,407.43.

No royalty has been paid to the Government todate in connection with this contract.

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

(a) According to the Field Team's Semi-Annual Report of certified project for the period July 1, to December 31, 1955, operation ceased about May 29, 1954; no ore has been shipped since June 26, 1953, (The date of the exploration contract). Subsequent semi-annual reports of Field Team during the period January 1, 1956 to December 31, 1958, indicate the property inactive and no operations or ore shipments are anticipated in 1959.

(b) The administrative costs to the Government of an on-site royalty audit at this time would be excessive in relation to the amount of possible royalty which might be disclosed.

June 15, 1959

Donald T. Finch
Donald T. Finch
OME Auditor

U. S. DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

224 New Customhouse
Denver 2, Colorado

Date: May 24, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Royalty payments, Docket DMEA 2991 (Lead-Copper-Zinc), Contract Idm-E558, Shenandoah-Dives Mining Company (Silver Lake Mine) San Juan County, Colorado

Period: March, 1956

During the above month the following royalty payments were received for ore or concentrates shipped from the subject property:

Date	Lot No.	Dry Tons	Royalty Due	Royalty Paid	Bonus Roy. Due	Bonus Roy. Pd.

(NONE)

Totals:

Past Due Royalties Collected	None
Total Dry Tons (Ore or Cons.) Shipped to Date	None
Expiration Date of Royalty Repayment	June 26, 1963
Amount of Government Participation	$70,407.43
Total Royalty Payments to Date	None
Percent of Loan Repayment	----

for W. M. Traver

cc Royalty File E 558 w/Settlement Sheets
Monthly Royalty Payment File
J. F. Shaw (2)
Chron.

Region Copy

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
WASHINGTON, D.C. 20240

Re: [redacted]
Shenandoah-Dives [redacted]
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-[redacted]

10/18

Standard Uranium Corp.
264 South Fourth East
Moab, Utah

OME
DEPARTMENT OF THE INTERIOR
JUN 11 1982
DENVER, COLORADO

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

W. R. Griswold, Chief
Division of Minerals

MMS Form 63
Revised 3-62

REQUEST FOR INFORMATION ON CERTIFIED PROJECT AND PROJECT UNDER ROYALTY AGREEMENT

1. Since January 14, 1960, has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes ☐ No ☑

2. Since January 14, 1960, has there been any production from the land subject to the contract? Yes ☑ No ☐

   A. If so and it was shipped, give quantity, value, and name and address of purchaser.

	Quantity	Value
American Smelting & Refining Co. Leadville, Colo. & Amarillo, Texas	39,851,544 tons	$ 178,368.24

   B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity		Estimated Grade	Location
Ore		Tons		
Concentrates		Tons		
Other		Tons		

3. Since , has any production been transported through workings (see of contract)? Yes ☐ No ☑

   A. If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name [illegible] Title [illegible] Office Manager

Address [illegible] East [illegible] Date [illegible]/62

4511

UNITED STATES
DEPARTMENT OF THE INTERIOR
Office of Minerals Exploration
224 New Customhouse
Denver 2, Colorado

March 3, 1959

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Semiannual Report of Certified Project for the period **July 1, 1958 through December 31, 1958**

DMEA Docket 2991
Contract Idm-E 558

Shenandoah-Dives Min. Co. (Cu-Pb-Zn)
San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

Original signed by
J. W. TOWNSEND

Enclosures

J. W. Townsend

cc: Semiannual Report File Idm-E558
Harshman
Buel
Chron.

OME
DEPARTMENT OF THE INTERIOR
MAR 3 - 1959
REGION III
DENVER, COLORADO

OME, REGION III

Statement in Lieu of Semiannual Report

Reporting Period	July 1 - Dec. 31, 1958
Docket and Contract Number	Docket 2991, Contract Idm-E558
Operator	Shenandoah-Dives Min. Co. (Cu-Pb-Zn) San Juan County, Colorado

The project has been inactive during the reporting period [X]

Pertinent data relative to the subject contract has remained unchanged since the last report [X]

Remarks:

The Marcy-Shenandoah mill was converted during the past year to receive custom mill ore. To date, however, the mill has not been in commercial operation.

Signed Edward W. Buel Date 3-2-59

Edward W. Buel

OME
DEPARTMENT OF THE INTERIOR

NOV 12 1958
REGION III
DENVER, COLORADO

DMEA, REGION III

Statement in Lieu of Semiannual Report

Reporting Period Jan. 1, 1958 to June 30, 1958
Docket and Contract Number
Operator

The project has been inactive during the reporting period [X]

Pertinent data relative to the subject contract has remained unchanged since the last report [ ]

Remarks:

Contract	Docket	State	County	Commodity	Name
E631	3032	Colo.	Gunnison	Rare Earths	Rare Earths Mng. Co.
E86	1243X	Colo.	Ouray	Lead-Zinc	Bachelor Dev. Co.
E312	2165	Colo.	San Miguel	Lead-Zinc	Silver Bell Mines Co.
E558	2991	Colo.	San Juan	Copper-Lead-Zinc	Shenandoah-Dives Mng. Co.

Signed Edward W. Beal
Director

Date Nov. 5, 1958

224 New Customhouse
Denver 2, Colorado
October 29, 1958

Memorandum

To: E. W. Buel, OME/EFC

From: Acting Executive Officer, OME Field Team, Region III

Subject: Projects Requiring Inspection for Semiannual Report to Cover the Peribd, January 1, 1958 to June 30, 1958

Semiannual reports on the following projects have not been received in this office:

Docket	Contract	Commodity	Name	County	State
1243X	E86	Lead-Zinc	Bachelor Development Company	Ouray	Colo.
2991	E558	Copper-Lead-Zinc	Shenandoah Dives Co.	San Juan	Colo.
3032	E631	Rare earths	Rare Earths Mining Co.	Gunnison	Colo.

Please advise the date on or before which we may expect to receive these semiannual reports.

Original Sig.
E. N. HARSHMAN
E. N. Harshman

HMC:hmh

cc: Semiannual Report files: E86, E558, E631
Connors
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

February 26, 1958

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period July 1 - December 31, 1957

DMEA Docket 2991
Contract Idm-E 558
Shenandoah-Dives Mining Company
(Silver Lake mine) San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

Original signed by
W. H. KING

Executive Officer, DMEA
Field Team, Region III

Enclosures
MRM:bb

cc: Semiannual Report File E 558
Harshman
DMEA/DFC (2)
Chron.

DMEA, REGION III

Statement in Lieu of Semiannual Report

Reporting Period	July 1 - December 31, 1957
Docket and Contract Number	DMEA 2991, Idm-E558
Operator	Shenandoah-Dives Mining Co. (Silver Lake mine) San Juan County, Colorado

The project has been inactive during the reporting period [X]

Pertinent data relative to the subject contract has remained unchanged since the last report [ ]

Remarks:

It is reported that Marcy-Shenandoah Corporation, Jarvis Bldg., Durango, Colorado, took over the mines and mill belonging to the operator. Dustom milling is expected to start in March 1958.

Signed Edward W. Buel
Edward W. Buel

Date 2/7/58

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

OCT 22 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period January 1, 1957 through June 30, 1957

DMEA Docket 2991 (Lead-Zinc-Copper)
Contract Idm-E 558, Shenandoah-Dives Mining Company (Silver Lake Mine); San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

Original signed by
E. N. HARSHMAN

Acting Executive Officer, DMEA
Field Team, Region III

Enclosures

MHM/vj
cc: Semiannual Report File E 558
DMEA/DFC (2)
Harshman
Chron.

DMEA
DEPARTMENT OF THE INTERIOR
OCT 15 1957
REGION III
DENVER, COLORADO

DMEA, REGION III

STATEMENT IN LIEU OF SEMIANNUAL REPORT

Reporting Period	January 1, 1957 to June 30, 1957
Docket and Contract Number	DMEA 2991, Idm-E558
Operator	Shenandoah-Dives Mining Co. (Silver Lake mine) San Juan County, Colorado

The project has been inactive during the reporting period [X]

Pertinent data relative to the subject contract has remained unchanged since the last report [ ]

Remarks:

Signed Edward W. Buel
Edward W. Buel

Date Oct. 14, 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

224 New Customhouse
Denver 2, Colorado

Date: February 18, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period July 1, 1956 through December 31, 1956
DMEA Docket 2991 (Lead-Copper-Zinc)
Contract Idm-E 558, Shenandoah-Dives Mining Company, (Silver Lake Mine), San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, ~~and~~ Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

Original signed by
W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures
MHM/vj
cc: Semiannual Report File E 558
J. F. Shaw (2)
Harshman
Chron.

DMEA, REGION III

STATEMENT IN LIEU OF SEMIANNUAL REPORT

Reporting Period July 1, 1956 to December 31, 1956
Docket and Contract Number DMEA 2991, Ida-2558
Operator Shenandoah-Dives Mining Co.
(Silver Lake mine)

The project has been inactive during the reporting period [X]

Pertinent data relative to the subject contract has remained unchanged since the last report [ ]

Remarks:

None

Signed Edward W. Buel
Edward W. Buel

Date
February 14, 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

224 New Customhouse
Denver 2, Colorado

Date: September 20, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period January 1, 1956 through June 30, 1956
DMEA Docket 2991 (Lead-Copper-Zinc)
Contract Idm-E 558, Shenandoah-Dives Mining Company (Silver Lake Mine), San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, ~~and~~ Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures

MMM/vj
cc: Semiannual Report File E 558
J. F. Shaw (2)
E. N. Harshman
Chron.

DMEA, REGION III

STATEMENT IN LIEU OF SEMIANNUAL REPORT

Reporting Period Jan. 1, 1956 to June 30, 1956
Docket and Contract Number DMEA 8991, Contract 16m-5393
Operator Shenandoah-Dives Mining Co.

	"X" one
The project has been inactive during the reporting period	X
Pertinent data relative to the subject contract has remained unchanged since the last report	X

Remarks:

Production from the property during 1952-53 totaled 1,112,941 tons of ore averaging 1.55 lead, 0.65% zinc and 0.11% copper with 0.098 ounce gold and 1.9 ounces silver per ton. From this it is seen that the ore generally was low grade.

Mr. E. A. Larson, resident manager, was contacted on the property.

The property has been shut down since May 29, 1954 and there are no plans for future operation.

Signed C. M. Harper
C. M. Harper

Date
Sept. 5, 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

224 New Customhouse
Denver 2, Colorado

Date: May 29, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period July 1, 1955 through December 31, 1955
DMEA Docket 2991 (Lead-Zinc-Copper)
Contract Idm-E 558 Shenandoah-Dives Mining Company (Silver Lake mine), San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office and Memorandum 29.

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures
WMT/vj
cc: Semiannual Report File E 558
S. P. Shaw (2)
E. N. Harshman
Chron.

Semi-Annual Report of Certified Projects

Reporting Period July 1 to December 31, 1955

Docket and Contract Number DMEA 2991, Contract Ida-8558

Operator Shenandoah-Dives Mining Co.

Commodity Lead-zinc-copper

Mine Name Silver Lake mine

County and State San Juan county, Colorado

Date of Contract June 26, 1953

Date of Certification (Pseudo) September 9, 1955

Expiration Date of Royalty Payments June 26, 1963

Date of Examination for this Report April 17, 1956

Total Amount of Contract $211,900.00

Total Expenditures under Contract $140,814.85

Amount of Government Participation at 50 % $70,407.43

Royalty Payments this Period none

Previous Royalty Payments none

Total Royalty Payments to Date none

% Loan Repayment Completed none

Amount of Royalty Due none

Royalty Remarks There has been no production to date subject to DMEA payment Royalty.

Original Estimate of Reserves
(from Final Engr.-Geol. Report)

Indicated and Inferred ore reserves					
	Percent			Ounces per ton	
Tons	Lead	Zinc	Copper	Gold	Silver
63,910	2.02	0.18	0.42	0.01	1.4
45,053	0.23	0.15	0.18	0.007	2.7
79,750	0.3	0.2	0.3	0.01	1.7
81,400	0.9	0.3	0.9	0.03	1.8
82,875	0.2	0.2	0.1	0.02	0.3

Increase of Reserves by work performed subsequent to expiration or termination of contract: None

Revised Estimate of Reserves: Same as above

Production this Period (Ore or Concentrates) None

Amount of Previous Production (since date of contract) None

Total DMEA Production to date None

% of Revised Reserves Mined None

Production Remarks:

Note: On Uranium projects check with AEC to assure that our records are in agreement with theirs.

Other Remarks: Production from the property during 1952-53 totaled 1,112,941 tons of ore averaging 1.5% lead, 0.63% zinc and 0.11 percent copper with 0.095 ounce gold and 1.9 ounces silver per ton. From this, it is seen that the ore generally was very low grade.

The property has been completely shut down since May 29, 1954.

Signed C. M. Harper (Engineer)
C. M. Harper

Filed for record the _____ day of _____, A. D. 19_____, at _____ o'clock _____ M.

Reception No. _____ _____ RECORDER.

COPY

STATE OF COLORADO, }ss.
County of San Juan

Know all Men by these Presents,

That American Smelting & Refining Company

the undersigned, ha_____, this 23rd day of Sept. 1953, located and claimed, and by these presents do_____ locate and claim, by right of discovery and location, in compliance with the Mining Acts of Congress, approved May 10, 1872, and all subsequent acts, and with local customs, laws and regulations 1000 linear feet and horizontal measurement on the American Girl Lode, vein, ledge or deposit, along the vein thereof, with all its dips, angles and variations, as allowed by law, together with 150 feet on the North East side, and 150 feet on the South West side of the middle of said vein, at the surface, so far as can be determined from present developments; and all veins, lodes, ledges or deposits and surface ground within the lines of said claim, 400 feet running S. 55° E. from center of discovery Cut and 600 feet running N. 55° W. from center of discovery Cut; said discovery Cut being situated upon said lode, vein, ledge or deposit, and within the lines of said claim, in Animas Mining District, County of San Juan and State of Colorado, described by metes and bounds as follows, to-wit:

Beginning at corner No. 1

Starting from USLM Buckeye, proceeding on a bearing of N. 36° E. for a distance of 835 feet to Cor. 1; thence on a bearing of N. 55° W. for a distance of 1000 feet to Cor. 3; thence on a bearing of N. 35° E. for a distance of 300 feet to Cor. 4; thence on a bearing of S.55° E. for a distance of 1000 feet to Cor. 6; thence on a bearing of S. 35° W. for a distance of 300 feet to Cor. 1.

COPY

Said lode was discovered on the 6th day of July A. D. 1953

ATTEST:

Date of location Sept 23 A. D. 1953

Date of Certificate _____ A. D. 19_____

American Smelting & Refining Company Seal

Seal

Seal

Seal

Seal

Seal

COPY

No. 94333

Location Certificate

On the American Girl Lode

Mining Claim of American Smelting

& Refining Company

in Animas Mining

District, San Juan County,

State of Colorado.

STATE OF COLORADO,
County of San Juan } **ss.**

I hereby certify that this Location Certificate was filed for record in my office at 10.12 o'clock A M., Sept. 23rd 1953, and is duly recorded in Book 172 at Page 360.

(signed) SYLVIA L. GAYLORD
RECORDER.

By SHARON MOHNEY
DEPUTY.

Fees, $ 1.00

WHEN RECORDED RETURN TO

Edwin A. Larson,

Silverton, Colo.

Out West Prtg. & Staty. Co., Colorado Springs, Colo. M1163

(compared)(Indexed)

I hereby certify that this a duplicate of a Location Certificate of the American Girl Lode filed for record in my office at 10:12 A. M. September 23, 1953, and duly recorded in Book 172, page 360.

Sylvia L. Gaylord
County Clerk & Recorder

Filed for record the _____ day of _____, A. D. 19____, at _____ o'clock ____ M. _____ RECORDER

Reception No. _____ By _____ DEPUTY.

COPY

STATE OF COLORADO,
County of San Juan } ss.

Know all Men by these Presents,

That American Smelting & Refining Company

the undersigned, has ____, this 23rd day of September 19 53, located and claimed, and by these presents do ____ locate and claim, by right of discovery and location, in compliance with the Mining Acts of Congress, approved May 10, 1872, and all subsequent acts, and with local customs, laws and regulations 1500 linear feet and horizontal measurement on the Lorraine Lode, vein, ledge or deposit, along the vein thereof, with all its dips, angles and variations, as allowed by law, together with 300 feet on the North side, and 300 feet on the South side of the middle of said vein, at the surface, so far as can be determined from present developments; and all veins, lodes, ledges or deposits and surface ground within the lines of said claim, 650 feet running S 70° E. from center of discovery Cut and 850 feet running N 70° W from center of discovery Cut; said discovery ____ being situated upon said lode, vein, ledge or deposit, and within the lines of said claim, in Animas Mining District, County of San Juan and State of Colorado, described by metes and bounds as follows, to-wit:

Beginning at corner No. 1

Starting from USLM Buckeye, proceeding on a bearing of N 77° W for a distance of 1230 feet to Cor. 1; thence on a bearing of N 70° W for a distance of 1500 feet to cor. 3; thence on a bearing of N 20° E. for a distance of 600 feet to Cor. 4; thence on a bearing of S. 70° E. for a distance of 1500 feet to Cor. 6; thence on a bearing of S. 20° W. for a distance of 600 feet to Cor. 1.

COPY

Said lode was discovered on the 6th day of July A. D. 19 53

ATTEST:

Date of location Sept. ~~8th~~ 23rd A. D. 19 53

Date of Certificate A. D. 19____

American Smelting & Refining Company

E. Pierson

Seal

Seal

Seal

Seal

Seal

Seal

COPY

No. 94332

Location Certificate

On the Lorraine Lode

Mining Claim of American Smelting

& Refining Company

in Animas Mining

District, San Juan County,
State of Colorado.

STATE OF COLORADO,
County of San Juan } **ss.**

I hereby certify that this Location Certificate was filed for record in my office at 10:10 o'clock A.M., Sept. 23rd 19 53, and is duly recorded in Book 172 at Page 359.

(Signed) SYLVAI L. GAYLORD
RECORDER.

By SHARON MOHNEY
DEPUTY.

Fees, $ 1.00

WHEN RECORDED RETURN TO

Edwin A. Larson,

Silverton, Colo.

Out West Prtg. & Staty. Co., Colorado Springs, Colo. L1804

(compared) (indexed)

I hereby certify that this a duplicate of a Location Certificate of the Lorraine Lode filed for record in my office at 10:10 A.M. September 23, 1953, and duly recorded in Book 172, Page 359.

Sylvai L. Gaylord
County Clerk & Recorder

MF-203

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the State of Colorado, County of San Juan, described as follows:1/

Those mining claims listed in Exhibit "A" attached to an agreement dated January 1, 1963, between the Undersigned and Shenandoah-Dives Mining Company, which are incorporated herein by reference

(Docket No. DIEA-2991)

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

2/ Shenandoah-Dives Mining Company

hereinafter called the "Operator"; and

WHEREAS, ~~under certain provisions of said contract or any amendment thereof, said lessor~~, the Government is entitled to a percentage royalty on production and to certain other rights and equities which do or may conflict with or be adverse to the interest of the undersigned in said property;

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

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

2. To secure the payment to the Government of the percentage royalty on production3/ provided for under the terms of said exploration project contract, or any amendment thereof~~, but not to exceed the maximum amount of the Government's claim hereinstated or after the provisions of paragraph~~, there is hereby granted to the Government a lien upon the land herein described and upon any production of minerals therefrom, until the royalty claim is fully paid in the amount of the Government's contribution, ~~[illegible]~~, or ten years have elapsed from the date of the contract.

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

Dated this 15 day of July, 1963.

American Smelting and Refining Company [Seal]

BY R. D. Goodwin [Seal]
Vice-President

Attest: [illegible] [Seal]
Secretary

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

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

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

4/ Insert the maximum amount of the Government's contribution.

RELEVANT CONTRACT PROVISIONS

~~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 six 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) per cent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) per cent of any such net amounts, plus one-half (½) per cent 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) per cent 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) per cent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) per cent.)

(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, 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.~~

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.

EXPLORATION PROJECT CONTRACT
SHENANDOAH-DIVES MINING COMPANY
DOCKET NO. DMEA-2991

EXHIBIT "A"

Description of the Work

The purpose of the project is to explore, at a depth of 500 feet below the present lowest level of the letter "G" vein of the Silver Lake Mines, for the downward extensions of known ore bodies occurring in this vein, and for other and presently unknown ore bodies which may exist there. The work to be done is indicated on the map attached hereto and entitled "Figure 4, Plan and Claim Map Showing Proposed Exploration, Shenandoah-Dives Mining Co., San Juan County, Colo.," and consists of extending the present "4177" main level along the Melville vein for approximately 400 feet, and then driving a crosscut to the letter "G" vein on a bearing of approximately south 18 degrees west for a distance which is estimated to be 900 feet. After the letter "G" vein has been encountered, a drift will be driven westerly along the vein for a distance of 1700 feet.

From a point near the westerly end of such drifting, a raise will be driven on the letter "G" vein for a distance of approximately 500 feet to connect with the existing old workings of the mine.

The drifts and crosscuts are to be of an approximate minimum size of 8½ by 8½ feet. The raise is to have an approximate minimum cross section of 6 feet by 14 feet.

Agreed Unit Costs

Drifting and crosscutting, 3000 feet @ $50.30/ft.	$150,900.00	
Raising, 500 feet @ $122.00/ft.	61,000.00	
Total Agreed Cost of Project		$211,900.00
Government Participation at 50%		$105,950.00

July 1953 258.5' 4177 Main Level.

Claim	Survey No.	Claim	Survey No.
Maxwell Mill Site	5530-B	Iowa	9837
M. D. Thatcher Placer	17699	Tiger Mill Site	13749
Mountain Queen Lode	2389	2/3 American Boy *	7244
North Star Ext. Lode	7772	Aspen	199
Panic Lode	13322-A	Chloride	411
Perhaps	16476	Legal Tender	753
Potomac Lode	457	Mammoth	499
Professor Chandler Lode	14047	McGregor	423
Professor Richter Lode	14028	Susquehanna	447
Professor Winkler Lode	9842-A	Ruby Placer #1	654
Professor Winkler Mill Site	9842-B	Ruby Placer #2	655
Republic Lode	1158	Mill Site #1	424
Riverside Lode	8801	Mill Site #2	425
Rochester	4764	La Boca	19479
Hermosa Lode	19974	River	15112
San Juan	19974	New York	15112
Piedmont	19974	Washington	15112

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1 *

* By instrument dated July 14, 1953, as amended, Norman E. Maxwell, owner of a one-third interest in the aforementioned American Boy claim, granted the operator a 15 year easement for a crosscut mining tunnel and tracks and the necessary right of ingress and egress.

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Claim	Survey No.
New York City	9104
Panuco	7896-Am
Pompeii	404
Porto Rico	14035
Professor Neisbeck	11469
Professor Newberry	14046
Professor Percy	14066
Professor Stelmer	7568
Professor Wedding	11469
Professor Zouner	11469
Extension & Combination of Dolly Varden No. 2 and Ethan Allen	2617
First Chance	13322-A
Free Coinage Lode	9902
Frithoft	16476
General Garfield Lode	828
General Grant Lode	13322-A
General Hallack Lode	14047
General Logan Lode	13322-A
General Sherman Lode	13322-A
Genoa Lode	14024
George Hesse Lode	9852
Golden Fleece Lode	11714
Grey Eagle 1/4 of	16860 1/4 of
Growler	16476
Helena Roux Lode	9852
Illinois Lode	14019
Independence	16476
Iron Mask Lode	11148
Jeanette Roux Placer	11596
J. E. Ward Mill Site	9858
Jerusalem	14012
Jess Lode 1/2 of	9426 1/2 of
Jura Lode	2388
King Solomon Lode	409
Last Chance Lode	9284
LaVeta Lode	14047
Leyner Lode	14324
Lightening Attracting	16476
Little Gertie Lode	15122
Lowville Mill Site	5529-B
Manhattan Lode	13322-A
Marcia L. Lode	8801-A
Marcia L. Mill Site	8801-B

Claim	Survey No.
Dana Lode	13322-A
Desmosthenes	14196
Dick Bland Lode	13322-A
Dollie Blight	12671
Dolly Varden #2 Lode	2616
Dreadnaught	14320
Ellida	16476
El Paso Lode	9842-A
Whale M. S.	9106-B
Esther Allen Lode	8801
Rochester Mill Site	8592
Sal Custer Lode	1894
Scranton City #2 Lode	16476
Scranton City Lode	15426
Silver Star Lode	681
Smyrna Mill Site	12122-B
Snow Shed Lode	14027
Southside Lode	14012
Spring Lode	14012
Tarpon Lode	15122
Trail Lode	13322-A
Twentieth Century	16476
Vienna Placer	14057
Von Cotta Lode	14052
Iowa	480
J. W. Collins	6561
Black Diamond	4811
Cub) Last Chance)	12193
Club	12978
Grip	6647
Tilk	12977
Lakeside	12818
Melville	12353
1/2 Diamond L.	561-A
Royal Tiger	48
Stag	6646
White Diamond	13011
Dump	9843-A Am
Lake Shore	13064
Key	13065
Hillside) Exploit)	12946
Galicya Boy	13139
Dump Mill Site	9843-B

ANNEX II

PATENTED CLAIMS

The patented claims referred to in Article 2 of the contract form are known as the Silver Lake Mine, and are held by the Operator under a thirty-year lease from the American Smelting & Refining Company, and are listed below.

Claims	Survey No.	Claim	Survey No.
Arabian Boy	6994	Pyramid #3	14220
Badger	11448-A	Pyramid #2	14220
Barbedoes	14036	Pyramid	2461
Bear	280	Rivington Street	9003-A
Buckeye	232	Rochester	4764
Buckeye #2	7896	Round Mountain	5110-A
Carolina	5569-A	Royal	6198-A
Dandy	7896-Am	Royal Tiger #1	769
Emma	238	Sedalia	14029
Emma	14036	Seymour	96
Eckley Cox	14066	Silver Lake	2164-A
Essex Street	9106-A	Silver Lake Spur	6994
Freiburg	14047	Smuggler	14029
Galena	11448-A	Smyrna	12122-A
General Hale	14066	Solstice	5571
General Merritt	15030	Tiger Extension #2	14036
General Miles	14066	Titusville	403
Gretchen	2163-A	Unity	9120
Happy Jack	8492	Whale	4764
Home Stake	5471	Adams Placer	15143
Jaffa	12122-A	Alexandria	14024-A
Jamaica	14035	Algiers	11469
Jocko	14163	Ann Harris Placer	11596
Jupiter	14066	Argentine Lode	11380-A
Kingstone	14035	Argentine Mill Site	11380-B
Lake View	14035	Blair Mt. Lode	13322-A
Last Chance	11448-A	Blair Mt. Mill Site	13322-B
Last Chance	7896-Am	Blair Mt. Placer	16469
Lena Allen	7802	Blair Placer	841
Leucosticte	5570	Big Giant Ext. Lode	14320
Lowville	5529	Big Giant Lode	1156-A
Magnala	14035	Bowery Lode	155
Manilla	14030	Cairo Lode	11469
Martha V. F.	4952	Carolina Mill Site	5569-B
Maxwell	5530-A	Coin Lode	13322-A
Monte Carlo	14035	Combination Lode	16476
Naples	14035	Contention Lode	14320
Nevada	8530-A	Contra Costa Lode	2329
Nevada Extension	8497	Cremorne Lode	827

EXPLORATION PROJECT CONTRACT
SHENANDOAH-DIVES MINING COMPANY
DOCKET NO. DMEA-2991

ANNEX I

The following provisions are in lieu of all of paragraph (a) of Article 6 which precedes the colon:

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 required by the exploration project contract, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development. The Operator, or his successor in interest, shall pay to the Government a royalty on all minerals mined or produced from the land which is the subject of the exploration project contract, 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 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 the 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 net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, as follows:

(*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: **See Annex I, substituted for that part of 6(a) preceding the colon:**

(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* _____

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

SHENANDOAH-DIVES MINING COMPANY
(Operator)

By William C. Lucas
William C. Lucas, Vice-President

By O Mitteudorf
Administrator, Defense Minerals Exploration Administration

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

E. B. Kane [CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—66329-1

MF-200 (A)
(February 1952)

DOCKET NO. DMEA - 2991

COMMODITY Lead, Copper, Zinc

Field Team Copy

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

IDM-E 558

EXPLORATION PROJECT CONTRACT[1]

(Short Form)

IT IS AGREED this 26th day of June, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Shenandoah-Dives Mining Company, a corporation duly organized and existing under and by virtue of the laws of the State of Colorado, Silverton, Colorado

hereinafter called the "Operator," as follows: and as set forth in Annexes I and II attached hereto and made a part hereof.

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 Colorado, County of San Juan, described as ~~follows~~:[3] set forth in Annex II,

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~~

(b) That the Operator is a lessee, in possession and entitled to possession, and the Owner's Consent to Lien is attached.

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 30 days from the date of this contract shall commence work on a project of exploration for[5] Lead, Copper, Zinc

in or upon the described land; and shall bring the project to completion within a period of two (2) years 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 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 $105,950.00 which is 50 percent of $211,900.00 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 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.

Field Team copy
DMEA
Date Rec'd.

SEP 15 1955

BUREAU OF MINES
Denver, Colorado

TERMINATION AGREEMENT

It is agreed this 9th day of September, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Shenandoah-River Mining Co., hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-2538, Docket No. DMEA-2991, dated June 26, 1953, hereinafter called the "Contract," that:

1. Effective May 29, 1954, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Government shall contribute only to the fixed unit costs of work performed prior to said effective date.

3. 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.

4. 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 the royalty on production provided for in the Contract, in the same manner and amount as if certification of discovery or development had been made, such certification being hereby waived.

Royalty Agreement

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

By [signature]
Administrator, Defense Minerals Exploration Administration

SHENANDOAH-DIVER MINING CO.

By [signature]
President

No. 1

AMENDMENT OF CONTRACT: No. IDM-E558

Contract Docket No. DMEA 2991, dated June 26, 1953, between the United States of America and Shenandoah-Dives Mining Company is hereby amended as follows, effective April 1, 1954:

> Referring to EXHIBIT "A" attached to Exploration Project Contract Form MF-200(A) (February 1952), caption "Description of the Work", first paragraph, last sentence, following the words "After the letter 'G' vein has been encountered", delete the following: "a drift will be driven westerly along the vein for a distance of 1700 feet", and in lieu of the deleted material substitute the following: "drifts will be driven easterly and westerly along the vein not to exceed an aggregate distance of 1700 feet. The extent of drifting in either direction will depend on conditions encountered as the work progresses."

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 APR 23 1954

SHENANDOAH-DIVES MINING COMPANY

By Benjamin F. Stapleton Jr
Pres

UNITED STATES OF AMERICA

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

Seal

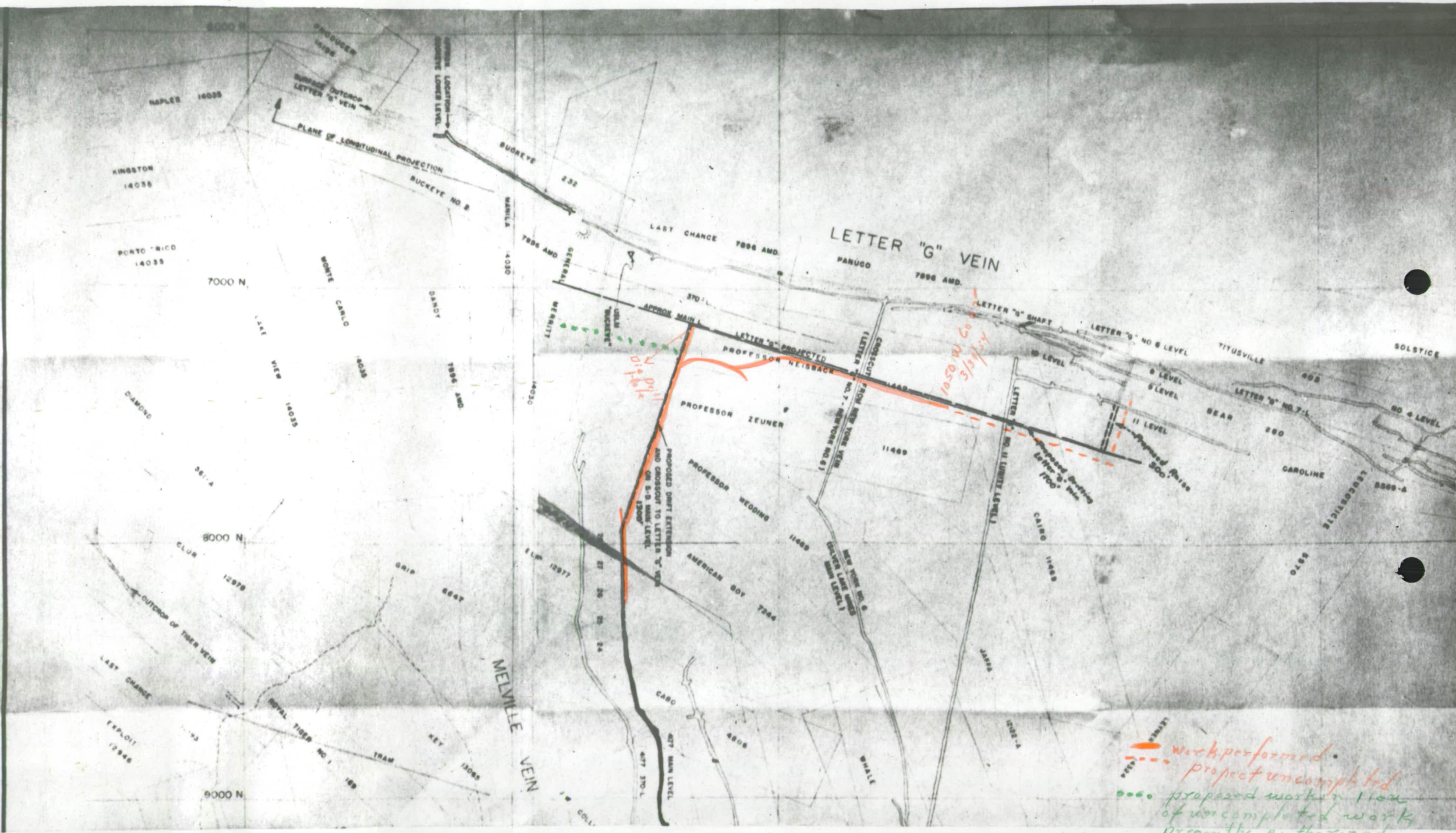


FIGURE 4 - PLAN AND CLAIM MAP SHOW

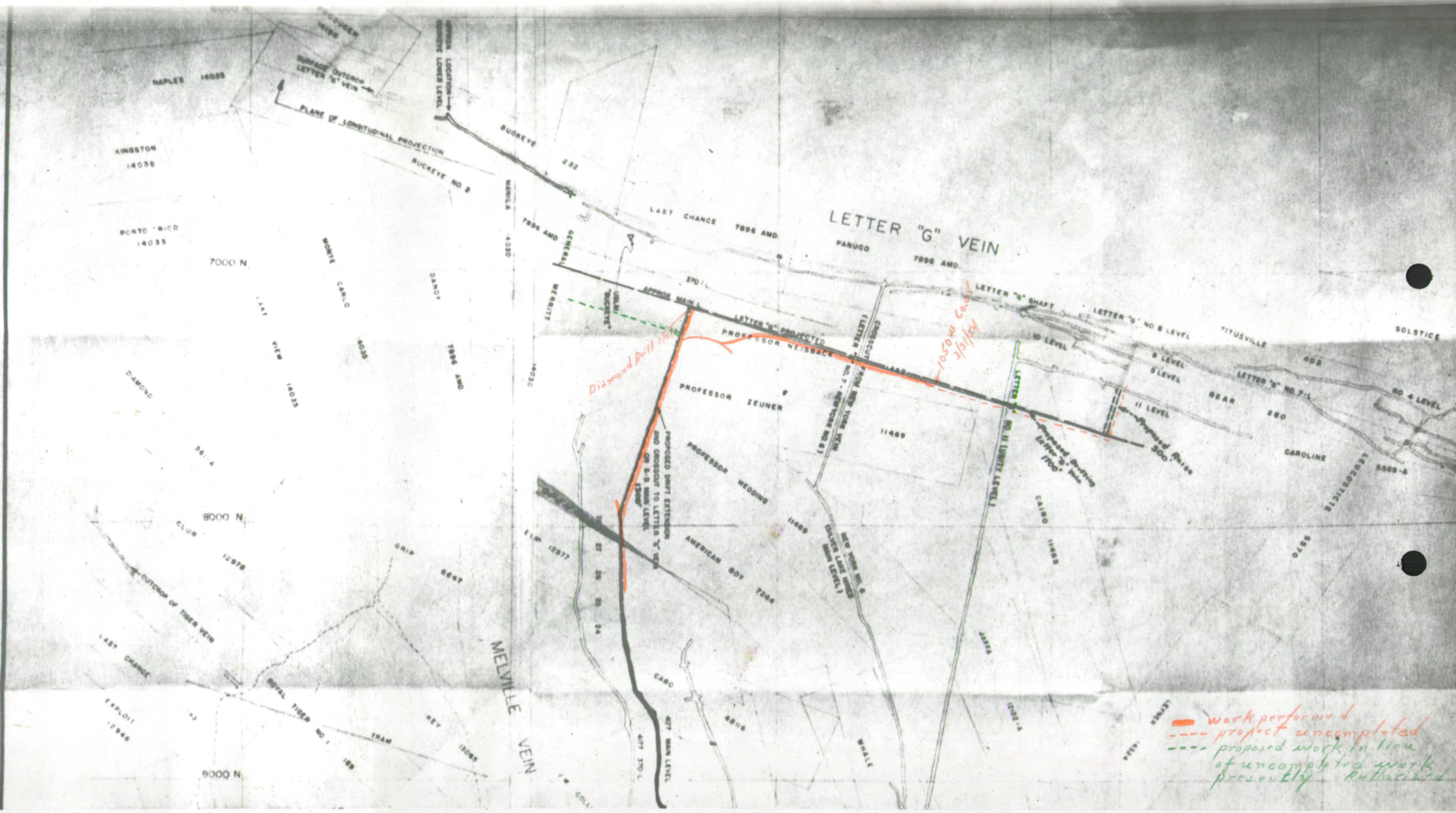


FIGURE 4 - PLAN AND CLAIM MAP SHOW

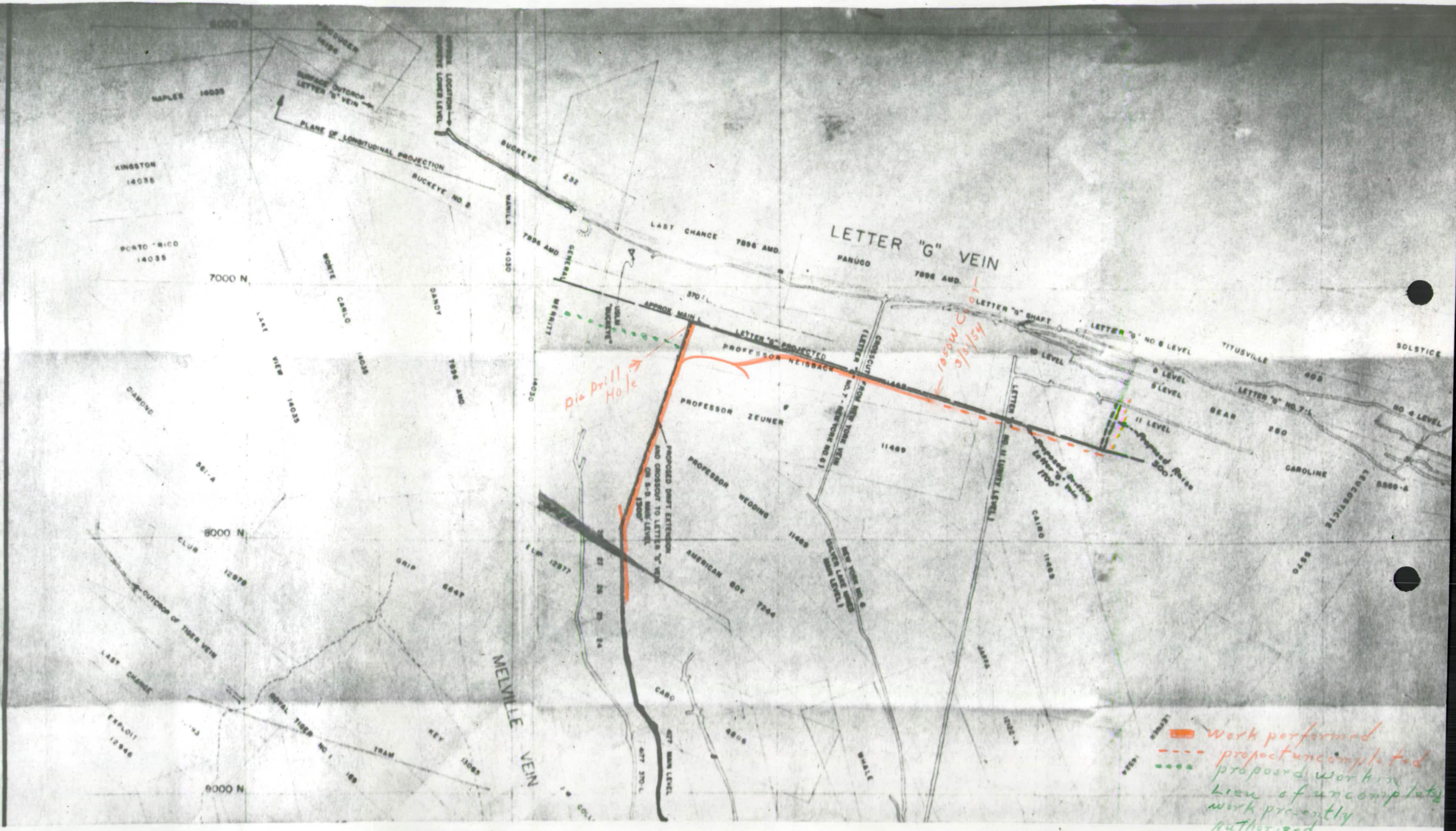
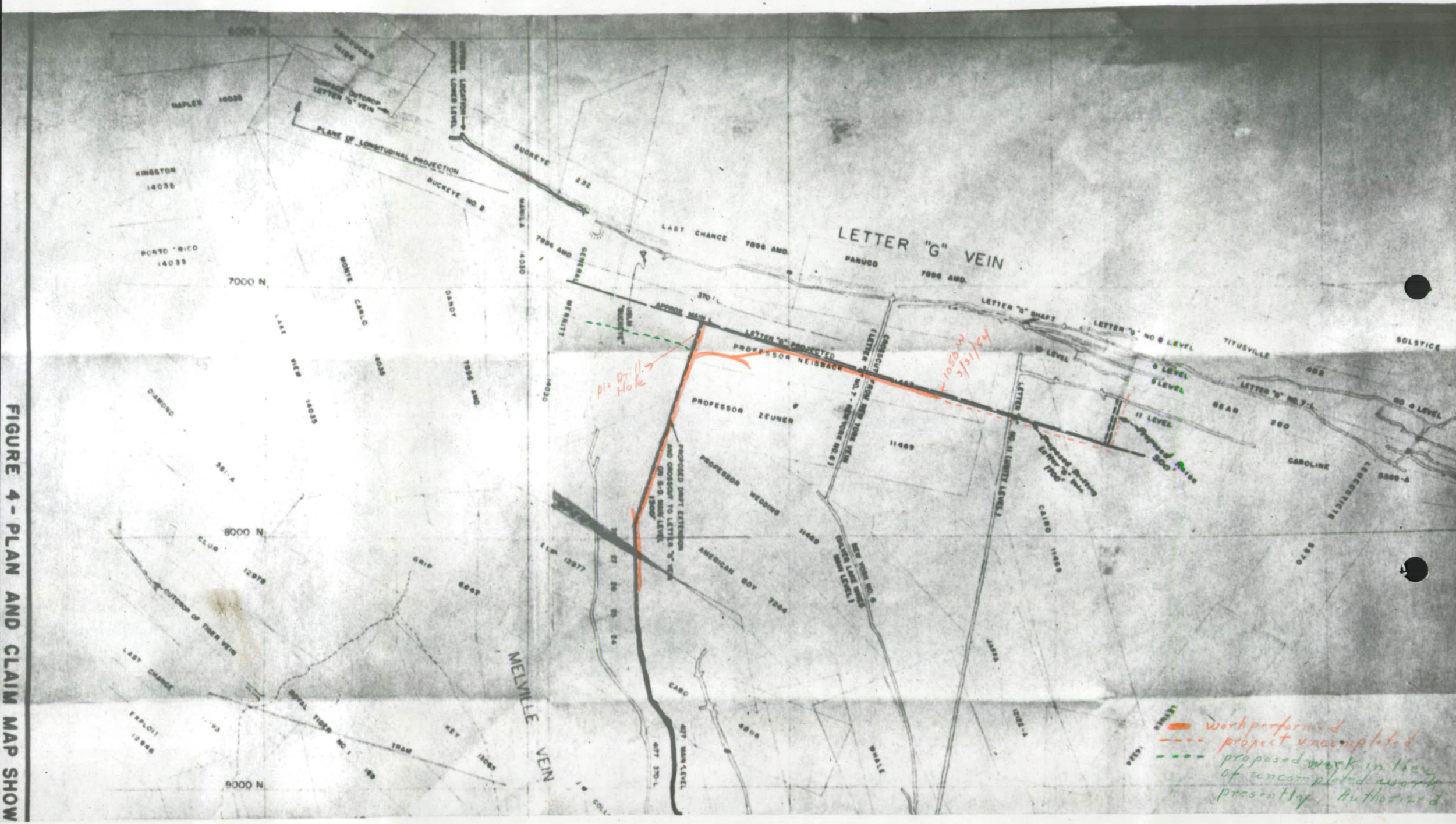


FIGURE 4 - PLAN AND CLAIM MAP SHOW



work performed
project uncompleted
proposed work in lieu of uncompleted work presently authorized

FIGURE 4 - PLAN AND CLAIM MAP SHOW

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

OME
DEPARTMENT OF THE INTERIOR
OCT 22 1962

October 19, 1962

Memorandum

To: Fiscal Section
Division of Administrative Services
Office of the Secretary

From: E. D. Talbert, Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: BMKA-2991 (Lead-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-2558

Enclosed for deposit to the subject BMKA account under symbol 14X4401 as a royalty receipt is an October 15, 1962, check no. 7029 drawn in the amount of $2,675.22 by Standard Metals Corporation, Moab, Utah, on the Dove Creek State Bank, Dove Creek, Colorado.

This check is a partial payment of royalty delinquently due to the Government on reported net smelter returns of $178,348.24 on 1,340.626 tons of concentrates produced during August 1960 through January 1961 from the property under the contract.

Enclosure

EDTalbert/sma 10-19-62

cc:
Docket
Director's Reading File
CA & A Division
Region III (2)

Building 20 - Federal Center
Denver 25, Colorado

October 17, 1962

AIRMAIL
Memorandum

To: George C. Selfridge, Chief
Division of Field Operations, OME
Washington 25, D. C.

From: Acting Field Officer, OME, Region III

Subject: DMEA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Enclosed are the following:

(1) Standard Metals Corporation check No. 7029 for $2,675.22 on which the attached tab states

"When detached and paid, check becomes a receipt in full payment of the above account. No other receipt is necessary"

(2) The original statement of ores and concentrates produced between August 1960 and January 1961

(3) My letter to the Operator for your consideration and advice.

If you feel that my letter to the Operator is satisfactory and we can accept this check on the royalty account, will you please date and mail my letter to the Operator and return the chron and royalty correspondence copies to this office for our files.

Original signed by

Hugh M. Connors

Attachments

cc Royalty Corres. E558
Chron

OMEA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Hmc

SILVER LAKE ORE
Milled by
STANDARD METALS CORPORATION

August 1960 thru January 1961

39,851.544 Tons Milled
38,510.918 Tons Tailings
1,340.626 Tons Concentrates Produced

	Assays		Metals		Value $	Total $	Per Ton Milled $
INCOME:							
Value of Ore to Mill:							
Gold	.0325	Oz.	1,297.574	Oz.	45,415.09		1.1396
Silver	1.427	Oz.	56,858.89	Oz.	51,699.53		1.2973
Lead	1.04	%	828,780.	Lbs.	96,555.17		2.4229
Copper	.54	%	429,635.	Lbs.	128,696.08		3.2294
Zinc	.34	%	274,390.	Lbs.	34,455.02		.8645
						356,820.89	8.9537
LESS:							
Tailings Losses:							
Gold	.0065	Oz.	251.430	Oz.	8,800.06		.2208
Silver	.313	Oz.	12,040.30	Oz.	10,918.01		.2740
Lead	.071	%	54,867.	Lbs.	6,503.00		.1632
Copper	.108	%	83,673.	Lbs.	25,459.77		.6389
Zinc	.248	%	190,832.	Lbs.	24,446.94		.6134
						76,127.78	1.9103
Gross Value of Concentrates:		(Rec'y %)					
Gold	.780	Oz.	80.6	1,046.144	Oz.	36,615.03	.9188
Silver	33.43	Oz.	78.8	44,818.59	Oz.	40,781.52	1.0233
Lead	28.86	%	93.4	773,913.	Lbs.	90,052.17	2.2597
Copper	12.90	%	80.5	345,962.	Lbs.	103,236.31	2.5905
Zinc	3.12	%	30.4	83,558.	Lbs.	10,008.08	.2511
						280,693.11	7.0434
LESS:							
Price Discounts					61,758.11		1.5497
Freight on Concentrates					19,755.96		.4957
Umpire					244.25		.0061
Base Treatment Charge					20,586.55		.5166
						102,344.87	2.5681
NET SMELTER RETURN						$178,348.24	$4.4753

ROYALTY equals 1½% of Net Smelter $2,675.22

OME
DEPARTMENT OF THE INTERIOR
OCT 17 1962
REGION III
DENVER, COLORADO

L 558

MEA-2991 (Lead-Zinc)
Contract Ism-E553
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

SILVER LAKE ORE
Milled by
STANDARD METALS CORPORATION

August 1960 thru January 1961

39,851.544 Tons Milled
38,510.918 Tons Tailings
1,340.626 Tons Concentrates Produced

	Assays		Metals		Value $	Total $	Per Ton Milled $
INCOME:							
Value of Ore to Mill:							
Gold	.0325	Oz.	1,297.574	Oz.	45,415.09		1.1396
Silver	1.427	Oz.	56,858.89	Oz.	51,699.53		1.2973
Lead	1.04	%	828,780.	Lbs.	96,555.17		2.4229
Copper	.54	%	429,635.	Lbs.	128,696.08		3.2294
Zinc	.34	%	274,390.	Lbs.	34,455.02		.8645
						356,820.89	8.9537
LOSS:							
Tailings Losses:							
Gold	.0065	Oz.	251.430	Oz.	8,800.06		.2208
Silver	.313	Oz.	12,040.30	Oz.	10,918.01		.2740
Lead	.071	%	54,867.	Lbs.	6,503.00		.1632
Copper	.108	%	83,673.	Lbs.	25,459.77		.6389
Zinc	.248	%	190,832.	Lbs.	24,446.94		.6134
						76,127.78	1.9103
Loss Value of Concentrates:		(Rec'y %)					
Gold	.780	Oz.	80.6	1,046.144	Oz.	36,615.03	.9188
Silver	33.43	Oz.	78.8	44,818.59	Oz.	40,781.52	1.0233
Lead	28.86	%	93.4	773,913.	Lbs.	90,052.17	2.2597
Copper	12.90	%	80.5	345,962.	Lbs.	103,236.31	2.5905
Zinc	3.12	%	30.4	83,558.	Lbs.	10,008.08	.2511
						280,693.11	7.0434
LESS:							
Price Discounts					61,758.11		1.5497
Freight on Concentrates					19,755.96		.4957
Umpire					244.25		.0061
Base Treatment Charge					20,586.55		.5166
						102,344.87	2.5681
NET SMELTER RETURN						$178,348.24	$4.4753

ROYALTY equals 1½% of Net Smelter $2,675.22

Balance due @ 5% $6,242.19 paid 2/5/63

Hme

OME
DEPARTMENT OF THE INTERIOR
OCT 1 1962
REGION 11
DENVER, COLO.

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

ROYALTY AUDIT CERTIFICATE

I have examined the production, sales, and royalty accounts and records pertaining to the sale of concentrates by Standard Metals Corporation for the period June 16, 1959, through April 8, 1963, from property known as the Letter "G" Vein Project, Silver Lake Mine, located in San Juan County, Colorado, on which royalty is payable to the U. S. Government under terms of Contract Idm-E558, Docket DMEA-2991 (lead, copper, zinc), dated June 26, 1953, with

Shenandoah-Dives Mining Company
Silverton, Colorado

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

The audit established the total value of concentrates subject to Government royalty for this period to be $33,219.85 and the amount of royalty payable at rates specified in the contract to be $3,922.14.

A prior Report of Royalty Review found no sales subject to royalty for the period June 26, 1953, through June 15, 1959. The royalty account as of the latter date was:

Total Royalty Payable	$ -0-
Total Royalty Paid	-0-
Balance of Royalty Due	$ -0-

As of April 8, 1963, the royalty account of this project was found to be:

Total Royalty Payable	$3,922.14
Total Royalty Paid	8,917.41
Overpayment of Royalty	**$4,995.27**

C. E. Fisher

C. E. Fisher, OME Auditor

May 15, 1963

MME FORM 6 REFERENCE SLIP

REV. 2-59 OFFICE OF MINERALS EXPLORATION

TO:	DATE	INITIALS
1. Mr. Fumich	5/16	[illegible]
2. Mr. Johnson	5/16	[illegible]
3. ~~Mr. Selfridge~~		
4. Mr. Griswold (Forget it)	5-17	WPY
5.		
FROM: E. D. Talbert	5/16	[illegible]

FOR: Check items for action desired

____ Action ____ Reply for signature of ____

____ Approval ____ Investigate ____ Surname

____ Comment ____ Recommendations ____ Signature

____ Conference ____ Rewrite ____ File

____ Instructions ____ Your information

REMARKS:

INT.-DUP. SEC., W[illegible] D.C. M56300-62

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

ROYALTY AUDIT REPORT

I. INTRODUCTION

On April 8, 1963, an audit was made of the production, sales, and royalty accounts and records pertaining to the value of concentrates sold during the period June 16, 1959, through April 8, 1963, by Standard Metals Corporation from property known as the Letter "G" Vein Project, Silver Lake Mine, located in San Juan County, Colorado, on which royalty is payable to the U. S. Government under terms of Contract Idm-E558, Docket DMEA-2991 (lead, copper, zinc), dated June 26, 1953, with

Shenandoah-Dives Mining Company
Silverton, Colorado

Shenandoah-Dives Mining Company merged with Marcy Exploration Company in 1957 and was known thereafter as Marcy-Shenandoah Company. In 1959 Marcy-Shenandoah sold a 50 percent interest to Standard Uranium Corporation and the operation was set up as Shenandoah, Ltd., with Standard as the operating partner. In 1960 Standard purchased the remaining 50 percent interest and became the sole owner of all former Shenandoah mining and milling property. In May 1960 Standard Uranium changed the corporate name to Standard Metals Corporation.

This audit was performed in the Silverton, Colorado, office of Standard Metals Corporation where the records were made available for examination by Edwin Larson, chief clerk and metallurgical accountant.

II. GENERAL INFORMATION

Work under the exploration contract was terminated by an agreement dated September 9, 1955, effective May 29, 1954, which includes the following provision:

> "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 the royalty on production provided for in the Contract, in the same manner and amount as if certification of discovery or development had been made, such certification being hereby waived."

Article 6, as amended by Annex I, of the contract provides that royalty is payable to the Government on all minerals mined or produced from the land which is the subject of the exploration project

contract for a period of 10 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. The land subject to the contract is set forth in Article 2 and Annex II of the contract and consists of numerous patented claims held by the Operator under a 30 year lease from American Smelting and Refining Company. The latter executed an Owner's Consent to Lien dated July 15, 1953, granting to the Government a lien upon such land until the royalty claim is fully paid or 10 years have elapsed from the date of the contract, whichever occurs first.

A Report of Royalty Review dated June 15, 1959, stated that no royalty had been paid to the Government on any production from the date of the contract, June 26, 1953, through June 15, 1959, and that inspection reports by field representatives of the Government disclosed no production on which the Government was entitled to royalty.

A Report of Review in lieu of final cost audit dated October 26, 1955, stated that the allowable exploration costs amounted to $140,814.85 with the Government's participation on a 50 percent basis being $70,407.43.

III. SCOPE OF AUDIT AND FINDINGS

The only sales of production from Silver Lake Mine during the period covered by this audit consisted of 39,851.544 tons of ore milled from August 1960 through January 1961. This tonnage included newly mined ore, part of a mill stockpile, and ore from shrinkage stopes. A total of 1,340.626 tons of concentrates resulted from the milling and were sold to American Smelting and Refining Company for $178,348.24. Royalty of $8,917.41, being 5 percent of the net smelter returns, was paid to the Government.

Mr. Larson stated that these were the only sales of production from Silver Lake Mine since the date of the exploration contract. He also advised that the two-mile tram between the mine and the mill is presently inoperative and cannot be put into operation without extensive and costly repairs.

During my pre-audit work in the OME Washington, D. C., office the statement furnished by Standard Metals Corporation in support of the royalty payment made by that company was recomputed. During the site audit test checks were made with the mill records and the settlement statements in Mr. Larson's possession. It was

determined that the basis used in computing the value of the production on which royalty was paid was fair and equitable and in line with usual operating practices. The basis used in the computation was also used in computing the value of ore custom milled for others during part of the period and in settlements made with the landowners.

The production on which Government royalty was paid included approximately 22,781 tons of ore from shrinkage stopes. This ore was broken prior to the date of the exploration contract. Thus, 57.165 percent of the production milled (39,851.544 tons) during the period August 1960 through January 1961 came from ore not subject to Government royalty. The existence of a broken ore reserve prior to the date of the exploration contract was noted in a June 11, 1953, Report of Examination by Field Team, Region IV (now Region III) which indicated approximately 72,900 tons of broken ore in stopes when the Operator's mill was closed in April 1953.

Also included in the production on which Government royalty was paid were 800 tons of ore from a stockpile at the mill. This ore was part of 2,325 tons crushed, transported over tramway, and stockpiled at the mill during the exploration period as indicated in the Operator's final report of exploration work accomplished dated November 4, 1955, and in the Field Team's final report dated January 1957.

Inasmuch as the 1,525 tons remaining in the stockpile was "mined or produced" during the royalty repayment period, the Government's lien for royalty applies only to production prior to June 26, 1963, and the probability of any further production prior to that date is remote, it is believed to be in the interest of all concerned to assign a value to such stockpiled ore and compute the amount of the Government's royalty on such assigned value. For the purpose of this computation it is considered that the stockpiled ore has a value of $4.475 per ton, the amount per ton realized from the production concentrated and sold during the months August 1960 through January 1961.

IV. CONCLUSION

A summary analysis of the production, sales, and royalty payable and paid during the period covered by this audit and since the date of the exploration contract follows:

Ore milled	39,851.544 tons
Concentrates produced	1,340.626 tons
Milling ratio	30 to 1

Net smelter returns:

Metal	Quantity	Average Price	Amount
Gold	1,046.144 oz.	$35.00/oz.	$ 36,615.03
Silver	44,818.59 oz.	91¢/oz.	40,781.52
Lead	773,913 lbs.	11.64¢/lb.	90,052.17
Copper	345,962 lbs.	29.84¢/lb.	103,236.31
Zinc	83,558 lbs.	11.98¢/lb.	10,008.08
Total metal value			$280,693.11
Less: Smelter, freight, umpire and treatment charges			102,344.87
Net return ($4.475/ton ore-$133.034/ton cons.)			$178,348.24
Deduct 57.165 percent not subject to Government royalty (See Section III)			101,952.77
Sub-total, Value of concentrates			$ 76,395.47
Add: Value of 1,525 tons stockpiled ore at $4.475/ton (See Section III)			6,824.38
Total value subject to Government royalty			$ 83,219.85

Royalty Payable		
On concentrates @ 5%	$3,819.77	
On stockpile @ 1½%	102.37	$ 3,922.14
Royalty Paid		8,917.41
Overpayment of Royalty		$ 4,995.27

C. E. Fisher

C. E. Fisher, OMK Auditor

May 15, 1963

[redacted]

DENVER MINERALS EXPLORATION ADMINISTRATION
SECRETARIAL ADMINISTRATION AND AUDIT DIVISION

REPORT OF REVIEW

RECEIVED
OCT 31 1955
Sherwood
Betty
~~Floyd~~

I have reviewed the Monthly Reports of:

Rocky Mountain Mining Company
[illegible]
Colorado

pertaining to Exploration Project Contract No. 14-[illegible], Docket No. [illegible], including Amendment No. 1, and termination agreement dated September 9, 1955, for the months of July, 1953 to May, 1954, inclusive, covering a project for the exploration of Lead, Copper and Zinc on property known as Little 8 Vein, Silver Lake Mine, located in San Juan County, Colorado.

My review included an examination of the Monthly Reports (Form [illegible]) and supporting documents attached thereto, comparison of the costs claimed with the contract and pertinent schedules, consultation with the Executive Officer, DMEA Field Team, and a determination of the reasonableness and propriety of the costs.

This review was made in lieu of a final audit of the Operator's accounts and records for the following reasons:

> All of the costs incurred were under a contract provision for payment by the Government on the basis of agreed estimated costs of units of work actually performed.

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

Total cost as billed by Contractor		$140,[illegible].85
Recognized:		
By DMEA Finance Officer	$0.00	
Herewith	[illegible]	[illegible]
Total Accepted Cost		[illegible]

The contract calls for a 50 percent participation of exploration expenses by the United States Government. Therefore, payment to the contractor by the Government in the amount of Seventy thousand, four hundred seven, and 43/100ths Dollars

= $70,407.43 =

is considered 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.

October 26, 1955

T. H. Brooking, Auditor.

...et copy

TERMINATION AGREEMENT

It is agreed this 9th day of September, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Shenandoah-Dives Mining Co., hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-2558, Docket No. DMEA-2991, dated June 26, 1953, hereinafter called the "Contract," that:

1. Effective May 29, 1954, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Government shall contribute only to the fixed unit costs of work performed prior to said effective date.

3. 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.

4. 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 the royalty on production provided for in the Contract, in the same manner and amount as if certification of discovery or development had been made, such certification being hereby waived.

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

By _____
Administrator, Defense Minerals Exploration Administration

SHENANDOAH-DIVES MINING CO.

By Benjamin F. Stapleton, Jr.
President

Extra Copy

EXPLORATION PROJECT CONTRACT
SHENANDOAH-DIVES MINING CO.
DOCKET NO. DMEA-2991

AMENDMENT NO. 2

It is agreed this 16th day of March, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the Government, and Shenandoah-Dives Mining Co., hereinafter called the Operator, parties to that certain Exploration Project Contract IDM-8558, Docket No. DMEA-2991, dated June 26, 1953, as amended, hereinafter called the Contract, that:

1. (a) Work under the Contract shall be suspended during the period beginning May 19, 1954, and ending not later than June 26, 1955.

(b) No costs incurred by the Operator during the period of suspension shall be allowable for contribution by the Government, and the Government shall not contribute to any costs of rehabilitation or repair which, in its opinion, would not have occurred if there had been no suspension of the work.

(c) The Operator at his own cost and expense, without contribution by the Government, during the period of suspension shall preserve and protect the project work.

2. The time fixed for the completion of the work is extended to June 26, 1956.

3. Annex I attached to the Contract is deleted, and Annex II, attached hereto and made a part hereof, is substituted for the provisions of Article 6 of the Contract form.

4. 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.

2. In Article 7, that part of the second sentence which begins with the word "Provided" is deleted.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By _____
Administrator, Defense Minerals Exploration Administration

SHENANDOAH-DIVEX MINING CO.

By _____

_____

ANNEX II

The following provisions are in lieu of Article 6:

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.

‡ The period "twelve years" is substituted for the period "ten years."

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.

No. 1

Rubin 6/4/4

AMENDMENT OF CONTRACT: No. IDM-E558

Contract Docket No. DMEA 2991, dated June 26, 1953, between the United States of America and Shenandoah-Dives Mining Company is hereby amended as follows, effective April 1, 1954:

> Referring to EXHIBIT "A" attached to Exploration Project Contract Form MF-200(A) (February 1952), caption "Description of the Work", first paragraph, last sentence, following the words "After the letter 'G' vein has been encountered", delete the following: "a drift will be driven westerly along the vein for a distance of 1700 feet", and in lieu of the deleted material substitute the following: "drifts will be driven easterly and westerly along the vein not to exceed an aggregate distance of 1790 feet. The extent of drifting in either direction will depend on conditions encountered as the work progresses."

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 APR 23 1954

SHENANDOAH-DIVES MINING COMPANY

By Benjamin F. Stapleton Jr. Pres

UNITED STATES OF AMERICA

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

Seal

MF-200 (A)
(February 1952)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 30 1953

DOCKET A-2941

COMMODITY Lead, Copper, Zinc

Docket Copy
IDM-E 558

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

EXPLORATION PROJECT CONTRACT[1]
(Short Form)

IT IS AGREED this 26th day of June, 195 3, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] Shenandoah-Dives Mining Company, a corporation duly organized and existing under and by virtue of the laws of the State of Colorado, Silverton, Colorado

hereinafter called the "Operator," as follows: and as set forth in Annexes I and II attached hereto and made a part hereof:

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 Colorado, County of San Juan, described as ~~follows~~:[3] set forth in Annex II,

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 encumbrances, if any, set forth in the Owner's Consent to Lien attached.~~

(*b*) That the Operator is a lessee, in possession and entitled to possession, and the Owner's Consent to Lien is attached.

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 30 days from the date of this contract shall commence work on a project of exploration for[5] Lead, Copper, Zinc

in or upon the described land; and shall bring the project to completion within a period of two (2) years 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 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 $105,950.00 which is 50 percent of $211,900.00 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 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: **See Annex I, substituted for that part of 6(a) preceding the colon:**

(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* _____

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

SHENANDOAH-DIVES MINING COMPANY
(Operator)

By William C. Lucas
William C. Lucas, Vice-President

By O. Mitteudorf
Administrator, Defense Minerals Exploration Administration
alt Kane
Robin
Chamberlin

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

E. B. Kane [CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—66329-1

Docket Copy

EXPLORATION PROJECT CONTRACT
SHENANDOAH-DIVES MINING COMPANY
DOCKET NO. DMEA-2991

Received
June 30 1953

ANNEX I

The following provisions are in lieu of all of paragraph (a) of Article 6 which precedes the colon:

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 required by the exploration project contract, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development. The Operator, or his successor in interest, shall pay to the Government a royalty on all minerals mined or produced from the land which is the subject of the exploration project contract, 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 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 the 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 net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, as follows:

ANNEX II

PATENTED CLAIMS

The patented claims referred to in Article 2 of the contract form are known as the Silver Lake Mine, and are held by the Operator under a thirty-year lease from the American Smelting & Refining Company, and are listed below.

Claims	Survey No.	Claim	Survey No.
Arabian Boy	6994	Pyramid #3	14220
Badger	11448-A	Pyramid #2	14220
Barbedoes	14036	Pyramid	2461
Bear	280	Rivington Street	9003-A
Buckeye	232	Rochester	4764
Buckeye #2	7896	Round Mountain	5110-A
Carolina	5569-A	Royal	6198-A
Dandy	7896-Am	Royal Tiger #1	769
Emma	238	Sedalia	14029
Emma	14036	Seymour	96
Eckley Cox	14066	Silver Lake	2164-A
Essex Street	9106-A	Silver Lake Spur	6994
Freiburg	14047	Smuggler	14029
Galena	11448-A	Smyrna	12122-A
General Hale	14066	Solstice	5571
General Merritt	15030	Tiger Extension #2	14036
General Miles	14066	Titusville	403
Gretchen	2163-A	Unity	9120
Happy Jack	8492	Whale	4764
Home Stake	5471	Adams Placer	15143
Jaffa	12122-A	Alexandria	14024-A
Jamaica	14035	Algiers	11469
Jocko	14163	Ann Harris Placer	11596
Jupiter	14066	Argentine Lode	11380-A
Kingstone	14035	Argentine Mill Site	11380-B
Lake View	14035	Blair Mt. Lode	13322-A
Last Chance	11448-A	Blair Mt. Mill Site	13322-B
Last Chance	7896-Am	Blair Mt. Placer	16469
Lena Allen	7802	Blair Placer	841
Leucosticte	5570	Big Giant Ext. Lode	14320
Lowville	5529	Big Giant Lode	1156-A
Magnala	14035	Bowery Lode	155
Manilla	14030	Cairo Lode	11469
Martha V. F.	4952	Carolina Mill Site	5569-B
Maxwell	5530-A	Coin Lode	13322-A
Monte Carlo	14035	Combination Lode	16476
Naples	14035	Contention Lode	14320
Nevada	8530-A	Contra Costa Lode	2329
Nevada Extension	8497	Cremorne Lode	827

Claim	Survey No.
New York City	9104
Panuco	7896-Am
Pompeii	404
Porto Rico	14035
Professor Meisbeck	11469
Professor Newberry	14046
Professor Percy	14066
Professor Stelmer	7568
Professor Wedding	11469
Professor Zouner	11469
Extension & Combination of Dolly Varden No. 2 and Ethan Allen	2617
First Chance	13322-A
Free Coinage Lode	9902
Frithoft	16476
General Garfield Lode	828
General Grant Lode	13322-A
General Wallack Lode	14047
General Logan Lode	13322-A
General Sherman Lode	13322-A
Genoa Lode	14024
George Hesse Lode	9852
Golden Fleece Lode	11714
Grey Eagle 1/4 of	16860 1/4 of
Growler	16476
Helena Roux Lode	9852
Illinois Lode	14019
Independence	16476
Iron Mask Lode	11148
Jeanette Roux Placer	11596
J. E. Ward Mill Site	9858
Jerusalem	14012
Jess Lode 1/2 of	9426 1/2 of
Jura Lode	2388
King Solomon Lode	409
Last Chance Lode	9284
LaVeta Lode	14047
Leyner Lode	14324
Lightening Attracting	16476
Little Gertie Lode	15122
Lowville Mill Site	5529-B
Manhattan Lode	13322-A
Marcia L. Lode	8801-A
Marcia L. Mill Site	8801-B

Claim	Survey No.
Dana Lode	13322-A
Desmosthenes	14196
Dick Bland Lode	13322-A
Dollie Blight	12671
Dolly Varden #2 Lode	2616
Dreadnaught	14320
Ellida	16476
El Paso Lode	9842-A
Whale M. S.	9106-B
Esther Allen Lode	8801
Rochester Mill Site	8592
Sal Custer Lode	1894
Scranton City #2 Lode	16476
Scranton City Lode	15426
Silver Star Lode	681
Smyrna Mill Site	12122-B
Snow Shed Lode	14027
Southside Lode	14012
Spring Lode	14012
Tarpon Lode	15122
Trail Lode	13322-A
Twentieth Century	16476
Vienna Placer	14057
Von Cotta Lode	14052
Iowa	480
J. W. Collins	6561
Black Diamond	4811
Cub) Last Chance)	12193
Club	12978
Grip	6647
Elk	12977
Lakeside	12818
Melville	12353
1/2 Diamond L.	561-A
Royal Tiger	48
Stag	6646
White Diamond	13011
Dump	9843-A Am
Lake Shore	13064
Key	13065
Hillside) Exploit)	12946
Galicya Boy	13139
Dump Mill Site	9843-B

Claim	Survey No.	Claim	Survey No.
Maxwell Mill Site	5530-B	Iowa	9837
M. D. Thatcher Placer	17699	Tiger Mill Site	13749
Mountain Queen Lode	2389	2/3 American Boy	7244
North Star Ext. Lode	7772	Aspen	199
Panic Lode	13322-A	Chloride	411
Perhaps	16476	Legal Tender	753
Potomac Lode	457	Mammoth	499
Professor Chandler Lode	14047	McGregor	423
Professor Richter Lode	14028	Susquehanna	447
Professor Winkler Lode	9842-A	Ruby Placer #1	654
Professor Winkler Mill Site	9842-B	Ruby Placer #2	655
Republic Lode	1158	Mill Site #1	424
Riverside Lode	8801	Mill Site #2	425
Rochester	4764	La Boca	19479
Hermosa Lode	19974	River	15112
San Juan	19974	New York	15112
Piedmont	19974	Washington	15112

By instrument dated July 14, 1953, as amended, Norman E. Maxwell, owner of a one-third interest in the aforementioned American Boy claim, granted the operator a 15 year easement for a crosscut mining tunnel and tracks and the necessary right of ingress and egress.

EXPLORATION PROJECT CONTRACT
SHENANDOAH-DIVES MINING COMPANY
DOCKET NO. DMEA-2991

EXHIBIT "A"

Description of the Work

The purpose of the project is to explore, at a depth of 500 feet below the present lowest level of the letter "G" vein of the Silver Lake Mines, for the downward extensions of known ore bodies occurring in this vein, and for other and presently unknown ore bodies which may exist there. The work to be done is indicated on the map attached hereto and entitled "Figure 4, Plan and Claim Map Showing Proposed Exploration, Shenandoah-Dives Mining Co., San Juan County, Colo.," and consists of extending the present "4177" main level along the Melville vein for approximately 400 feet, and then driving a crosscut to the letter "G" vein on a bearing of approximately south 18 degrees west for a distance which is estimated to be 900 feet. After the letter "G" vein has been encountered, a drift will be driven westerly along the vein for a distance of 1700 feet.

From a point near the westerly end of such drifting, a raise will be driven on the letter "G" vein for a distance of approximately 500 feet to connect with the existing old workings of the mine.

The drifts and crosscuts are to be of an approximate minimum size of 8½ by 8½ feet. The raise is to have an approximate minimum cross section of 6 feet by 14 feet.

Agreed Unit Costs

Drifting and crosscutting, 3000 feet @ $50.30/ft.	$150,900.00	
Raising, 500 feet @ $122.00/ft.	61,000.00	
Total Agreed Cost of Project		$211,900.00
Government Participation at 50%		$105,950.00

MF-203

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the State of Colorado, County of San Juan, described as follows:1/

Those mining claims listed in Exhibit "A" attached to an agreement dated January 1, 1950, between the undersigned and Shenandoah-Dives Mining Company, which are incorporated herein by reference

(Docket No. [illegible])

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

2/ Shenandoah-Dives Mining Company

hereinafter called the "Operator"; and

WHEREAS, [redacted] of, the Government is entitled to a percentage royalty on production and to certain other rights and equities which do or may conflict with or be adverse to the interest of the undersigned in said property;

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

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

2. To secure the payment to the Government of the percentage royalty on production3/ provided for under the terms of said exploration project contract, or any amendment thereof [redacted], there is hereby granted to the Government a lien upon the land herein described and upon any production of minerals therefrom, until the royalty claim is fully paid in the amount of the Government's contribution, [redacted], or ten years have elapsed from the date of the contract.

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

Dated this 15 day of July, 195 3.

American Smelting and Refining Company [Seal]

BY R. J. Goodwin [Seal]
Vice-President

Attest: [illegible] [Seal]
Secretary

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

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

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

4/ Insert the maximum amount of the Government's contribution.

RELEVANT CONTRACT PROVISIONS

~~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 six 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) per cent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) per cent of any such net amounts, plus one-half (½) per cent 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) per cent 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) per cent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) per cent.)

(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, 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.~~

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.

DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 2979

DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect status of the case must also be reported.

This document has been recorded as

Exploration Assistance

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Routing Slip

Cys to USBM, USGS AND 1 cy retained Reg. III

To:	Code 500	Date	4/14/53.
To:	Ogw Com	Date	4-20-53
To:	Ogw Com	Date	7-15-53
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DO NOT DETACH

CONTROLLED DOCUMENT

DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 2991

DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect status of the case must also be reported.

This document has been recorded as

EXPLORATION ASSISTANCE

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Routing Slip

CYS TO USBM, USGS. 1 cy retained Reg. IV

To: Code 500 Date 4/21/53

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DO NOT DETACH

CONTROLLED DOCUMENT

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code

AUG 2 6 1963

Memorandum

To: Chief, Fiscal Section
Division of Administrative Services
Office of the Secretary

From: Chief, Contract Administration & Audit Division (Signed) E. D. Talbert

Subject: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Co.
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

Enclosed are the original and two thermofax copies of an August 21 letter from Standard Metals Corporation, 264 South Fourth East, Moab, Utah, requesting refund of an overpayment of $4,995.27 in DMEA royalty under the subject contract. This amount was found to be an overpayment of royalty by a Royalty Audit Certificate dated May 15, 1963.

Please make this refund from 14X4401, note the vouchering information on the thermofax copies, and return those copies to OME.

Enclosure

EDTalbert/cac 8/26/63

cc: Directpr's reading file
CA & A Division
Region III w/c inc. letter

43683

Docket

STANDARD METALS CORP.
264 SOUTH 4TH EAST
MOAB, UTAH

PHONE ALPINE 3-8681

WM. R. McCORMICK, PRESIDENT

August 31, 1963

U. S. Department of Interior
Office of Minerals Exploration
Washington 25, D.C.

Attention: Mr. George Fumich, Jr.

Re: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Co.
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

Dear Mr. Fumich:

Standard Metals Corporation, 264 South 4th East, Moab, Utah, hereby makes formal application for refund of overpayment of DMEA Royalty in the amount of $4,495.27.

Evidence of overpayment reflected in the audit of Mr. C. E. Fisher, C.M.E. Auditor in report dated June 26, 1963.

Very truly yours,
STANDARD METALS CORPORATION

Wm. R. McCormick
President

WRMc:lf

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
8/14	Talbert	800
	Fresnell	500
8/14	Cullaane	120
"	Johnson	110
"	Fumich	100
		220

AUG 14 1963

Mr. James M. Hansen
Office Manager
Standard Metals Corporation
264 South Fourth East
Moab, Utah

Re: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

Dear Mr. Hansen:

Your August 7 letter requests advice as to the disposition of a refund for overpayment of royalty under the referenced contract. A check of our records, however, fails to disclose the receipt of a claim for refund.

It is a statutory requirement that claims against the United States shall be presented in writing and bear the signature and address of the claimant. Prompt consideration will be given the matter upon receipt of a specific claim, which may be made by either invoice or letter.

Sincerely yours,

George Fumich, Jr.

(pt)

Director

EDTalbert/ama 8-14-63

cc:
Docket
Director's Reading File
CA & A Division
Reg. III w/c inc. ltr.
Fiscal Section

43683

STANDARD METALS CORP.
264 SOUTH FOURTH EAST
MOAB, UTAH
PHONE ALPINE 3-5681

OFFICIAL FILE COPY
O. M. E
RECEIVED AUG 13 1963

DATE	INITIALS	CODE
8/14	[illegible]	800
		500

August 7, 1963

U. S. Department of the Interior
Office of Minerals Exploration
Washington 25, D. C.

Attention: Mr. George Fumich - Director

Re: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Gentlemen:

On June 15 we received a letter from the Denver O. M. E. office that contained a copy of the Report of Royalty Review by Mr. C. E. Fisher, O. M. E. Auditor. This review reflected an overpayment by Standard Metals Corporation of $4,995.27. To date we have not received a refund or application for refund.

Will you kindly check on this refund and advise me on its disposition.

Very truly yours,
STANDARD METALS CORPORATION

J. M. Hansen

James M. Hansen
Office Manager

JMH:lf
CC: O. M. E.
Bldg. 20 - Federal Center
Denver, Colorado

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
	Gurwood	500
		~~500~~
7/30	Talbot	800
	Lefgadge	130
7/30	Johnson	110
		~~400~~
7/30	[illegible]	120

JUL 3 0 1963

Standard Metals Corp.

Silverton, Colorado

Re: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

Gentlemen:

By the terms of the subject Exploration Project contract, as amended, and the royalty agreement in Paragraph 4 of the Termination Agreement, dated September 9, 1955, all minerals mined or produced from June 26, 1953, to June 26, 1963, were subject to the Government's royalty as set forth in said contract.

As the period during which production was subject to royalty has now expired, the Government according to its present records retains no claim or lien against the property subject to the contract or any future production therefrom. We, therefore, are closing our books and records on this contract.

Sincerely yours,

George Fumich, Jr.

Director

MMerrithew/mm
6/26/63
cc: American Smelting and Refining Company
Director's Reading File
Region III (2)
CA&A Division
Docket
Code 500

43683

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
	Fumich	500
		~~500~~
7/30	Talbot	800
	Selfridge	120
7/30	Johnson	110
"	Fumich	100
7/30	[illegible]	220

JUL 3 0 1963

American Smelting and Refining Company
120 Broadway
New York 5, New York

Re: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-X558

Gentlemen:

Enclosed is a self-explanatory letter of today to Standard Metals Corp. under the subject contract.

This correspondence relates to the Owner's Consent to Lien executed by you on July 15, 1953, under the Defense Minerals Exploration Administration program.

Sincerely yours,

George Fumich, Jr.

Director

Enclosure

MMerrithew/mm
6/26/63
cc: Director's Reading File
Region III (2)
Docket
Code 500

43683

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Building 20 - Denver Federal Center
Denver 25, Colorado

EXTRA COPY
O. M. E
RECEIVED MAY 23 1963

DATE		CODE
5/24		800
May 20, 1963		~~120~~
		~~500~~
		220

Memorandum

To: E. D. Talbert, Chief
Contract Administration and Audit Division

From: Acting Field Officer, OME, Region III

Subject: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

The Royalty Audit Certificate and Royalty Audit Report dated May 15, 1963, will be held for processing, by Mr. Connors, who is expected to return from a vacation June 10, 1963.

Mr. Connors, who visited this project and obtained information concerning royalty due February 7, 1963 (see his memo to Selfridge dated February 7, 1963) is best qualified to assess the Certificate and Report.

T. M. Romslo

T. M. Romslo

cc: Chief, Division of Field Operations
OME, Washington, D. C. (2)

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
5/16	Fisher	800
		220

MAY 17 1963

Memorandum

To: Acting Field Officer, Region III

From: E. D. Talbert, Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: DMRA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

The original and two copies of a Royalty Audit Certificate and Royalty Audit Report covering the subject contract are enclosed. If you concur in the facts stated therein, please make the following distribution:

(a) Original to the Fiscal Section, Division of Administrative Services, Office of the Secretary, U. S. Department of the Interior, Washington 25, D. C.;
(b) One copy for Standard Metals Corporation; and
(c) One copy for your files.

As evidence of your concurrence, a copy of your letter transmitting the copy to Standard Metals Corporation should be furnished this Division. If for any reason you do not concur, the original and both copies of the report should be returned to this Division with your comments.

Enclosures

CEFisher/ama 5-16-63

cc:
Docket
Director's Reading File
CA & A Division
Fiscal Section

43683

STANDARD METALS CORP.

264 SOUTH FOURTH EAST

MOAB UTAH

PHONE ALPINE 3-5681

Mr. [illegible]

[illegible] Office of [illegible]

Washington [illegible]

[illegible] ...ne)

[illegible] Company

[illegible] ...rado

Dear Mr. [illegible]

[illegible] formation you

[illegible] ...ered with

[illegible] ...Corporation,

[illegible] operating

[illegible] the sole

[illegible], Standard

[illegible] the period

[illegible] (Approx.)

[illegible] (Approx.)

[illegible] (Approx.)

[illegible] (Approx.)

There [illegible]

[illegible]

...RPORATION

[illegible]

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
		220

April 30, 1963

Mr. Edwin Larson
Chief Clerk and Metallurgical Accountant
Standard Metals Corporation
Silverton, Colorado

Re: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

Dear Mr. Larson:

In connection with my recent audit of the sales of concentrates subject to royalty under the referenced exploration project contract, your clarification of several points is solicited.

From our conversation I understand that the Shenandoah-Dives Mining Company no longer exists as a legal entity. Am I correct in my understanding? If so, when and how was it dissolved?

The October 15, 1962, reply to our MME Form 63 inquiry states that 39,851.544 tons of ore was "produced" subsequent to January 14, 1960, from the land subject to the contract. The statement submitted in support of the royalty payment indicates that this tonnage was "milled" during the period August 1960 through January 1961. When was the ore actually broken and in what part of the property under the contract? Where was it stored prior to milling?

The final report dated November 4, 1955, of Shenandoah-Dives Mining Company states that during the exploration period 2,325 tons of ore was crushed, transported over the tramway, and stockpiled at the mill. Is this 2,325 tons a part of the 39,851.544 tons? If not, what was the disposition of the 2,325 tons?

Your answers to these questions will be sincerely appreciated as was your cooperation during my April 8 visit to your office.

Sincerely yours,

EDTalbert/ama 4-30-63

Clarence E. Fisher
OME Auditor

cc:
Docket
Director's Reading File
CA & A Division
Mr. Fisher

43683

HMC

STANDARD METALS CORP.
264 SOUTH FOURTH EAST
MOAB, UTAH

PHONE ALPINE 3-5681

March 14, 1963

OME
DEPARTMENT OF THE INTERIOR
MAR 15 1963
REGION III
DENVER, COLORADO

U. S. Department of the Interior
Office of Minerals Exploration
Building 20 - Federal Center
Denver 25, Colorado

Re: DMEA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Co.
(Letter "G" Vein Project)
Silver Lake Mine
San Juan County, Colorado

Dear Mr. Connors,

Thank you for your letter of March 12. Kindly instruct Mr. Clarence E. Fisher to report to Mr. Edwin Larson at our Silverton office. Mr. Larson takes care of our metalurgical accounting and has all of the necessary information for the audit.

Very truly yours,
STANDARD METALS CORPORATION

J. M. Hansen

James M. Hansen
Office Manager

JMH:lf

Cy Sent 120-500

EXTRA COPY
O. M. E
RECEIVED MAR 18 1963

3/18		800
	Answered	500
		520

EA-2991 (Lead-Zinc)
ontract. Idm-B558
enandoah-Dives Mining Company
etter "G" Vein Prospect
lver Lake Mine
an Juan County, Colorado

FEB 13 1963
O.M.E.

SILVER LAKE ORE
Milled by
STANDARD METALS CORPORATION

August 1950 thru January 1951

39,851.544 Tons Milled
38,510.918 Tons Tailings
1,340.626 Tons Concentrates Produced

	Assays		Metals		Value $	Total $	Per Ton Milled $
COME:							
lue of Ore to Mill:							
ld	.0325	Oz.	1,297.574	Oz.	45,415.09		1.1396
lver	1.427	Oz.	36,858.89	Oz.	51,699.53		1.2973
ad	1.04	%	828,780.	Lbs.	96,555.17		2.4229
pper	.54	%	429,635.	Lbs.	128,695.08		3.2294
nc	.34	%	274,390.	Lbs.	34,455.02		.8645
						356,820.89	8.9537
SS:							
ilings Losses:							
ld	.0065	Oz.	251.430	Oz.	8,800.06		.2208
lver	.313	Oz.	12,040.30	Oz.	10,918.01		.2740
ad	.071	%	54,867.	Lbs.	6,503.00		.1632
pper	.108	%	83,673.	Lbs.	25,459.77		.6389
nc	.248	%	190,832.	Lbs.	24,446.94		.6134
						76,127.78	1.9103
oss Value of Concentrates:		(Rec'y %)					
ld	.780	Oz.	80.6	1,046.144	Oz.	36,615.03	.9188
lver	33.43	Oz.	78.8	44,818.59	Oz.	40,781.52	1.0233
ad	28.86	%	93.4	773,913.	Lbs.	90,052.17	2.2597
pper	12.90	%	80.5	345,962.	Lbs.	103,236.31	2.5905
nc	3.12	%	30.4	83,558.	Lbs.	10,008.08	.2511
						280,693.11	7.0434
SS:							
Price Discounts					61,758.11		1.5497
Freight on Concentrates					19,755.96		.4957
Umpire					244.25		.0061
Base Treatment Charge					20,586.55		.5166
						102,344.87	2.5681
T SMELTER RETURN						$178,348.24	$4.4753

2991

OYALTY equals 1½% of Net Smelter $2,675.22

$6,242.19 paid 2/5/63

Balance due @ 5%

OME
DEPARTMENT OF THE INTERIOR
OCT 1 1962
REGION III
DENVER, COLORADO

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
	Griswold	500
2/12	Fathauer	800
	Selfridge	150
2/12	[illegible]	110
MM	Smith	100
		320

FEB 12 1963

Memorandum

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

This is in reference to your February 7 memorandum covering the referenced royalty matter. Concerning your last paragraph, we see no reason to plan an audit of the company books, at this time.

Permit us to say that we feel that you have handled this collection in a most zealous and commendable manner. It is no fun for any of us to have to function as a "bill collector;" there are a lot of other jobs that are more interesting and more congenial. Nevertheless, we all must take "the bitter with the sweet" and do whatever we can to look after the Government's interests.

George C. Selfridge (glh)

WRGriswold/mm
2/11/63
cc: Director's Reading File
CA&A Division
Docket
Code 500

43683

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Building 20 - Federal Center
Denver 25, Colorado

February 7, 1963

Memorandum

To: George C. Selfridge, Chief
Division of Field Operations, OME
Washington 25, D. C.

From: Acting Field Officer, OME, Region III

Subject: DMEA-2991 (Lead-Copper-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

On my recent visit to Moab, I called on the Standard Metals Corp. regarding the royalty due on the subject contract.

I asked Mr. James Hansen if I could see all of his records regarding the milling of the DMEA ore in question. He accompanied me to the accounting department where I examined all of their records. I satisfied myself that all of the DMEA ore was segregated, weighed, sampled, and assayed before it became commingled with other ore constituting the mill heads. Mr. Hansen believes, and I agree, that to duplicate all of these records is unreasonable.

I told him that if he would give me a check for $6,242.19 I would be content. He gave me a check for that amount and I recommend that it be accepted as payment in full for DMEA ore milled between August 1960 and January 1961.

If this is not satisfactory, I suggest that an auditor call at the main office in Moab of the Standard Metals Corp. and be prepared to stay several weeks to complete the audit.

Hugh M. Connors

Hugh M. Connors

rm 7
8)

OFFICIAL FILE COPY

Date	Surname	Code
1/29	Talbert	800
	Grimwood	500
	[illegible]	130
1/29	Johnson	110
1/29	Smith	100
1/29	Cole	220

JAN 29 1963

Memorandum

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

Your memorandum of November 13, 1962, requested a copy of the subject contract for the Standard Metals Corporation and expressed the belief that no further difficulty would be encountered in collecting the additional royalty of $6,242.19 due to the Government on August 1960 through January 1961 production.

A copy of the contract, together with amendments and termination agreement, was sent to you by my November 19 memorandum and subsequently forwarded to the Standard Metals Corporation by your November 21 letter. We have no record of payment of the additional royalty or further correspondence. Accordingly, if you have not already done so, another demand for payment is suggested.

In a letter dated October 25, 1962, the Standard Metals Corporation stated that no extra copies of the settlement sheets were available but that full use of its files would be given to you. In view of this statement your advice will be appreciated as to whether, during your November 7 visit to the Standard Metals Corporation's office, you checked the reported $178,348.24 value of production against the supporting settlement sheets.

George C. Selfridge (gla)

EDTalbert/ama 1-29-63

cc:
Docket
Director's Reading File
CA & A Division
Review Committee

43683

OFFICIAL FILE COPY
O. M. E
RECEIVED NOV 27 1962

DATE	INITIALS	CODE
11/27	WD	400
	Treasurer	500
		220

Building 20 - Federal Center
Denver 25, Colorado

November 21, 1962

Mr. James M. Hansen
Office Manager
Standard Metals Corp.
264 South Fourth East
Moab, Utah

Re: IDMA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Co.
(Letter "G" Vein Project)
Silver Lake Mine
San Juan County, Colorado

Dear Mr. Hansen:

Attached is a copy of the captioned Contract, together with a copy of the Amendments and the Termination Agreement which I promised to obtain for you.

Yours very truly,

Original signed by

Hugh M. Connors
Acting Field Officer, OME
Region III

Attachments
cc Chief, Division of Field Operations, OME (2)
Royalty Corres Idm-E558
Chron
HMC/lm

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
	Griswold	500
	Selfridge	130
11/19	Johnson	110
	Frank	100
		220

NOV 1 9 1962

Memorandum

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: DMEA-2991 (Lead-Zinc)
Shenandoah-Dives Mining Company
Latter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

As requested in your memorandum of November 13, we are enclosing a copy of the referenced contract, together with a copy of the amendments and termination agreement.

Enclosures

George C. Selfridge (cfb)

WRGriswold/mm

11-19-62
cc: Director's Reading File
Review Committee
✓Docket
Code 500

43683

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Building 20 - Federal Center
Denver 25, Colorado

OFFICIAL FILE COPY
O. M. E
RECEIVED NOV 16 1962

DATE	INITIALS	CODE
11/16	[illegible]	800
		120
	Treasurer	500
		220

November 13, 1962

Memorandum

To: George C. Selfridge, Chief
Division of Field Operations, OME
Washington 25, D. C.

From: Acting Field Officer, OME, Region III

Subject: DMEA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Co.
(Letter "G" Vein Project)
Silver Lake Mine
San Juan County, Colorado

Attached are the original and one copy of my letter to Mr. Hansen. Will you please forward me a copy of the contract for use of the Standard Metals Corporation.

Standard Metals Corporation inherited the subject project but did not receive a copy of the contract. They thought that 5% royalty on $4.96 per ton ore was not justified. After explaining the provisions of the contract and that the Government lost more money on this exploration project than the Standard Metals Corporation, their attitude changed and it is my belief that we will have no further difficulty in collecting the amount of royalty due the Government.

Hugh M. Connors

Hugh M. Connors

Attachments

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
11/6	[illegible]	120
11/7	[illegible]	100
11/8	[illegible]	110
11/7	[illegible]	800
11-8	[illegible]	500
		220

2991

November 6, 1962

Memorandum

To: The Dockets

From: Chief, Division of Field Operations

Subject: Telephone call from Region III

On October 29, 1962, Mr. Connors called to learn of the status of the amendment for the Consolidated Parnett Corporation (OME-6112, Contract 2124). He was told that the amendment would be prepared and that the writer thought a letter had been sent so informing him. A letter had been written, but it was to forward the amendment when received from Legal.

He also mentioned that he had received word from the Standard Metals Corporation (DMEA-2991, Contract Idm-E558, Shenandoah-Dives Mining Company) regarding the delinquent royalties. He had been informed that the Operator had no extra copies of the settlement sheets and that there were no records on the commingling of ores. Mr. Connors mentioned that he was going to visit their office shortly and asked if it would be all right to show their copy of the contract to the present Operator. He was informed that it would be.

George C. Selfridge (gla)

GCSelfridge/gla
cc to: Docket OME-6112
Docket DMEA-2991
Director's Reading File
Mr. Selfridge

43683

OFFICIAL FILE COPY
O. M. E
RECEIVED OCT 31 1962

DATE	INITIAL	
10/31		800
		600
		220

Building 20 - Federal Center
Denver 25, Colorado

October 29, 1962

Mr. James M. Hansen
Office Manager
Standard Metals Corp.
264 South Fourth East
Moab, Utah

Re: DMEA-2991 (Lead-Zinc)
Contract IBm-E558
Shenandoah-Dives Mining Company
(Letter "G" Vein Project)
Silver Lake Mine
San Juan County, Colorado

Dear Mr. Hansen:

This responds to your letter of October 25, 1962 regarding the royalty due the Government under the captioned contract.

I plan to arrive in Moab the night of November 6. I will bring my office copy of the contract with me and I should like to discuss it with you and Mr. McCormick the morning of November 7, 1962.

Yours very truly

Original signed by

Hugh M. Connors
Acting Field Officer, OME
Region III

cc Chief, Division of Field Operations, OME
with copy of Mr. Hansen's letter dated 10/25/62

[illegible]

[illegible]

October 25, 1962

Mr. [illegible]
Area [illegible] Office
U.S. Atomic Energy Commission
Minerals Exploration
Building 20 - Denver Center
Denver 25, Colorado

D.M.E.A. - 2991 (Leadville)
Contract Idn - E556
Shenandoah-Dives Mining Co.
San Juan County, Colorado

Dear Mr. Carson,

We believe that our payment as reflected satisfies the requirements of the contract for ore milled in 1960. We do not have a copy of the contract so we cite dated the payment on the basis of D.M.E.A. question and answer pamphlet 6204.13 6-27-2 "Quote: The rate begins at 1½ percent if your net smelter returns are 20.00 per ton or less etc." Our net smelter return was $4.6[illegible] per ton and the royalty payment was duly made.

I am sorry to report that we do not have extra copies of the settlement sheets representing the net smelter return of $178,348.24 nor do we have any way of separating the D.M.E.A. production from our custom milling returns. We have a complete file of all smelter returns here in Moab and we will be happy to give you or your representative full use of the file while in this office.

Yours very truly,
STANDARD METALS CORPORATION

James M. Kroeger
Office Manager

JMK:bb

MME Form 7
(10-58)

OFFICIAL FILE CO

Date	Surname	Code
10/19	Talbert	800
	[illegible]	500
	[illegible]	130
10/19	Johnson	110
10-19	Tomich	100
		220

OCT 19 1962

Memorandum

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: DMEA-2991 (Lead-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

The $2,675.22 check submitted with your October 17 memorandum has been forwarded to the Department's Fiscal Section for deposit to the royalty account under the subject contract.

Your letter to the Standard Metals Corporation has been dated and mailed. Your chronological and royalty file copies are enclosed. Please note that I have taken the liberty of adding a postscript: "Please forward two copies of each settlement sheet represented by the aggregated net smelter returns of $178,348.24".

George C. Selfridge (glc)

Enclosures

EDTalbert/ama 10-19-62

cc:
Docket
Director's Reading File
CA & A Division
Review Committee

43683

Building 20 - Federal Center
Denver 25, Colorado

OCT 1 9 1962

Mr. William H. McCormick
President and General Manager
Standard Metals Corporation
264 South 4th East
Moab, Utah

Re: BMEA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Dear Mr. McCormick:

This will acknowledge receipt of your check for $2,675.22 which will be credited to your royalty account.

Please note in Article 6 of the contract that royalty due the Government is payable on the net smelter returns, in whatever form disposed of, including concentrates. The total amount due the Government, therefore, on your net smelter return of $178,348.24 is $8,917.41, which leaves a balance due the Government of $6,242.19.

Will you please advise when we may expect to receive your check for $6,242.19 to bring this royalty account into balance.

Yours very truly,

Original signed by

Hugh M. Connors
Acting Field Officer, OME
Region III

cc Chief, Division of Field Operations, OME (2)
Royalty Corres. E558
Chron

HMC/lm

P.S. Please forward two copies of each settlement sheet represented by the aggregated net smelter returns of $178,348.24.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Building 20 - Federal Center
Denver 25, Colorado

OFFICIAL FILE COPY
O. M. E
RECEIVED OCT 19 1962

DATE	INITIALS	
10/19	[illegible]	800
		500

October 17, 1962

AIRMAIL
Memorandum

To: George C. Selfridge, Chief
Division of Field Operations, OME
Washington 25, D. C.

From: Acting Field Officer, OME, Region III

Subject: DMEA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Enclosed are the following:

(1) Standard Metals Corporation check No. 7029 for $2,675.22 on which the attached tab states

"When detached and paid, check becomes a receipt in full payment of the above account. No other receipt is necessary"

(2) The original statement of ores and concentrates produced between August 1960 and January 1961

(3) My letter to the Operator for your consideration and advice.

If you feel that my letter to the Operator is satisfactory and we can accept this check on the royalty account, will you please date and mail my letter to the Operator and return the chron and royalty correspondence copies to this office for our files.

Hugh M. Connors

Hugh M. Connors

Attachments

DATE	INVOICE NUMBER	DESCRIPTION	GROSS AMOUNT	DEDUCTIONS	NET AMO
		D.M.E.A. Royalty on Shenandoah production for 1960			2,675.22

WHEN DETACHED AND PAID, CHECK BECOMES A RECEIPT IN FULL PAYMENT OF THE ABOVE ACCOUNT. NO OTHER RECEIPT IS NECESSARY.

STANDARD METALS CORPORATION
264 SOUTH 4th EAST
MOAB, UTAH

DMEA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

HMC.

SILVER LAKE ORE
Milled by
STANDARD METALS CORPORATION

August 1960 thru January 1961

39,851.544 Tons Milled
38,510.918 Tons Tailings
1,340.626 Tons Concentrates Produced

	Assays		Metals		Value $	Total $	Per Ton Milled $
INCOME:							
Value of Ore to Mill:							
Gold	.0325	Oz.	1,297.574	Oz.	45,415.09		1.1396
Silver	1.427	Oz.	56,858.89	Oz.	51,699.53		1.2973
Lead	1.04	%	828,780.	Lbs.	96,555.17		2.4229
Copper	.54	%	429,635.	Lbs.	128,696.08		3.2294
Zinc	.34	%	274,390.	Lbs.	34,455.02		.8645
						356,820.89	8.9537
LESS:							
Tailings Losses:							
Gold	.0065	Oz.	251.430	Oz.	8,800.06		.2208
Silver	.313	Oz.	12,040.30	Oz.	10,918.01		.2740
Lead	.071	%	54,867.	Lbs.	6,503.00		.1632
Copper	.108	%	83,673.	Lbs.	25,459.77		.6389
Zinc	.248	%	190,832.	Lbs.	24,446.94		.6134
						76,127.78	1.9103
Gross Value of Concentrates:		(Rec'y %)					
Gold	.780	Oz. 80.6	1,046.144	Oz.	36,615.03		.9188
Silver	33.43	Oz. 78.8	44,818.59	Oz.	40,781.52		1.0233
Lead	28.86	% 93.4	773,913.	Lbs.	90,052.17		2.2597
Copper	12.90	% 80.5	345,962.	Lbs.	103,236.31		2.5905
Zinc	3.12	% 30.4	83,558.	Lbs.	10,008.08		.2511
						280,693.11	7.0434
LESS:							
Price Discounts					61,758.11		1.5497
Freight on Concentrates					19,755.96		.4957
Umpire					244.25		.0061
Base Treatment Charge					20,586.55		.5166
						102,344.87	2.5681
NET SMELTER RETURN						$178,348.24	$4.4753

ROYALTY equals 1½% of Net Smelter $2,675.22

OME
DEPARTMENT OF THE INTERIOR
OCT 17 1962
REGION III
DENVER, COLORADO

E558

MME Form 7
(10-58)

OFFICIAL FILE C

Date	Surname	
		2

October 19, 1962

Memorandum

To: Fiscal Section
Division of Administrative Services
Office of the Secretary

From: E. D. Talbert, Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: DMEA-2991 (Lead-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

Enclosed for deposit to the subject DMEA account under symbol 14X4401 as a royalty receipt is an October 15, 1962, check no. 7029 drawn in the amount of $2,675.22 by Standard Metals Corporation, Moab, Utah, on the Dove Creek State Bank, Dove Creek, Colorado.

This check is a partial payment of royalty delinquently due to the Government on reported net smelter returns of $178,348.24 on 1,340.626 tons of concentrates produced during August 1960 through January 1961 from the property under the contract.

Enclosure

EDTalbert/ama 10-19-62

cc:
Docket
Director's Reading File
CA & A Division
Region III (2)

43683

Building 20 - Federal Center
Denver 25, Colorado

September 10, 1962

OFFICIAL FILE COPY O. M. E. RECEIVED SEP 13 1962		
DATE	INITIALS	CODE
9/13	[illegible]	800
	Received	500
		220

Mr. W. R. McCormick, President
Standard Uranium Corp.
264 South Fourth East
Moab, Utah

Re: DMEA-2991 (Lead-Zinc)
Contract IAm-2558
Shenandoah-Dives Mining Company
Letter "U" Vein Project
Silver Lake Mine
San Juan County, Colorado

Dear Mr. McCormick:

I was in the San Juan country last week and stopped in your office above Silverton. Mr. Hutchinson, your superintendent, was not in but I talked to Mr. Edwin A. Larsen who informed me that due to many changes in personnel after the death of Mr. Charles Chase, he had no knowledge that the captioned project was obligated to pay royalty.

You will note from the attached photocopy of the Termination Agreement dated September 9, 1955, signed by Benjamin F. Stapleton, Jr., who was then president of Shenandoah-Dives Mining Company, that a Royalty Agreement was contained in Paragraph 4.

Will you please advise when we may expect to receive your check for the past due royalty.

Yours very truly,

Original signed by

Hugh M. Connors
Acting Field Officer, OME
Region III

Enclosure
cc Edwin A. Larsen
Standard Metals Company
P. O. Box 247
Silverton, Colorado

cc Chief, Division of Field Operations, OME (2)
E558
Chron

Field Team copy
DMEA
Date Rec'd.

SEP 15 1955

BUREAU OF MINES
Denver, Colorado

TERMINATION AGREEMENT

It is agreed this 9th day of September, 1955, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Pennsylvania-Mexico Mining Co., hereinafter called the "Operator," parties to that certain Exploration Project Contract DMA-[illegible], Docket No. DMA-[illegible], dated June 16, 1953, hereinafter called the "Contract," that:

1. Effective May 9, 1954, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

2. The Government shall contribute only to the fund and costs of work performed prior to said effective date.

3. 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.

4. The Operator, if principally the Operator is the producer, or if merely if the Operator is not the producer, shall pay to the Government the royalty on production provided for in the Contract, in the same manner and amount as if certification of discovery or development had been made, such certification being hereby waived.

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 triplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By [illegible]
Director, Defense Minerals Exploration Administration

[illegible]

By [illegible]
President

Approved

Ore Reduction Mill Opening at Silverton

By BERT HANNA
Denver Post Staff Writer

After years of inactivity, the fabulous old mining town of Silverton, located in the San Juan peaks of southwestern Colorado, has just received a shot in the arm with the start of a new mining and milling operation.

This is the first basic metal development in Colorado in a long time, providing encouragement for the mining industry in general—Standard Metals Corp. has launched a long-range operation in the Silverton area.

Company officials from Moab, Utah, were on hand [illegible] to turn the switch [illegible] the big ore reduction mill about two miles east of Silverton.

It is the famous old Shenandoah-Dives mill between Silverton and the ghost town of [illegible]ardsville where in the halcyon mining days some big Colorado fortunes were made.

Ore is being fed to the modernized flotation mill which Standard Metals now owns and has rehabilitated, from the long abandoned Sunnyside Mine.

CLOSED SIN[illegible]

Standard has leased [illegible] from [illegible] Company [illegible] operated it [illegible] years in conjunction with [illegible] another mill at Eureka [illegible] Animas River.

The Sunnyside Mine has been closed since 1938, and the Shenandoah-Dives mill has not operated on a continuous basis since 1953.

The ore now hauled to the mill in 20-ton trucks contains mostly lead and zinc, with some silver, gold and copper.

[illegible] process a minimum of [illegible] of ore daily.

The operation was made possible by Standard Metals's [illegible] the driving of a tunnel more than two miles long [illegible] beneath the ancient workings [illegible]side Mine.

The tunnel was started at Gladstone, up Cement Creek about seven miles from Silverton. Part of it is actually a reconstructed and enlarged tunnel that used to be in workings of the Gold King Mine.

Here, a half century and more ago, was one of the richest and famous mining operations [illegible] stemming from the [illegible] Mountain [illegible] the property. Stan[illegible] cked out a tremendo[illegible] —sufficient [illegible] production, ac[illegible] M. Hurst, superin[illegible] present mine and [illegible] operations.

Hurst, formerly [illegible] Utah, and now of Silverton [illegible] the ore is not high grade, the company feels it can operate at a profit "on a modest basis" through production economies created by the tunnel.

He said about 65 men will be employed continuously in the mine and mill.

[illegible] there no longer is any smelter [illegible] Colorado, the lead ore will be shipped to a smelter at Tooele, Utah, the zinc to Anaconda, Mont. Then silver, gold and copper will be by-products.

The president [illegible] Standard Metals Corp. is W[illegible] R. McCormick of Moab [illegible] the vice president is Ch[illegible] Steen, formerly of Moab and now of Reno, Nev., who achieved national fame through discoveries during the uranium boom.

Reactivation of the old Sunnyside and Sh[illegible]ah-Dives was big news in [illegible] which has steadily go[illegible] with scarcely no mining activity for many years [illegible] community has become [illegible] dependent on tourist tra[illegible]

It also wa[illegible] news for Guy L. V. Emerso[illegible]ent of the Denver Mi[illegible] onetime Silverton ban[illegible]ent into that region in [illegible] time, he recalls, when mines like the old Gold King were operating "full blast."

"The Standard Metals development [illegible] to provide some stimulus [illegible] a revival of mining in general in Colorado," Emerson said.

"It is proof that a mining entrepreneur [illegible] two are still left in the We[illegible]," he said.

Emerson said recent increases in the price of silver also provide some encouragement for other operations, at least for continuation of present mining in which silver is the major product or an important by-product.

Kerr-McGee Stirs Interest With Tests

The Colorado mining industry is showing intense interest in an exploratory operation by a big and wealthy company in the Empire district of Clear Creek County.

Kerr - McGee Industries, Inc., of Oklahoma City, which has vast holdings in uranium reserves and a broad field of mining and oil enterprises, has started extensive core drilling in the northern part of the Empire area.

This is an old gold camp above Idaho Springs, originally developed in sluicing and small-shaft operations by miners who came over from Central City in the early gold boom days.

The original operations were primitive, and the fact that Kerr-McGee is interested in the area to the extent of core drilling has raised hopes for a potential big development with modern mining methods.

The Kerr-McGee company has obtained options on a number of mining claims owned by Henry Nelson of Empire and Harvey L. Tedrow of Denver in an area north of Empire called the Upper Union Mining District. This paved the way for the promising explorations.

It is the opinion of several seasoned mining men that there are other areas of Clear Creek County susceptible to large-scale operations—areas overlooked in the past as the small high-grade veins of ore were worked out.

2991

GEORGE C. SELFREDGE, CHIEF
Division of Field Operations, OME

Building 20 - Federal Center
Denver 25, Colorado

OFFICIAL FILE COPY
O. M. E
RECEIVED AUG 20 1962

DATE	INITIALS	CODE
8/20	[illegible]	800
	Original	500
		220

August 16, 1962

Mr. W. R. McCormick, President
Standard Uranium Corp.
264 South Fourth East
Moab, Utah

Re: BMKA-2991 (Lead-Zinc)
Contract Idm-E558
Shenandoah-Dives Mining Company
Latter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado

Dear Mr. McCormick:

The "Request for Information on Certified Project and Project under Royalty Agreement" recently returned from your office stated that you had produced 39,851.544 tons of ore with a value of $178,348.24. In accordance with the provisions of the captioned contract, royalty is due the Government from the sale of this ore.

Will you please forward this office two copies of each settlement sheet representing the sale of this ore so that we may determine the amount of royalty due the Government.

Yours very truly,

Original signed by

Hugh M. Connors
Acting Field Officer, OME
Region III

HMC/lm
cc Chief, Division of Field Operations, OME
E558
Chron

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
8-10		500
8/10	Talbut	800
8/10	On leave	130
"	Johnson	110
8-10	Farrell	100
		220

AUG 1 0 1962

Memorandum

To: Acting Field Officer, Region III

From: ACTING Chief, Division of Field Operations

Subject: DMEA-2991 (Lead-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Idm-E558

We were surprised, when we received the completed MME Form 63, that this company had milled ore to the extent indicated. Will you, therefore, make the proper demand for royalty payment, requesting copies of settlement sheets and appropriate royalty payment on the basis of individual settlement sheets. A copy of Form 63 is attached.

/s/ W. R. Griswold
(24B)

Enclosure

WRGriswold/gla 8-9-62
Rewritten: FEJohnson/gla 8-10-62
cc to: Director's Reading File
Contract Division
Review Committee
Docket
Code 500

43683

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
8/9		500
		800
8/9	On leave	130
		110
		100
		220

Memorandum

To: Acting Field Officer, Region III

From: ACTING Chief, Division of Field Operations

Subject: D MEA-2991 (Lead-Zinc)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
Silver Lake Mine
San Juan County, Colorado
Contract Ldm-8558

We were surprised, when we received the completed MME Form 63, that this company had milled ore to the extent indicated. Will you, therefore, make the proper demand for royalty payment? ~~It would appear that the proper rate would be 1½ percent, or $2,675.22? A copy of Form 63 is attached.~~

(requesting copies of settlement sheets and approximate royalty payment on the basis of individual settlements to date.)

W. R. Griswold

Enclosure

WRGriswold/gla

8-9-62
cc to: Director's Reading File
Review Committee
Contract Division
Docket
Code 500

43683

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAR 22 1960

DATE	INITIALS	CODE
3/22	RCW	225
3/22	[illegible]	800
	Received	500
		225

Building 20 - Federal Center
Denver 25, Colorado

March 18, 1960

Mr. James B. King, Jr.,
Office Manager
Standard Uranium Corp.
264 South Fourth East
Moab, Utah

Re: Docket No. 2991 (Lead-zinc-copper)
Contract No. Idm-E558
Shenandoah-Dives Mining Company
(Letter G vein, Silver Lake Mine)
San Juan County, Colorado

Dear Mr. King:

Reference is made to your letter of March 16, 1960 wherein you request copies of contract No. Idm-E558 and the Termination Agreement dated September 9, 1955. In regard to furnishing you a copy of contract No. Idm-E558, our file copy is about the fifth carbon and too indistinct for reproduction purposes.

The contract consists of: form MF 200(A) (February 1952); Annex I; Annex II (three pages); Exhibit "A"; form MF-203, Owners Consent to Lien, executed by the American Smelting & Refining Company; copies of Location Certification on the American Girl and Lorraine lode claims; and two maps -- Figure 4, Plan and Claim Map, and an otherwise unidentified map showing mining claims in relation to workings on the Letter "G" vein. In addition, Amendment No. 1 was executed to modify the description of the work to be performed on the Letter G vein.

We have no facilities for reproducing the maps and, as stated above, our carbon copy of the contract is too blurred for reproduction purposes; however, if you will advise the portions of the contract that are missing from your files, we will attempt to provide you with replacements.

A photocopy of the Field Team's copy of the Termination Agreement is enclosed.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, OME
Field Team, Region III

JWT/ms
cc: Chmn. Op. Comm. (2)
Rylty corres E558
w/cy ltr Mar 16/1960
Chron

Enclosure

Mr. Gwinn

Re: DMEG - 2991

Opr. should be requested to submit copies of settlement sheets and pay appropriate royalty on basis of individual settlements.

The 1½ % minimum rate probably does not apply to all settlements

Talbut
8/9/62

STANDARD URANIUM CORP.
264 SOUTH 4TH EAST
MOAB, UTAH

March 16, 1960

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAR 22 1960

DATE	INITIALS	CODE

Mr. J. W. Townsend,
Executive Officer, OME
Field Team, Region III
Building 20, Federal Center
Denver 25, Colorado

Re: Docket No. DMEA 2991 (Lead-Zinc-Copper)
Contract No. Idm-E558
Shenandoah-Dives Mining Company
(Letter G vein, Silver Lake mine)
San Juan County, Colorado

Dear Mr. Townsend:

Your letter of January 18, 1960 addressed to Mr. Wood has been referred to me for answer. I wish to advise you that the 30-year lease on the property between American Smelting and Refining Company and Shenandoah-Dives Mining Company has been assigned to Standard Uranium Corporation, as the original lease was assigned to Shenandoah, Limited. I will send you copies of this instrument as soon as I can have them copied.

Will you please send me a copy of the contract No. Idm-E558 and the termination agreement dated September 9, 1955. In checking our files I find that our copy of the contract is not complete.

Very truly yours,

STANDARD URANIUM CORPORATION

James B. King Jr.

James B. King, Jr.
Office Manager

JBK:mo

OME
DEPARTMENT OF THE INTERIOR
REGION III
DENVER, COLORADO

OFFICIAL FILE COPY
O. M. E.
RECEIVED JAN 20 1960

DATE	INITIALS	CODE
1-20	gad	VVO
1/20	[illegible]	800
1 "	[illegible]	500
		225

Building 20 - Federal Center
Denver 25, Colorado
January 18, 1960

Mr. Russell L. Wood
Assistant General Manager
Standard Uranium Corporation
264 South Fourth East
Moab, Utah

Re: Docket No. DMEA 2991 (Lead-Zinc-Copper)
Contract No. Idm-E558
Shenandoah-Dives Mining Company
(Letter G vein, Silver Lake mine)
San Juan County, Colorado

Dear Mr. Wood:

Thank you for your letter of January 14, 1960, in reply to my letter of January 4.

Neither Mr. Scalin or you clarified the matter as to whether or not there has been any change in the property rights of the property originally subordinated under Contract Idm-E558. Was the 30-year lease on the property between American Smelting and Refining Company and Shenandoah-Dives Mining Company assigned to the new partnership? If so, please forward two copies of the instrument that was executed to effect the assignment.

Regarding your inquiry relative to the maps, reports and procedures to be used in reference to the contract, there are no specific requirements as such, except the payment of royalty on production from the subordinated land. Each royalty payment must be accompanied by three copies of settlement sheet, load detail sheets and such, which show the basis for the royalty payment.

It is assumed that you have access to a copy of Contract Idm-E558 and to the Termination Agreement dated September 9, 1955 terminating the contract, wherein the Government's rights to percentage royalty on production was established; however, if your files do not contain pertinent information in reference to the contract please advise.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, GMK
Field Team, Region III

JWT:ltm

cc: Chmn. Op. Comm. (2)
Hasler
Roy. Corres. E558
Chron.

STANDARD URANIUM CORP.
264 SOUTH 4TH EAST
MOAB, UTAH

January 14, 1960

OFICIAL FILE COPY
O.M.E.
DEPARTMENT OF THE INTERIOR
RECEIVED JAN 20 1960
JAN 18 1960
DATE INITIALS CODE
REGION III
DENVER, COLORADO

Mr. J. W. Townsend
Executive Officer, OME
Building 20 - Federal Center
Denver 25, Colorado.

Re: Docket No. DMEA 2991 ~~(Lead-Zinc-Copper)~~
Contract No. Idm-E558
Shenandoah-Dives Mining Company
(Letter G Vein, Silver Lake Mine)
San Juan County, Colorado.

Dear Mr. Townsend:

I am in receipt of your letter to me of January 4, 1960, and your letter to Mr. Tomlin dated December 14, 1959, in regard to Docket No. DMEA 2991, Contract No. Idm-E558.

I presume that Mr. Tomlins reply as to the present ownership of the land has been completed to your satisfaction. Therefore, I shall confine my reply to the information requested in the third paragraph of your letter of December 14th.

There has been no production from the land subordinated under the contract since January 1, 1959. We have done considerable development, drifting, and raising on these lands but have not been able to save any ore from this work. The drifting has consisted of extending the drift on the Letter G vein to a point below the cross-cut on the Unity level. A raise has been started to connect these two points. This raise will extend approximately 450 feet and it is anticipated that it will be completed during late February of 1960. The immediate purpose of this raise, of course, is to provide ventilation and access to the upper levels on the Letter G vein. Our plans from this point will depend somewhat upon what we encounter in driving this raise. If ore of commercial grade is encountered and the market situation is satisfactory stopes will be started on the upper levels first to be produced through the Letter G workings. In addition certain ground opened up by the original DMEA contract on the Shenandoah-Dives main level will undoubtedly be stoped during the next year. At the present time we have six to eight men engaged in this development project.

We will be most happy to cooperate with your office with regard to this project. In as much as we are not generally familiar with the regulations which were in existence at the time this contract was entered into we would appreciate receiving from your office instructions as to just what maps and reports and procedures are to be used.

Very truly yours,

STANDARD URANIUM CORPORATION

Russell L. Wood

Russell L. Wood
Assistant General Manager

RLW:mo

OFFICIAL FILE COPY
O. M. E.
RECEIVED JAN 7 1960
DATE
1-7
1/7
1/8
C 220
800
500
225

Building 20 - Federal Center
Denver 25, Colorado
January 4, 1960

Mr. Russel L. Wood
Standard Uranium Corporation
Moab, Utah

Re: Docket No. DMEA 2991 (Lead-Zinc-Copper)
Contract No. Idm-2558
Shenandoah-Dives Mining Company
(Letter G Vein, Silver Lake Mine)
San Juan County, Colorado

Dear Mr. Wood:

Reference is made to the letter from this office to Mr. S. Stokes Tomlin, Jr., dated December 14, 1959, a copy of which was forwarded to you at the time of writing.

Mr. Tomlin advised by letter of December 28, 1959, that the referenced Silverton area property had been transferred to a partnership, Shenandoah, Limited, of which the operating partner is the Standard Uranium Corporation. He suggested that requests be made of you for any additional information.

We will appreciate a reply from you at an early date regarding the balance of information requested in my letter of December 14, 1959 to Mr. Tomlin.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, OME
Field Team, Region III

JWT:ltm

cc: Chmn. Op. Comm. (2)w/cpy
Roy. Corres. E558)Tomlin's ltr.
Chron. dtd. 12/28/59

MARCY - SHENANDOAH CORPORATION

Minerals Resources Development

DURANGO, COLORADO • ATLANTA, GEORGIA

Reply to:

830 W. Peachtree St., N.W.
Atlanta 8, Georgia

December 28, 1959

Mr. J. W. Townsend, Executive Officer, OME
Field Team, Region III
United States Department of the Interior
Office of Minerals Exploration
Building 20 - Federal Center
Denver 25, Colorado

Re: Docket No. DMEA 2991 (Lead-Zinc-Copper)
Contract Idm-E558
Shenandoah Dives Mining Company
(Letter G Vein, Silver Lake mine)
San Juan County, Colorado

Dear Mr. Townsend:

This letter is to notify you that all of our interest in the Silverton area have been transferred to a partnership, Shenandoah Ltd. The operating partner is the Standard Uranium Corporation of Moab, Utah. I suggest you write to Russell Wood for additional information.

Sincerely,

OME
DEPARTMENT OF THE INTERIOR
DEC 29 1959
REGION III
DENVER, COLORADO

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 17 1959

DATE	INITIALS	CODE
12-17	gad	220
12/17	[illegible]	800
12/22	[illegible]	500
		225

Building 20 - Federal Center
Denver 25, Colorado
December 14, 1959

CERTIFIED MAIL

Mr. S. Stokes Tomlin, Jr.
Marcy-Shenandoah Corporation
Jarvis Building
Durango, Colorado

Re: Docket No. DMEA 2991 (Lead-Zinc-Copper)
Contract Kdm-E558
Shenandoah Dives Mining Company
(Letter G Vein, Silver Lake mine)
San Juan County, Colorado

Dear Mr. Tomlin:

We would like to have our files bought up-to-date by receipt of advise from you regarding any change in the name of the operating company or changes in property rights that in any way might effect the Government's interests and provisions of the referenced contract.

It will be appreciated if you will give a brief account of all that has transpired since the DMEA contract was terminated by Agreement dated September 9, 1955. If there has been any change in the land ownership or status of the original lease pertaining to the land subordinated under the contract, please forward two copies of any instrument that was executed in conjunction with the change.

In addition to the foregoing, please advise if there has been any production from the lands subordinated under the contract since January 1, 1959, and also advise your plans regarding operations in that part of the property in the near future.

Very truly yours,

Original signed by

J. W. Townsend
Executive Officer, OME
Field Team, Region III

JWT:ltm
cc: Chmn. Op. Comm. (2)
Roy. Corres. E558
Chron.

cc: Mr. Russell L. Wood
Standard Uranium Corp.
Moab, Utah

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
6/22	a	220
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		225

JUN 19 1959

Memorandum

To: Mr. Donald T. Finch, OME Auditor

From: E. D. Talbert, Acting Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: Docket No. DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Contract No. Idm-E558

Your Report of Royalty Review on the subject contract is acceptable and distribution of the regional copies is authorized.

EDTalbert/ama
June 19, 1959

Copy to: Docket
Director's Reading File
Code 800

43683

JUN 19 1959
O.M.E.

OFFICE OF MINERALS EXPLORATION
COMMODITY EXPLORATION AND FIELD SERVICES

REPORT OF ROYALTY REVIEW

I have reviewed the files of the Executive Officer, OME Field Team, Region III, Denver, Colorado pertaining to Contract Min-[illegible], Project No. [illegible], dated June 26, 1953, with

Shenandoah-Dives Mining Company
Silverton, Colorado

for the purpose of determining the amount of royalties due the U. S. Government on the sales of lead-copper-zinc, from property referred to as Little G Vein, Silver Lake Mine, located in San Juan County, Colorado, during the period June 26, 1953 to June 15, 1959.

Fomal Certification was effected in Termination Agreement dated September 9, 1955, and accordingly royalty is payable on all production from the land described in Article 2 of the contract for a maximum period of 10 years from the date of the contract. A Report of Review in lieu of final cost audit dated October 26, 1955, indicated accepted costs under the exploration contract amounting to $140,814.85 with the Government's contribution on a 50 percent basis being $70,407.43.

No royalty has been paid to the Government to date in connection with this contract.

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

(a) According to the Field Team's Semi-Annual Report of certified project for the period July 1, to December 31, 1957, operation ceased about May 29, 1954; no ore has been shipped since June 26, 1953, (the date of the exploration contract). Subsequent semi-annual reports of Field Team during the period January 1, 1956 to December 31, 1958, indicate the property inactive and no operations or ore shipments are anticipated in 1959.

(b) The administrative costs to the Government of an on-site royalty audit at this time would be excessive in relation to the amount of possible royalty which might be disclosed.

June 15, 1959

Donald T. Finch
Donald T. Finch
OME Auditor

UNITED STATES
DEPARTMENT OF THE INTERIOR
Office of Minerals Exploration
224 New Customhouse
Denver 2, Colorado

March 3, 1959

OFFICIAL FILE COPY O. M. E. RECEIVED MAR 9 1959		
DATE	INITIALS	CODE
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Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Semiannual Report of Certified Project for the period July 1, 1958 through December 31, 1958

DMEA Docket 2991
Contract Idm-E 558
Shenandoah-Dives Min. Co. (Cu-Pb-Zn)
San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

J. W. Townsend

Enclosures

cc: Semiannual Report File Idm-E558
Harshman
Buel
Chron.

OME
DEPARTMENT OF THE INTERIOR
MAR 3 - 1959
REGION III
DENVER, COLORADO

OME, REGION III

Statement in Lieu of Semiannual Report

Reporting Period	July 1 - Dec. 31, 1958
Docket and Contract Number	Docket 2991, Contract Idm-E558
Operator	Shenandoah-Dives Min. Co. (Cu-Pb-Zn) San Juan County, Colorado

The project has been inactive during the reporting period [X]

Pertinent data relative to the subject contract has remained unchanged since the last report [X]

Remarks:

The Marcy-Shenandoah mill was converted during the past year to receive custom mill ore. To date, however, the mill has not been in commercial operation.

Signed Edward W. Buel Date 3-2-59

Edward W. Buel

For Docket file

200

224 New Customhouse
Denver 2, Colorado

March 26, 1958

Mr. Ed Larson
Marcy-Shenandoah Company
P. O. Box 247
Silverton, Colorado

Dear Mr. Larson:

Enclosed are the copies of the DMEA application forms you requested by telephone today. Four complete copies of the application should be submitted to DMEA, the fifth is for your files.

In our telephone conversation, you indicated that the work was to be performed on the same land subordinated under Docket No. 2991, Contract No. Idm-E558, Shenandoah-Dives Mining Company. Also, that at least a part of the work you are contemplating proposing is the same as a portion of the work remaining uncompleted under Contract No. Idm-E558.

If the above facts are correct, it appears likely that if additional work is approved, it would be necessary that it be made a part of Contract Idm-E558, since the agreement terminating that contract contained provisions of a pseudo-certification in the event of subsequent production from the property.

Very truly yours,

Original signed by
E. N. HARSHMAN
E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III

Enclosures
JWT:jy
cc: Chm. Op. Comm. (2)
Harshman
DMEA, DFC
Corres. E558
Townsend
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

February 26, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 3 1958

DATE	INITIALS	CODE
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		225

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period **July 1 - December 31, 1957**

DMEA Docket **2991**
Contract Idm-E 558
Shenandoah-Dives Mining Company
(Silver Lake mine) San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

WSKing
Executive Officer, DMEA
Field Team, Region III

Enclosures
MHM:bh

cc: Semiannual Report File E 558
Harshman
DMEA/DFC (2)
Chron.

DMEA
DEPARTMENT OF THE INTERIOR
FEB 13 1958
REGION III
DENVER, COLORADO

DMEA, REGION III

Statement in Lieu of Semiannual Report

Reporting Period	July 1 - December 31, 1957
Docket and Contract Number	DMEA 2991, Idm-E558
Operator	Shenandoah-Dives Mining Company (Silver Lake mine) San Juan County, Colorado

The project has been inactive during the reporting period [X]

Pertinent data relative to the subject contract has remained unchanged since the last report [ ]

Remarks:

It is reported that Marcy-Shenandoah Corporation, Jarvis Bldg., Durango, Colorado, took over the mines and mill belonging to the operator. Custom milling is expected to start in March 1958.

Signed Edward W. Buel
Edward W. Buel

Date 2/7/58

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

OCT 22 1957

OFFICIAL FILE COPY DMEA RECEIVED OCT 25 1957		
DATE	INITIALS	CODE
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Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period January 1, 1957 through June 30, 1957

DMEA Docket 2991 (Lead-Zinc-Copper)
Contract Idm-E 558, Shenandoah-Dives Mining Company (Silver Lake Mine); San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

E. M. Harshman

Acting Executive Officer, DMEA
Field Team, Region III

Enclosures

MHM/vj
cc: Semiannual Report File E 558
DMEA/DFC (2)
Harshman
Chron.

DMEA
DEPARTMENT OF THE INTERIOR
OCT 15 1957
REGION III
DENVER, COLORADO

DMEA, REGION III

STATEMENT IN LIEU OF SEMIANNUAL REPORT

Reporting Period	January 1, 1957 to June 30, 1957
Docket and Contract Number	DMEA 2991, Idm-E558
Operator	Shenandoah-Dives Mining Co. (Silver Lake mine) San Juan County, Colorado

The project has been inactive during the reporting period [X]

Pertinent data relative to the subject contract has remained unchanged since the last report [ ]

Remarks:

Signed Edward W. Buel
Edward W. Buel

Date Oct. 14, 1957

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Copies

OFFICIAL FILE COPY
DMEA
RECEIVED OCT 25 1957

DATE	INITIALS	CODE

OCT 22 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region ~~III~~

Subject: Semiannual Report of Certified Project for the period January 1, 1957 through June 30, 1957

DMEA Docket 2991 (Lead-Zinc-Copper)
Contract Idm-E 558, Shenandoah-Dives Mining Company (Silver Lake Mine); San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

Original signed by
E. N. HARSHMAN

Acting Executive Officer, DMEA
Field Team, Region III

Enclosures

MHM/vj
cc: Semiannual Report File E 558
DMEA/DFC (2)
Harshman
Chron.

DMEA
DEPARTMENT OF THE INTERIOR
OCT 15 1957
REGION III
DENVER, COLORADO

DMEA, REGION III

STATEMENT IN LIEU OF SEMIANNUAL REPORT

Reporting Period — January 1, 1957 to June 30, 1957
Docket and Contract Number — DMEA 2991, Idm-E558
Operator — Shenandoah-Dives Mining Co. (Silver Lake mine) San Juan County, Colorado

The project has been inactive during the reporting period [X]

Pertinent data relative to the subject contract has remained unchanged since the last report [ ]

Remarks:

Eptra
~~OFFICIAL~~ FILE COPY
DMEA
RECEIVED OCT 25 1957

DATE	INITIALS	CODE

Signed Edward W. Buel
Edward W. Buel

Date Oct. 14, 1957

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

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PROJECT SUMMARY REPORT

By: W. R. Griswold July 11, 1957

1. Docket No. DMEA-2991 (Lead-Zinc)
Contract No. Idm-E558
Location: Letter "G" Vein Project
San Juan County, Colorado

Operator: Shenandoah-Dives Mining Company
Silverton, Colorado

Operator's Property Rights. Lease dated January 1, 1953.
Owners Consent to Lien dated July 15, 1953.

2. Contract dated June 26, 1953.

Work Authorized

3,000 feet drifting and crosscutting @ $50.30/ft.	$150,900.00
500 feet raising @ $122.00/ft.	61,000.00
Total Estimated Cost of Project	$211,900.00
Government's participation, 50%	$105,950.00

Amendments

No. 1 Dated April 23, 1954.

Permits drifting on the vein both easterly and westerly.

Termination Agreement Dated September 9, 1955.

Contract terminated effective May 29, 1954.

Contains clause with effect of certification.

8623

Work Completed

2,799.5 feet crosscutting and drifting at $50.30/ft.	$140,814.85
Total Cost of the Project	$140,814.85
Government's share, 50%	$ 70,407.43

Work terminated May 29, 1954.

3. Report of Review issued October 27, 1955.

Operator's Final report dated November 4, 1955.
Field Team's Final Report, January 1957.

4. Certification of Discovery or Development.

"Pseudo " certification in Termination Agreement.

Ore Reserve - None

5. Comments

The work was done in a highly efficient manner. Results were negative, the Letter "G" vein contained only small spots of very low grade material. No further Government expenditure would be warranted.

W. R. Griswold

WRG/er
Copy to: Docket
Mr. Johnson
Chron.

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

Memorandum

N. S. in R. v R.

May 22, 1953

2171

To: Mr. Felix E. Wormser
Assistant Secretary for Mineral Resources

From: C. O. Mittendorf
Administrator

Subject: Congressional telephone conversations

Senator Millikin, of Colorado

On Thursday, May 21, at about 4:30 p.m., the Senator phoned to discuss DMEA-299R. This is an application received from the Shenandoah Dives Mining Company on April 20, 1953, and involves an exploration project for lead and zinc estimated to cost $229,630. The application was reviewed by the Commodity Divisions, who recommended, on April 28, that it be referred to the field for a property examination. However, the field referral was not made, since we had already placed a freeze order on lead-zinc cases pursuant to the ODM directive. On May 15 the operator was advised by telegram that his application was denied on the basis of ineligibility under the restrictions placed on the DMEA program. The applicant obviously referred the matter to Senator Millikin immediately.

The Senator was considerably irritated by the action taken and submitted that it was directly opposed to the intent of Congress. I briefed him on the background of the order, starting with the April 15 letter from ODM, through to May 15 when we amended DMEA Order-1 and also advised some 66 applicants that their applications must be denied.

Senator Millikin said he was attending a GOP policy meeting at 5 o'clock, but that he intended to investigate the entire matter as quickly as possible, and asked that I name the party who was the instigator of the restrictive order. He said he wished to talk to the top man.

I told him the order was made by ODM and that he, of course, knew that Arthur Flemming was Director of that agency.

My relationships with the Senator have always been warm and

cordial over a period of years, and they remain so following this telephone conversation. His only gripe was with OEM.

The Senator obviously contacted Flemming following our conversation, because the first thing Friday morning, Dr. John D. Morgan, Jr., of OEM, called me for details about the Shenandoah Dives application.

Also during Friday, Mr. Thomas Curtis, Economist with OEM, phoned me twice for information on the case which he required to prepare a memorandum for Flemming. Curtis seemed anxious to have his memorandum in shape for a meeting scheduled at 2 p.m. today.

At the conclusion of my conversation with Senator Millikin, last night, he assured me that I would hear further from him after he talked with Flemming; however, he did not call back today.

Senator Magnuson, of Washington

On April 26, Mr. Hoff, an investigator connected with the Senator's office, phoned to discuss the Alaska Tin Company's application, DMEA-2942. I told him we had referred the case to the Field Team on April 14 and had not yet received the answers to several questions which we raised. Hoff said the Senator had received a phone call from Seattle which reported the rumor that a stop-order had been issued by DMEA which indicated that our program might be undergoing review, and that a definite hiatus might exist at the present time. I sidestepped the issue, since at this time we were endeavoring to clarify the language in the OEM directive of April 15.

Hoff phoned again in behalf of Senator Magnuson on Monday, May 18. He said the Senator had received another letter which again referred to the rumors of a freeze, and he wished to confirm whether or not a restriction had actually been placed upon the program.

I briefed Hoff on the developments which have taken place since April 15, and informed him that only on last Friday evening had we reached a full understanding of the intent of OEM, and that we had amended DMEA Order-1 accordingly and at the same time telegraphed several operators that their applications were denied on the basis of ineligibility. I said Alaska Tin was one of the applicants who received a telegram to that effect.

Hoff stated his regret for not "smoking out" the rumor when he first talked to me on April 26. He was sorry that he did not, at that time, bring the matter to the attention of the Senator so the

latter could have held meetings with Senator McCarran and other western Senators in order that they might have mobilized their forces and probably averted the implementation of the ODM directive.

Senator James E. Murray, of Montana

Charles Murray, son of the Senator and administrative officer, phoned me on Monday, May 18, in connection with DMEA-2856, which is a lead-zinc application made by Newberg Brothers of Montana. I briefed Charley on developments, as in the case of the previous calls. He did not appear overly disturbed about the restriction placed on DMEA. He said, "Perhaps in a month or so, after the beginning of the next fiscal year, we might be able to get some sense into the mineral program." I don't know what he meant by that remark.

Senator Mike Mansfield, of Montana

On Thursday, May 21, the Senator forwarded several identical telegrams to me which he had received from Montana in connection with docket DMEA-2856, the Newberg Brothers application (about which Charley Murray had called). These telegrams were dispatched by prominent people in Montana, one of whom was a Democratic National Committeeman. Each urged the Senator to take steps to nullify the restriction directed by ODM and to otherwise continue the DMEA program. I returned the telegrams to the Senator in my reply dated May 22, which merely confirmed the fact that a restriction had been placed on the DMEA program effective April 15.

C. O. Mittendorf

Administrator

COMittendorf/fw/eaf - 5-22-53

cc to: Asst. Secy. Wormser - 2
Admr. Read. File - R-4624
Mails & Files
~~Liebert~~
~~Imhoff~~
Mittendorf

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

224 New Customhouse
Denver 2, Colorado

Date: February 18, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period July 1, 1956 through December 31, 1956
DMEA Docket 2991 (Lead-Copper-Zinc)
Contract Idm-E 558, Shenandoah-Dives Mining Company, (Silver Lake Mine), San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, ~~and~~ Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures
MHM/vj
cc: Semiannual Report File E 558
J. F. Shaw (2)
Harshman
Chron.

OFFICIAL FILE COPY
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DMEA, REGION III

STATEMENT IN LIEU OF SEMIANNUAL REPORT

DMEA
DEPARTMENT OF THE INTERIOR
FEB 14 1957
REGION III
DENVER, COLORADO

Reporting Period	July 1, 1956 to December 31, 1956
Docket and Contract Number	DMEA 2991, Idm-E558
Operator	Shenandoah-Dives Mining Co. (Silver Lake mine)

The project has been inactive during the reporting period [X]

Pertinent data relative to the subject contract has remained unchanged since the last report [ ]

Remarks:

None

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DATE	INITIALS	CODE

Signed Edward W. Buel
Edward W. Buel

Date
February 14, 1957

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

February 12, 1957

Re: DMEA 2991; Pb-Zn-Cu;
$140,814.85
Contract Idm-E558
Shenandoah-Dives Mining Co.
San Juan County, Colorado

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, Branch of Base Metals

Subject: Review of final field report dated February 1, 1957, received February 7, 1957.

The exploration under the subject contract totaled 2,799.5 feet of drifting and crosscutting at a cost of $140,814.85. The 8- by 8.5-foot drift explored 1625.5 feet of the "G" vein which averaged about 13 feet in width. On the basis of 100 drift samples taken during drifting and certain additional channel samples and core drill samples the engineers computed mineralization as follows:

Indicated: 89,200 tons averaging 0.89% lead, 0.22% zinc, 0.36% copper, 0.018 ozs. gold and 1.0 ozs. silver per ton.
Inferred: 632,000 tons averaging 0.72% lead, 0.21% zinc, 0.34% copper, 0.016 ozs. gold and 1.46 ozs. silver per ton.

Such material is obviously too low grade to mine concentrate and market profitably under conditions that prevail in the San Juan area and a discovery should not be certified, although repayment of the Government expenditures is provided by royalty on future production under the termination agreement.

O. M. Bishop

O. M. Bishop

Copy to: Division of Minerals
Mr. Kiilsgaard
Mr. Lamb
Mr. Bishop
Files

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

224 New Customhouse
Denver 2, Colorado

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Memorandum

To: Chairman, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket No. DMEA 2991 (Lead-Zinc-Copper), Contract No. Idm-E558, Shenandoah-Dives Mining Company (Silver Lake mine), San Juan County, Colorado - FINAL REPORT.

Enclosed are the original and three copies of a joint final engineering and geologic report, dated January 1957, pertaining to work completed under the subject contract, by D. H. Richter, Geologist, Geological Survey, and C. M. Harrer, Mining Engineer, Bureau of Mines; and transmittal thereof from E. N. Harshman and John F. Shaw, dated January 25, 1957.

The original and one copy of the Operator's final report were forwarded to the Washington Office by memorandum of February 10, 1956.

The contract was terminated by a Termination Agreement, dated September 9, 1955, which was made effective May 29, 1954, before completion of the entire amount of work provided for in the contract.

The exploration work completed consisted of 2,799.5 feet of drifting and crosscutting, at a total accepted cost of $140,814.85, toward which the Government contributed 50%, or an amount of $70,407.43.

Final payment to the Operator was processed by this office November 8, 1955 in conformance with the Report of Review of reported project costs by the Contract Administration and Audit Division, DMEA, dated October 26, 1955.

Provision for the repayment of the amount of the Government's contribution to the costs of the exploration work by royalty on production from the property was incorporated in the Termination Agreement, which, in effect, constitutes a psuedo Certification.

W. M. Traver
W. M. Traver

E. N. Harshman
E. N. Harshman

Reviewed by
DMEA OPERATING COMMITTEE
2-8-57
(date)

W.O.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DMEA
DEPARTMENT OF THE INTERIOR
JAN 25 1957
REGION III
DENVER, COLORADO

REGION III

Building 20
Denver Federal Center
Denver 2, Colorado
January 25, 1957

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman
John F. Shaw

Subject: Docket DMEA 2991 (Lead-Zinc-Copper) Contract Idm-E558
Shenandoah-Dives Mining Company (Silver Lake Mine)
San Juan County, Colorado.

Enclosed are original and nine copies of Final Joint Engineering and Geologic Report on the subject project by D. H. Richter and C.M. Harrer.

A contract between DMEA and Shenandoah-Dives Mining Company was signed June 26, 1953. The contract provided for a program for exploring the company's property by means of drifting, crosscutting, raising and diamond drilling at an estimated total cost of $211,900.00, in which the Government was to participate to the extent of 50 percent, or to the amount of $105,950.00

Exploration commenced July 6, 1953 and was stopped May 29, 1954, without all the work having been completed as originally planned. During the period of activity 2,799.5 feet of drifting and crosscutting were completed at a cost of $140,814.85, of which sum $70,407.42 was paid by the Government.

Eighty-nine thousand, two-hundred tons of indicated ore was found as a result of the work. The ore has an average grade of 0.89 percent lead, 0.22 percent zinc, 0.36 percent copper and contains 0.018 ounce gold and 1.0 ounce silver a ton.

This grade of ore is not high enough to be considered commercial under present conditions and the contract was terminated September 9, 1955.

A Pseudo Certification was issued on that date whereby the Government retains royalty rights until the day it is reimbursed for its outlay, or until June 26, 1963, whichever is the sooner.

OFFICIAL FILE COPY
DMEA
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DATE	INITIALS	CODE
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E. N. Harshman
E. N. Harshman
Member Field Team

Reviewed by
DMEA OPERATING COMMITTEE
2-8-57
(date)

John F. Shaw
John F. Shaw
Supervising Mining Engineer

JFS: jg
cc: 9
DMEA 2991
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

JOINT REPORT OF EXAMINATION BY EXAMINING TEAM
REGION III

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 4 1957

DATE	INITIALS	CODE
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DMEA 2991

SHENANDOAH-DIVES MINING CO.

Exploration Project Contract Idm-E558

Silver Lake Mine

San Juan County, Colo.

Lead-Zinc-Copper

Final
Joint Engineering and Geologic Report

By

D. H. Richter
Geologist
Geological Survey

C. M. Harrer
Mining Engineer
Bureau of Mines

January, 1957

Reviewed by
DMEA OPERATING COMMITTEE
2-8-57
(date)

DMEA 2991

SHENANDOAH-DIVES MINING CO.
SILVER LAKE MINE
Exploration Contract Idm-E558
SAN JUAN COUNTY, COLO.

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ILLUSTRATIONS

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DMEA 2991

SHENANDOAH-DIVES MINING CO.

Silver Lake Mine
Exploration Project Contract Idm-E558
San Juan County, Colo.

INTRODUCTION AND SUMMARY

On June 26, 1953, exploration project contract Idm-E558 was activated between Shenandoah-Dives Mining Company, a Colorado corporation and the Defense Minerals Exploration Administration, to explore the property known as Silver Lake mine as follows:

1. Drift about 400 feet south along the extension of the Melville vein on the main (4177) level.

2. Crosscut therefrom on a bearing of S. 18° W., a distance of about 900 feet to the letter "G" vein.

3. Drift east and west along the letter "G" vein for about 1,700 feet.

4. From a location near the west end of the drift, raise about 500 feet along the letter "G" vein to a connection with old workings. The contract was for a total of $211,900.00 with Government participation (50 percent) at $105,950.00.

Work under the contract started on July 6, 1953, and stopped before completion on May 29, 1954. During this time a total of 2,799.5 feet of drifts and crosscut was completed at an overall cost of $140,814.85.

No further exploration was carried on and the contract was terminated as of May 29, 1955. Defense Mineral Exploration Administration assistance of 50 percent was $70,407.42.

The Shenandoah-Dives Mine is 2.5 miles south of Silverton, Colo., in the Arrastre Basin area of San Juan County, Colo.

One hundred ninety-eight patented mining claims, comprising the Silver Lake Mine property, have been subordinated to the contract. These claims are held by Shenandoah-Dives Mining Co., under a 30-year lease from the American Smelting and Refining Co. The Government retains royalty rights until June 26, 1963, for its participating share of exploration costs.

Exploration under the contract developed 89,200 tons of indicated ore averaging 0.89 percent lead, 0.22 percent zinc, 0.36 percent copper, with 0.018 ounce gold and 1.0 ounce silver a ton, and 632,000 tons of inferred ore averaging 0.72 percent lead, 0.21 percent zinc, 0.34 percent copper, with 0.016 ounce gold and 1.46 ounces silver a ton.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The Silver Lake mine property of the Shenandoah-Dives Mining Co. is 2.5 miles south of Silverton in the Arrastre Basin area of San Juan County, Colo. (fig. 1). The property is in very rugged and mountainous terrain between 9,000 and 12,000 feet above sea-level. The company's ore concentrator is in the Animas River valley at an altitude of about 9,600 feet. The mill is connected to the mine by 2 miles of aerial tramway over which all materials, supplies and employees are transported. The very steep and rough road to the mine is used only occasionally in the summer for heavy transportation.

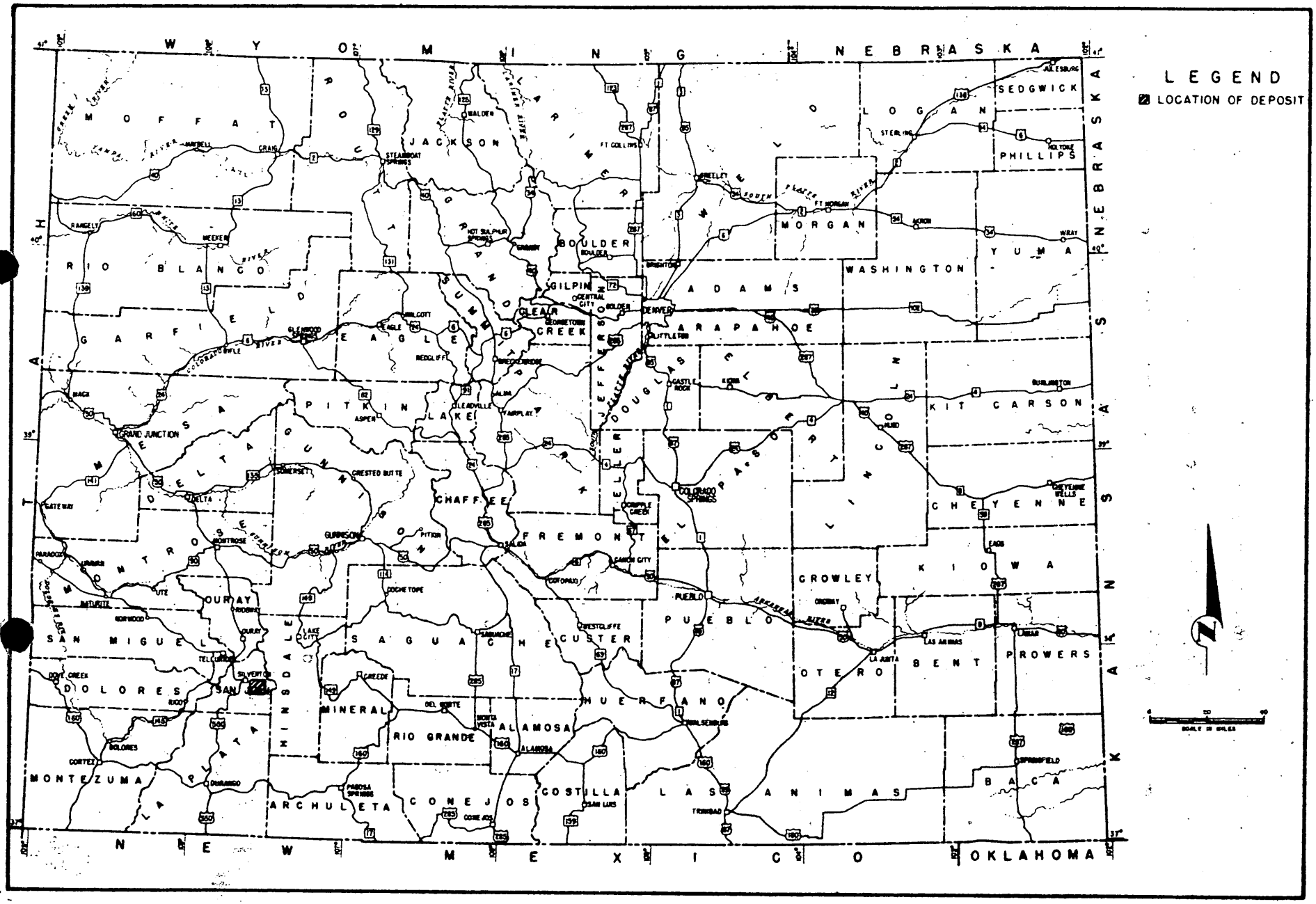

FIGURE 1 - LOCATION MAP, SHENANDOAH-DIVES MINING COMPANY, SAN JUAN COUNTY, COLO. DMEA 2991

Exploration under the contract (figs. 2 and 3) was completed on the main (4177) level which is at an altitude of about 11,200 feet. Winters are severe with heavy snows, and year-around operations could not be maintained without the aerial tramway. Ample water and timber are available. All manner of supplies and equipment are available to the property by truck transportation over well-maintained roads. During the summer, transportation over the narrow-gauge Denver & Rio Grande Western Railroad is available to the rail terminus in Silverton.

HISTORY AND PRODUCTION

Prospecting began in the Arrastre Basin area in 1870 and most of the claims were located by 1876. In 1887, a large group of claims located along 4 miles of the Silver Lake vein and along 1 mile of the letter "G" (Titusville-Buckeye) vein, and including portions of the Royal, Professor Stelzner, and Whale-Rochester veins, was consolidated and controlled by the Silver Lake Mines Co.

Silver Lake Mines operated until 1919. The property was later acquired by the American Smelting and Refining Company and was operated by them until 1942, when the Silver Lake Mines group was leased to the Shenandoah-Dives Mining Company. A 30-year lease was negotiated by the companies on January 1, 1953.

Production from the Silver Lake Mines prior to 1902 is unknown. During 1902-18, production totalled 630,645 tons of ore averaging 1.94 percent lead, 0.896 percent copper, with 0.142 ounce gold and 4.52 ounces silver per ton.

During 1919-23 about 1,600 tons of ore was produced. The property was shut down during 1924-27. During 1928-41, a total of 2,316,188 tons of ore was produced. During the period 1942-52, a total of 1,112,941 tons of ore assaying 1.5 percent lead, 0.63 percent zinc, 0.11 percent copper, with 0.098 ounce gold and 1.9 ounces silver per ton was produced from Shenandoah-Dives property of which 274,687 tons of ore assaying 1.65 percent lead, 0.4 percent copper, 0.82 percent zinc with 0.063 ounce gold and 1.6 ounces silver per ton, was produced from the Silver Lake vein.

From the above it is seen that the ore mined was of very low grade.

PROPERTY RIGHTS

Under the contract Idm-E558, Docket DMEA 2991, Shenandoah-Dives Mining Company subordinated 198 patented mining claims which embraced the Silver Lake Mine. The claims are held by the operator under a 30-year lease from the American Smelting and Refining Company. The claims are as follows:

Claims	Survey No.	Claims	Survey No.
Arabian Boy	6994	Home Stake	5471
Badger	11448-A	Jaffa	12122-A
Barbedoes	14036	Jamaica	14035
Bear	280	Jocko	14163
Buckeye	232	Jupiter	14066
Buckeye No. 2	7896	Kingstone	14035
Carolina	5569-A	Lake View	14035
Dandy	7896-Am	Last Chance	11448-A
Emma	238	Last Chance	7896-Am
Emma	14036	Lena Allen	7802
Eckley Cox	14066	Leucosticte	5570
Essex Street	9106-A	Lowville	5529
Freiberg	14047	Magnala	14035
Galena	11488-A	Manilla	14030
General Hale	14066	Martha V.F.	4952
General Merritt	15030*	Maxwell	5530-A
General Miles	14066	Monte Carlo	14035
Gretchen	2163-A	Naples	14035
Happy Jack	8492	Nevada	8530-A

Claims	Survey No.
Nevada Extension	8497
Pyramid No. 3	14220
Pyramid No. 2	14220
Pyramid	2461
Rivington St.	9003-A
Rochester	4764
Round Mountain	5110-A
Royal	6198-AZ
Royal Tiger No. 1	769
Sedalia	14029
Seymour	96
Silver Lake	2164-A
Silver Lake Spur	6994
Smuggler	14029
Smyrna	12122-A
Solstice	5571
Tiger Extension No. 2	14036
Titusville	403
Unity	9120
Whale	4764
Adams Placer	15143
Alexandria	14024-A
Algiers	11469
Ann Harris Placer	11596
Argentine Lode	11380-A
Argentine Mill Site	11380-B
Blair Mt. Lode	13322-A
Blair Mt. Mill Site	13322-B
Blair Mt. Placer	16469
Blair Placer	841
Big Giant Ext. Lode	14320
Big Giant Lode	1156-A
Bowery Lode	155
Cairo Lode	11469
Carolina Mill Sites	5569-B
Coin Lode	13322-A
Combination Lode	16476
Contention Lode	14320
Contra Costa Lode	2329
Cremorne Lode	827
New York City	9104
Panuco	7896-Am
Pompeii	404
Porto Rico	14035

Claims	Survey No.
Prof. Neisback	11469
Prof. Newberry	14046
Prof. Percy	14066
Prof. Stelmer	7568
Prof. Wedding	11469
Prof. Zeuner	11469
Extension & Combination of Dolly Varden #2 & Ethan Allen	2617
First Chance	13322-A
Free Coinage Lode	9902**
Frithoft	16476
General Garfield Lode	828
General Grant Lode	13322-A
General Hallack Lode	14047
General Logan Lode	13322-A
General Sherman Lode	13322-A
Genoa Lode	14024
George Hesse Lode	9852
Golden Fleece Lode	11714
Grey Eagle 1/4 of	16860 1/4 of
Growler	16476
Helen Roux Lode	9852
Illinois Lode	14019
Independence	16476
Iron Mask Lode	11148
Jeanette Roux Placer	11596
J.E. Ward Mill Site	9858
Jerusalem	14012
Jess Lode 1/2 of	9426 1/2 of
Jura Lode	2388
King Solomon Lode	409
Last Chance Lode	9284
La Veta Lode	14047
Leyner Lode	14324
Lightning Attracting	16476
Little Gertie Lode	15122
Lowville Mill Site	5529-A
Manhattan Lode	13322-A
Marcia L. Lode	8801-A
Marcia L. Millsite	8801-B
Dana Lode	13322-A
Demosthenes	14196
Dick Bland Lode	13322-A

Claims	Survey No.
Dollie Blight	12671
Dolly Varden #2 Lode	2616
Dreadnaught	14320
Ellida	16476
El Paso Lode	9482-A
Whale Mill Site	9106-B
Esther Allen Lode	8801
Rochester Mill Site	8592
Sal Custer Lode	1894***
Scranton City #2 Lode	16476
Scranton City Lode	15426
Silver Star Lode	681
Smyrna Mill Site	12122-B
Snow Shed Lode	14027
Southside Lode	14012
Spring Lode	14012
Tarpon Lode	15122
Trail Lode	13322-A
Twentieth Century	16476
Vienna Placer	14057
Von Cotta Lode	14052
Iowa	480
J. W. Collins	6561
Black Diamond	4811
(Cub)	12193
(Last Chance)	
Club	12978
Crip	6647
Elk	12977
Lakeside	12818
Melville	12353
1/2 Diamond L.	561-A
Royal Tiger	48
Stag	6646
White Diamond	13011
Dump	9843-AAM
Lake Shore	13064
Key	13065
(Hillside)	12946
(Exploit)	
Galicya Boy	13139
Dump Millsite	9843-B
Maxwell Millsite	5530-B
M.D. Thatcher Placer	17699

Claims	Survey No.
Mountain Queen Lode	2389
North Star Extension Lode	7772
Panic Lode	13322-A
Perhaps	16476
Potomac Lode	457
Prof. Chandler Lode	14047
Prof. Richter Lode	14028
Prof. Winkler Lode	9842-A
Prof. Winkler Millsite	9842-B
Republic Lode	1158
Riverside Lode	8801
Hermosa Lode	19974
San Juan	19974
Piedmont	19974
Iowa	9837
Tiger Millsite	13749
2/3 American Boy	7244
Aspen	199
Chloride	411
Legal Tender	753
Mammoth	499
McGregor	423
Susquehanna	447
Ruby Placer No. 1	654
Ruby Placer No. 2	655
Millsite No. 1	424
Millsite No. 2	425
La Boca	19479
River	15112
New York	15112
Washington	15112

*Reported as 14030 in DMEA Examining Engineers report.

**Reported as 9903 in DMEA Examining Engineers report.

***Reported as 1849 in DMEA Examining Engineers report.

Defense Minerals Exploration Administration has royalty rights in the above claims.

The operator has a 15-year easement, dated July 14, 1953, on the other 1/3 of the American Boy claim, from the owner N. E. Maxwell.

The Government retains royalty rights on all ores produced from the property until its participating share in the exploration is paid in full, or not later than June 26, 1963.

GEOLOGY

General Statement

The Silver Lake-Melville letter "G" (Titusville) veins of the Shenandoah-Dives Mining Company are in the South Silverton Mining area in the western part of the San Juan mountains in southwestern Colorado. The vein and fracture systems of the area have been studied by Burbank 1/ in 1932, and more recently a detailed study of the geology has been conducted by Varnes 2/3/. The geologic information presented in this report is based almost entirely on the work of Varnes, who generously gave the writers his unpublished data on the area.

This part of the San Juan Mountains is composed principally of a series of Tertiary volcanics, consisting of flows, tuffs, and breccias of rhyolitic, andesitic, and latitic composition, having a maximum thickness of nearly

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1/ Burbank, W. S., Vein Systems of the Arrostre Basin and Regional Geologic Structure in the Silverton and Telluride Quadrangles, Colorado: Colo. Sci. Soc. Proc., vol. 13, no. 5. 1933.

2/ Varnes, D. J., Geology and Ore Deposits of the South Silverton Area, San Juan County, Colorado: Colo. Min. Assoc., address given 1948.

3/ _____ Geology of the South Silverton Mining Area, San Juan County, Colorado: unpublished paper.

5,000 feet. These volcanic rocks rest horizontally upon older tilted and eroded metamorphic rocks that range in age from Precambrian to late Cretaceous. The volcanic, and older rocks, have been intruded by numerous stocks of monzonite and diorite, by many dikes of andesitic-latitic composition, and by a few dikes of rhyolite and granite porphyry.

The dominant structural feature in this part of the San Juan mountains is the Silverton caldera, a roughly circular volcanic subsidence basin just north of the South Silverton area. Forces generated within the caldera caused the rocks near its border to break in a rather complex fracture pattern, and in the South Silverton area these fractures have been the principal control of ore deposition.

Three systems of fractures have been observed in the area. The first is an unmineralized system of fractures and dikes, usually referred to as the ring-fault system, that trend concentricly to the caldera border. The second system includes a group of highly mineralized northwest-trending shear fractures and dikes, of which the Silver Lake and letter "G" (Titusville) veins are a part, and a group of unmineralized complementary northeast-trending shear fractures. The third system, which includes the Iowa, New York, and Melville veins, is a group of very productive north-northwest- trending tension fractures.

Almost all the important metalliferous deposits in the area are in veins, which are restricted to a structural block that is bounded on the north by the ring-fault zone and caldera, on the south and west by a large granite-porphyry-filled fracture, and on the east by a group of arcuate dikes. The veins range in size from narrow fissures, a few inches wide, to broad zones

of narrow closely spaced veins over 100 feet wide. The ores are predominately low-grade gold-silver-base-metal deposits composed essentially of pyrite, galena, sphalerite, chalcopyrite, tetrahedrite-tennantite, and minor amounts of native gold. Quartz and calcite are the chief gangue minerals.

Letter "G" (Titusville) vein

The letter "G", or Titusville vein, is the longest vein in the South Silverton area and belongs to the productive northwest-trending fracture system. It has an average strike of about N. 70° W. and a northeast dip of 75°. The structure includes, through most of its length, a compound dike consisting of a number of sheets of andesite or latite and vein material ranging from thin fissures to zones of closely spaced veins up to 100 feet wide. The Tertiary Burns formation, primarily a latite flow-breccia, is the principal country rock of the dike and vein.

The southeast extension of the letter "G" vein, on the main tunnel level of the Shenandoah-Dives mine, was the exploration target of the DMEA project. The target area is below the southernmost workings along the vein between the more productive portion of the vein (Titusville mine) to the northwest and the end of the structure, a barren fault, to the southeast (fig. 2). Briefly, the work completed under the subject contract consisted of drifting south along the Melville vein (off the Silver Lake mine), then crosscutting to the letter "G" vein, and then drifting east and west along the letter "G" vein (figs. 2 and 3).

The 1,625 feet of drifting completed under the contract, plus the 12 diamond-drill holes put down by the company discovered only very low-grade or sub-marginal ore. Although the over-all vein structure and mineralization is similar to the ore zones along the structure to the northwest, the individual veins are narrow, contain less base-metal-sulfide mineralization, and apparently are very discontinuous through the dike. The total width of the dike and veins averages about 25 feet, throughout the explored area. Where the structure is cut by the crosscut from the Melville drift, it has a dip of 75° SW., the reverse of its normal dip. However, both to the east and west of this area, which is believed to be a relatively local disturbed zone, the vein resumes its normal attitude.

WORK COMPLETED UNDER THE CONTRACT

Contract Idm-E558 was signed on June 26, 1953, and exploration work was started on July 6, 1953. Exploration (fig. 3) stopped when the property was shut down on May 29, 1954. The contract was terminated on September 9, 1955, on the basis of work completed to May 29, 1954. The following work (fig. 3) was completed under the terms of the contract:

Units of Work	Footage Completed	Footage Authorized Under Contract	Time
1. Drift along Melville vein extension south, on the main (4177) level at an altitude of about 11,200 feet	266.0	about 400	July-August 1953
2. Crosscut S. 18° W., from the above drift to cut the letter "G" vein.	908.0	about 900	Aug.-Nov. 1953
3. Drift west along the letter "G" vein about 68 ft. back from the end of the crosscut.	1,136.5	An aggregate of 1700 ft. east and west of the crosscut. *	Nov. '53-March '54
4. Drift east along the letter "G" vein about 68 ft. back from the end of the crosscut.	489.0	An aggregate of 1700 ft. east and west of the crosscut. *	April-May 1954
Totals	2,799.5	3,000.0	*Same

Under the terms of the contract, 3,000 feet of combined drifting and crosscutting and 500 feet of raising were authorized. Upon termination of the contract, 200.5 feet of drifting and/or crosscutting and 500 feet of raising remained to be completed.

Shenandoah-Dives Mining Company completed 12 diamond-drill holes (fig. 3) totalling 1,228.5 feet, along the letter "G" drifts at its own expense.

EXPENDITURES UNDER THE CONTRACT

Under the terms of the contract, 3,000 feet of combined drifts and crosscut were provided for at a cost of $50.30 per foot for a total of $150,900.00. In addition, 500 feet of raise at $122.00 per foot for a total of $61,000.00 was included. Total estimated cost of the exploration project was $211,900.00. Government participation at 50 percent would have been $105,950.00.

The project was terminated before completion, the effective date of termination being set as May 29, 1954, when the property was shut down completely by the Shenandoah-Dives Mining Company. During the active life of the contract (June 26, 1953-May 29, 1954) 2,799.5 feet of drifts and crosscuts (fig. 3) at a unit cost of $50.30 per foot and a total cost of $140,814.85 was completed. Government participation of 50 percent is $70,407.42. This is in accordance with the audit report dated October 26, 1955.

Unexpended funds for 200.5 feet of drifting and/or crosscutting and 500 feet of raising allowed in the contract, but which were not completed, total $71,085.15.

EFFICIENCY OF PROJECT OPERATIONS

Shenandoah-Dives Mining Co. performed the work (fig. 3) efficiently, on a two shift basis. Advance was through hard latite, and the headings were 8- by 8.5-foot in cross-section. During 11 months of operation, average advance was 5.85 ft. per round or 11.7 ft. per day. Exploration muck was hauled about 9,000 feet to the portal of the main level tunnel.

DESCRIPTION OF DISCOVERY

No certificate of discovery has been issued, but, the Government's participation in the proceeds from any future production from Shenandoah-Dives property is assured in the termination agreement dated September 9, 1955. The contract was terminated before completion of the project, the effective date of termination is May 29, 1955.

The letter "G" structure was drifted on both east and west of the crosscut (fig. 3) for a combined distance of 1,625.5 feet. One hundred samples were taken by the applicant, across the approximate 8-foot widths of vein exposed in the drifts (fig. 3). In addition, 27 samples were taken of diamond drill core from holes (fig. 3) drilled into the drift walls.

Sampling Data

The letter "G" vein was encountered 1,023 feet from beginning point of the contract, or 757 feet from the start of the letter "G" crosscut. The vein was about 13 feet wide, with a N. 62° W. strike and a dip of 75° SW. Six samples of the vein, taken along the walls of the crosscut, were assayed with the following results:

Sample No.	Location	Width Feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver	Description
S-1	West wall of cross-cut 758-764 ft. so. of its start.	6.0	0.6	0.5	1.6	0.01	1.9	Crushed latite and Sulfides
S-2	West wall of cross-cut 764-771.5 So. of its start	7.5	0.8	0.2	0.35	0.01	0.5	Ditto
S-3	West wall of cross-cut 758-771.5 ft. So. of its start-full width of vein.	13.5	0.4	0.25	0.4	0.01	0.5	Ditto
S-4	East wall of cross-cut 760-766 ft. so. of its start.	6.0	0.8	0.2	0.3	0.01	0.85	Ditto
S-5	East wall of cross-cut 766-773 ft. so. of its start.	7.0	0.5	0.3	0.2	0.01	0.2	Ditto
S-6	East wall of cross-cut 760-773 ft. so. of its start.	13.0	1.2	0.2	0.35	0.02	1.3	Ditto

Sample S-7 was taken across two feet of sulfides in crushed latite in the letter "G" drift west, 120 feet west of the crosscut (fig. 3). Sampling data is as follows:

Sample No.	Location	Width Feet	Percent Lead	Percent Zinc	Percent Copper	Oz./ton Gold	Oz./ton Silver	Description
S-7	120 ft. west of crosscut.	2.0	0.1	0.1	0	0.01	0.2	Crushed latite and sulfides

Diamond drill holes 1 and 2, in the letter "G" drift west, and 396 feet west of the crosscut were drilled through the vein. The results, assaying the core of the vein intercept, are as follows:

Sample No.	Location	Depth sampled feet	Lgth. of core Assayed, in ft.	Percent Lead	Zinc	Copper	Oz./Ton Gold	Silver
S-8	D.D.H-1	78-84.5	6.5	0.1	0.15	0.2	0.01	1.6
S-9	D.D.H-1	84.5-91.5	7.0	0.1	0.15	0.2	0.005	0.25
S-10	D.D.H-1	91.5-97.0	5.5	0.2	0.2	0.3	0.01	1.0
S-11	D.D.H-1	97.0-107.0	10.0	0.1	0.1	0.1	0.01	0.2
S-12	D.D.H-2	106.0-112.0	6.0	0.3	0.1	0.3	0.01	1.2
S-13	D.D.H-2	112.0-119.0	7.0	1.1	0.7	0.5	0.02	3.1

The letter "G" drift west (fig. 3) was sampled at approximate 10 foot intervals for a length of 590 feet to its end. Data on samples S-14 through S-62, taken over the above length, and their assay results are tabulated as follows:

Sample No.	Location	Distance West of crosscut (ft.)	Sample width feet	Percent Lead	Zinc	Copper	Oz./Ton Gold	Silver
S-14	Drift West	460	7.0	0.8	0.9	0.28	0.01	1.9
S-15	Drift West	472	7.0	1.4	0.7	0.24	0.01	2.0
S-16	Drift West	485	8.0	3.2	0.6	0.36	0.01	1.7
S-17	Drift West	495	9.0	0.7	0.1	0.04	0.01	1.5
S-18	Drift West	507	9.0	0.9	---	0.14	0.01	1.8
S-19	Drift West	520	8.0	0.2	0.1	0.02	Tr.	0.5
S-20	Drift West	531	8.0	0.4	---	0.04	Tr.	0.7
S-21	Drift West	542	8.0	0.6	---	0.04	0.01	0.9
S-22	Drift West	554	8.5	1.4	---	0.08	0.01	1.2
S-23	Drift West	563	8.5	1.1	0.1	0.32	0.01	1.8
S-24	Drift West	575	8.5	3.1	0.2	0.18	0.01	1.6
S-25	Drift West	589	8.5	1.3	---	0.38	0.01	1.3
S-26	Drift West	601	9.0	2.2	---	0.56	0.02	1.8
S-27	Drift West	614	5.0	3.0	0.3	0.20	0.01	1.5
S-28	Drift West	626	5.5	6.5	0.2	0.16	0.02	2.0
S-29	Drift West	638	9.0	4.6	0.3	0.68	0.01	1.7
S-30	Drift West	651	9.0	2.2	0.1	1.04	0.01	1.3
S-31	Drift West	665	8.0	1.0	0.6	0.86	0.01	1.5
S-32	Drift West	678	8.0	0.3	---	0.22	Tr.	0.2
S-33	Drift West	691	9.0	2.2	---	0.32	0.01	1.2
S-34	Drift West	701	9.0	3.8	0.1	0.70	0.01	2.0
S-35	Drift West	712	8.5	2.0	---	0.12	0.01	0.9
S-36	Drift West	725	8.5	6.8	0.5	0.44	0.02	2.2
S-37	Drift West	739	8.5	1.5	0.2	1.45	0.01	1.5
S-38	Drift West	753	8.5	0.4	---	0.10	Tr.	0.4
S-39	Drift West	765	8.0	1.9	0.1	0.90	0.01	1.4

Sample No.	Location	Distance West of crosscut (ft.)	Sample Width feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-40	Drift West	777	8.0	2.2	0.1	1.35	0.01	1.2
S-41	Drift West	789	9.0	0.2	0.1	0.4	0.01	0.6
S-42	Drift West	802	9.0	0.1	1.8	0.2	0.01	0.2
S-43	Drift West	815	8.5	0.4	0.2	0.3	0.02	0.4
S-44	Drift West	828	8.5	0.4	0.1	1.9	0.01	1.6
S-45	Drift West	840	9.0	0.2	---	---	---	0.1
S-46	Drift West	852	8.0	0.1	0.1	0.1	0.01	0.2
S-47	Drift West	865	8.5	0.1	0.1	---	---	0.1
S-48	Drift West	878	9.0	0.1	0.1	0.3	0.01	0.3
S-49	Drift West	891	9.0	0.2	0.1	0.2	0.01	0.3
S--50	Drift West	904	8.5	0.1	0.1	0.2	---	0.1
S-51	Drift West	910	8.5	0.1	0.1	0.1	---	---
S-52	Drift West	923	9.0	---	---	0.1	0.01	0.1
S-53	Drift West	938	8.5	2.6	0.1	0.1	0.01	0.7
S-54	Drift West	950	10.0	0.1	---	---	0.01	0.4
S-55	Drift West	956	9.0	0.1	0.1	0.1	0.02	0.2
S-56	Drift West	970	8.5	---	---	---	0.01	0.1
S-57	Drift West	983	8.5	---	---	---	---	0.1
S-58	Drift West	998	8.5	0.1	---	---	0.02	0.2
S-59	Drift West	1010	8.5	0.1	0.1	---	0.01	0.1
S-60	Drift West	1023	9.0	0.1	0.1	---	---	---
S-61	Drift West	1036	8.5	---	---	---	---	---
S-62	Drift West	1050	8.5	0.1	---	---	0.01	0.1

Diamond drill holes 7 and 9, located 840 and 950 feet west of the crosscut, respectively, (fig. 3) were sampled and assayed as follows:

Sample No.	Location	Depth Sampled in feet	Length of Core Sampled-feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-63	D.D.H-7	0-6	6	0.2	0.1	0.4	0.01	0.6
S-64	D.D.H-7	6-12	6	0.1	0.1	0.4	0.03	0.3
S-65	D.D.H-9	0-6	6	0.1	0.1	0.5	0.02	0.7
S-66	D.D.H-9	6-12	6	---	0.1	0.1	0.01	0.2
S-67	D.D.H-9	12-16	4	---	0.1	0.1	0.02	0.5

Diamond drill hole No. 4 (fig. 3) was drilled northeasterly from the crosscut to cut the letter "G" vein east of the crosscut. The core assayed as follows:

Sample No.	Location	Depth Sampled in feet	Length of Core Assayed-feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-68	D.D.H-4	60-68	8	0.4	0.1	0.3	0.01	0.75
S-69	D.D.H-4	68-75	7	0.3	0.1	0.4	0.01	1.0
S-70	D.D.H-4	75-82	7	0.4	0.8	0.3	0.01	0.85
S-71	D.D.H-4	82-90	8	4.6	0.2	0.5	0.03	2.9

The letter "G" drift east (fig. 3) was sampled at approximately 10-foot intervals for a length of about 463 feet to its end. Data on the 44 samples, S-72 to S-115, taken over the above length, and their assay results are tabulated below:

Sample No.	Location	Distance East of crosscut (ft.)	Sample Width feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-72	Drift East	18	8.5	1.4	0.5	0.9	0.02	1.7
S-73	Drift East	28	8.5	3.0	0.3	1.8	0.04	2.3
S-74	Drift East	38	8.5	2.6	0.5	1.1	0.03	1.5
S-75	Drift East	48	8.5	0.5	0.2	1.0	0.03	1.0
S-76	Drift East	60	8.5	0.6	0.2	1.2	0.03	1.5
S-77	Drift East	70	8.5	0.9	0.1	2.2	0.04	3.2
S-78	Drift East	82	8.5	0.6	0.2	0.5	0.02	0.7
S-79	Drift East	94	8.5	1.0	0.1	1.2	0.03	5.8
S-80	Drift East	105	8.5	0.7	0.2	0.9	0.02	2.3
S-81	Drift East	115	8.5	0.2	0.1	0.3	0.01	0.4
S-82	Drift East	126	8.5	0.5	0.2	0.6	0.04	1.0
S-83	Drift East	138	8.5	0.7	0.6	0.1	0.01	0.8
S-84	Drift East	148	8.5	1.1	0.2	0.4	0.02	0.7
S-85	Drift East	158	8.5	0.5	0.8	0.2	0.06	0.2
S-86	Drift East	167	8.5	1.6	0.3	0.3	0.03	0.7
S-87	Drift East	174	8.5	0.2	0.4	0.2	0.12	0.4
S-88	Drift East	185	8.5	0.1	0.3	---	0.02	0.6
S-89	Drift East	196	8.5	0.1	0.2	---	0.01	0.1
S-90	Drift East	208	9.0	0.2	0.1	0.15	0.08	0.3
S-91	Drift East	220	8.5	0.1	0.7	0.3	0.01	0.4
S-92	Drift East	231	8.5	0.2	0.1	0.1	0.01	0.2
S-93	Drift East	242	8.5	0.5	0.2	0.1	0.04	0.2
S-94	Drift East	247	8.5	1.3	0.3	0.2	0.02	1.0
S-95	Drift East	259	8.5	0.3	0.7	0.15	0.07	0.3
S-96	Drift East	270	8.5	0.3	0.1	0.15	0.01	0.1
S-97	Drift East	280	8.5	0.2	0.2	0.1	0.01	0.2
S-98	Drift East	292	8.5	0.1	0.1	0.1	0.01	0.1
S-99	Drift East	303	8.5	0.1	---	0.1	0.04	0.1
S-100	Drift East	313	8.5	0.1	---	0.1	Tr.	0.1
S-101	Drift East	329	8.5	0.1	0.1	0.1	0.01	0.2
S-102	Drift East	340	8.5	0.1	0.1	0.15	0.01	0.2

Sample No.	Location	Distance East of crosscut (ft.)	Sample Width feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-103	Drift East	350	8.5	0.1	0.1	0.1	0.01	0.3
S-104	Drift East	360	8.5	0.1	0.1	0.15	0.02	0.5
S-105	Drift East	370	8.5	0.1	0.1	0.2	0.01	0.3
S-106	Drift East	381	8.5	0.1	0.1	0.1	0.01	0.2
S-107	Drift East	396	8.5	0.1	0.1	0.1	0.01	0.3
S-108	Drift East	408	8.5	0.1	0.1	0.25	0.01	0.2
S-109	Drift East	418	8.5	0.1	0.6	0.2	0.01	0.4
S-110	Drift East	429	8.5	0.1	0.1	0.1	0.01	0.1
S-111	Drift East	440	8.5	0.1	---	0.2	0.01	0.4
S-112	Drift East	452	8.5	0.1	0.1	0.15	0.01	0.3
S-113	Drift East	464	8.5	0.2	0.1	0.2	0.01	0.4
S-114	Drift East	476	8.5	0.1	0.1	0.2	0.01	0.4
S-115	Drift East	481	7.8	0.1	0.3	0.1	0.01	0.5

Cores from diamond drill holes 11, 12, 13 and 15 (fig. 3) drilled from the letter "G" drift east, were sampled and assayed. Data on the holes and the results of assays are as follows:

Sample No.	Location	Depth Sampled feet	Length of Core Assayed-feet	Percent Lead	Percent Zinc	Percent Copper	Oz./Ton Gold	Oz./Ton Silver
S-116	D.D.H-11	0-6	6	0.1	0.1	0.5	0.02	0.7
S-117	D.D.H-11	6-12	6	---	0.1	0.1	0.01	0.2
S-118	D.D.H-11	12-16	4	---	0.1	0.1	0.02	0.5
S-119	D.D.H-12	0-10	10	0.4	0.1	0.08	0.01	0.8
S-120	D.D.H-12	10-15	5	1.1	0.6	0.86	0.03	3.0
S-121	D.D.H-12	15-20	5	0.5	---	0.08	0.01	0.5
S-122	D.D.H-12	20-30	10	0.6	0.2	0.04	0.01	0.8
S-123	D.D.H-12	30-40	10	0.3	---	0.04	Trace	0.5
S-124	D.D.H-13	0-10	10	0.1	0.2	---	0.01	0.1
S-125	D.D.H-15	0-5	5	0.1	0.1	0.1	0.01	0.2
S-126	D.D.H-15-	5-10	5	0.2	0.1	0.6	0.01	0.4
S-127	D.D.H-15	10-15	5	0.1	0.2	0.3	0.07	0.2

Ore Reserves

Minable ore reserves in the property appear to be exhausted, and mineralized ground found by the exploration was generally very low in grade. This is shown by the results of the sampling.

Lengths of reserve blocks were chosen to reflect only assay data since no structural information is available. On the basis of drill hole data,

the structure is assumed to have an average width of 20 feet in all blocks except block IV which has a width of 50 feet. Indicated ore is assumed to extend 20 feet above and 20 feet below the level. Inferred ore is assumed to extend 100 feet above and 100 feet below the limits of indicated ore. Although this low grade mineralization may extend upward 1,200 feet to the lower Titusville workings, no information regarding the continuity is available and the heights given above are purely arbitrary.

The letter "G" drift west was sampled over its average width of 8.1 feet, and a length of 330 feet at approximate 10-foot intervals. Samples S-14 through S-40, taken over this length averaged 2.02 percent lead, 0.18 percent zinc, and 0.42 percent copper, with 0.01 ounce gold and 1.4 ounces silver per ton. This length (fig. 3) contains the best assay values obtained in the exploration and is considered as Block I in reserve estimates.

The remaining 273 feet of the letter "G" drift west (fig. 3) was sampled over an average width of 8.3 feet at approximate 10-foot intervals. The average assay value of this section of drift, including samples S-41 through S-62 was only 0.23 percent lead, 0.15 percent zinc and 0.18 percent copper, with 0.007 ounce gold and 2.7 ounces silver per ton. This will be considered as Block II.

Block III will extend from the west side of the crosscut (fig. 3) to a point 465 feet west of the crosscut. Samples S-1 through S-11, in this area average only 0.3 percent lead, 0.2 percent zinc and 0.3 percent copper, with 0.01 ounce gold and 1.7 ounces silver per ton.

Exploration along the letter "G" structure east of the crosscut (fig.3) was sampled over its drift length of 481 feet and is represented by samples S-1 through S-6 in the crosscut and by samples S-72 through S-115 in the drift. In addition, samples S-116 through S-127 are of sections of core from drill holes 4, 11, 12, 13 and 15 which were drilled from the drift east. Block IV (fig. 3) will extend from the east side of the crosscut easterly to the location of sample S-87, a distance of 180 feet. The above samples average 0.9 percent lead, 0.3 percent zinc and 0.6 percent copper, with 0.03 ounce gold and 1.2 ounce silver per ton.

The remaining part of drift exploration eastward along the letter "G" structure (fig. 3) is treated as Block V in estimates. Block V is 285 feet long and includes samples S-88 through S-115 and averages about 0.2 percent lead, 0.2 percent zinc, and 0.1 percent copper, with 0.02 ounce gold and 0.3 ounce silver per ton.

Reserves of mineralized ground explored along the letter "G" structure are listed below, but none are commercially minable under existing conditions.

Block I:

Indicated reserves $\left(\frac{40 \text{ ft. high x } 330 \text{ ft. long x } 20 \text{ ft. wide}}{12 \text{ cu ft./ton}}\right) = 22{,}000$ tons

Inferred reserves $\left(\frac{200 \text{ ft. high x } 330 \text{ ft. long x } 20 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 110{,}000$ tons

Average Assay

Percent			Oz./Ton	
Lead	Zinc	Copper	Gold	Silver
2.02	0.18	0.42	0.01	1.4

Block II:

Indicated reserves $\left(\frac{40 \text{ ft. high} \times 273 \text{ ft. long} \times 20 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 18{,}200$ tons

Inferred reserves $\left(\frac{200 \text{ ft. high} \times 273 \text{ ft. long} \times 20 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 91{,}000$ tons

Average Assay

Percent			Oz./Ton	
Lead	Zinc	Copper	Gold	Silver
0.23	0.15	0.18	0.007	2.7

Block III:

Inferred reserves $\left(\frac{240 \text{ ft. high} \times 465 \text{ ft. long} \times 20 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 186{,}000$ tons

Average Assay

Percent			Oz./Ton	
Lead	Zinc	Copper	Gold	Silver
0.3	0.2	0.3	0.01	1.7

Block IV:

Indicated reserves $\left(\frac{40 \text{ ft. high} \times 180 \text{ ft. long} \times 50 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 30{,}000$ tons

Inferred reserves $\left(\frac{200 \text{ ft. high} \times 180 \text{ ft. long} \times 50 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 150{,}000$ tons

Average Assay

Percent			Oz./ton	
Lead	Zinc	Copper	Gold	Silver
0.9	0.3	0.6	0.03	1.2

Block V:

Indicated reserves $\left(\frac{40 \text{ ft. high} \times 285 \text{ ft. long} \times 20 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 19{,}000$ tons

Inferred reserves $\left(\frac{200 \text{ ft. high} \times 285 \text{ ft. long} \times 20 \text{ ft. wide}}{12 \text{ cu. ft./ton}}\right) = 95{,}000$ tons

Average Assay

Percent			Oz./Ton	
Lead	Zinc	Copper	Gold	Silver
0.2	0.2	0.1	0.02	0.3

Fld Team Final Rpt

Indicated ore reserves total 89,200 tons averaging 0.89 percent lead, 0.22 percent zinc, 0.36 percent copper, with 0.018 ounce gold and 1.0 ounce silver per ton.

Inferred ore reserves total 632,000 tons averaging 0.72 percent lead, 0.21 percent zinc, 0.34 percent copper, with 0.016 ounce gold and 1.46 ounces silver per ton.

PRODUCTION FROM DISCOVERY

No ore was stoped from the main level exposure of the letter "G" structure, but 2,325 tons of low-grade development rock from DMEA exploration is stockpiled at the Shenandoah-Dives mill.

CONCLUSIONS AND RECOMMENDATIONS

The letter "G" structure as exposed on the main (4177) level of the Shenandoah-Dives Silver Lake mine (figs. 2 and 3) contains only narrow, discontinuous veins, in a latite or andesite composite dike. The completion of 1,625.5 feet of drifting along the letter "G" structure has exposed only sub-marginal reserves of lead-zinc-copper-gold-silver ore which are too low grade to mine and concentrate profitably.

File Copy
Surname

Griswold
Selfridge
Ferguson
McKinney

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

DEC 12 1956

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Final Field Team Reports for DMEA Docket Nos. DMEA-1 & 1A, DMEA-171, DMEA-371, DMEA-606, DMEA-1098, DMEA-1525, DMEA-1870, DMEA-2028, DMEA-2653 and DMEA-2991

Dear Mr. Traver:

The following projects have been concluded or terminated for a considerable period of time and we have received no final Field Team reports covering project results. In certain instances, as noted below, the final Operator's report is also lacking.

It may be that in certain cases final Field Team reports have been delayed pending property settlements and final audits. However, we can see no reason for such delay; actually the final report from the Field Team is not considered as being an exact financial statement. We must depend upon our Contract Administration and Audit Division for our final and precise data on expenditures.

In cases where final precise figures are not available, it would be sufficient if it was so noted in your final report, with an additional notation that such unit and over-all costs which you might have quoted were subject to minor revisions, depending upon matters of final settlement.

DMEA-1 & 1A - Chief Consolidated Mining Company
(Final Operator's Report also due)
Terminated January 30, 1956.

DMEA-171 West Park Mining Company
Terminated February 13, 1956.

DMEA-371 Peru Mining Company
(Final Operator's Report also due)
Terminated November 1, 1955.

Initialed

DMEA-606	U. S. Metals Corporation (Final Operator's Report also due) Terminated September 1, 1955.
DMEA-1098	Combined Metals Reduction Company Terminated July 9, 1956.
DMEA-1525	Morene Uranium Corporation Terminated July 1, 1955.
DMEA-1870	U. S. Metals Corporation (Final Operator's Report also due) Terminated September 1, 1955.
DMEA-2028	U. S. Smelting, Refining and Mining Company Concluded December, 1955.
DMEA-2653	U. S. Smelting, Refining and Mining Company Concluded November, 1955.
DMEA-2991	Shenandoah-Dives Mining Company Terminated September 9, 1955.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (HB)

APPROVED:

Frank D. Lamb

Member, Bureau of Mines (HB)

Thor H. Kiilsgaard

Member, Geological Survey (HB)

WHGriswold/er 12/10/56

Copy to: Docket (10)
Adm R File
Op. Committee
Base Metals (10)
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

RECEIVED
SEP 24 1956

224 New Customhouse
Denver 2, Colorado

Date: September 20, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period January 1, 1956 through June 30, 1956
DMEA Docket 2991 (Lead-Copper-Zinc)
Contract Idm-E 558, Shenandoah-Dives Mining Company (Silver Lake Mine), San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, ~~and~~ Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures

MHM/vj
cc: Semiannual Report File E 558
J. F. Shaw (2)
E. N. Harshman
Chron.

ACTION ON INTERIM
OR FINAL FIELD TEAM REPORT
Date 9-24

Referred to:

1. ~~Mr. Mittendorf~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. Docket Control Mails and Files
5. Division
6. Docket Control Mails and Files

Note comments in report regarding:

1. I recall this was a 'pseudo'
2. Yes
3.
4.

and take appropriate action.

- - - - - - - -

Action taken by Division:

Robert E. Adams

DEPARTMENT OF THE INTERIOR
SEP 10 1956
REGION III
DENVER, COLORADO

RECEIVED
SEP 24 1956

DMEA, REGION III

STATEMENT IN LIEU OF SEMIANNUAL REPORT

Reporting Period Jan. 1, 1956 to June 30, 1956
Docket and Contract Number DMEA 2991, Contract Idm-E558
Operator Shenandoah-Dives Mining Co.

	"X" one
The project has been inactive during the reporting period	x
Pertinent data relative to the subject contract has remained unchanged since the last report	x

Remarks:

Production from the property during 1942-52 totaled 1,112,941 tons of ore assaying 1.5% lead, 0.63% zinc and 0.11% copper with 0.098 ounce gold and 1.9 ounces silver per ton. From this it is seen that the ore generally was low grade.

Mr. E. A. Larsen, resident manager, was contacted on the property.

The property has been shut down since* May 29, 1954 and there are no plans for future operation.

* Date of termination of exploration contract.
C.E.F.

Signed C. M. Harrer
C. M. Harrer

Date C. M. Harrer
Sept. 5, 1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

RECEIVED
JUN 14 1956

224 New Customhouse
Denver 2, Colorado

Date: May 29, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period July 1, 1955 through December 31, 1955
DMEA Docket 2991 (Lead-Zinc-Copper)
Contract Idm-E 558 Shenandoah-Dives Mining Company (Silver Lake mine), San Juan County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office and Memorandum 29.

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures
MHM/vj
cc: Semiannual Report File E 558
S. F. Shaw (2)
E. N. Harshman
Chron.

Semi-Annual Report of Certified Projects

Reporting Period July 1 to December 31, 1955

Docket and Contract Number DMEA 2991, Contract Idm-E558

Operator Shenandoah-Dives Mining Co.

Commodity Lead-zinc-copper

Mine Name Silver Lake mine

County and State San Juan county, Colorado

RECEIVED
JUN 14 1956
DMEA
Date Rec'd.
MAY 23 1956
BUREAU OF MINES
Denver, Colorado

Date of Contract June 26, 1953

Date of Certification (Pseudo) September 9, 1955

Expiration Date of Royalty Payments June 26, 1963

Date of Examination for this Report April 17, 1956

Total Amount of Contract $211,900.00

Total Expenditures under Contract $140,814.85

Amount of Government Participation at 50 % $70,407.43

Royalty Payments this Period none

Previous Royalty Payments none

Total Royalty Payments to Date none

% Loan Repayment Completed none

Amount of Royalty Due none

Royalty Remarks There has been no production to date subject to DMEA ~~[illegible]~~ Royalty.

Indicated and Inferred Ore Reserves

	Tons	Percent Lead	Percent Zinc	Percent Copper	Ounces per ton Gold	Ounces per ton Silver
Original Estimate of Reserves (from Final Engr.-Geol. Report)	63,910	2.02	0.18	0.42	0.01	1.4
	45,053	0.23	0.15	0.18	0.007	2.7
	79,750	0.3	0.2	0.3	0.01	1.7
	81,200	0.9	0.3	0.6	0.03	1.2
	61,875	0.2	0.2	0.1	0.02	0.3

Increase of Reserves by work performed subsequent to expiration or termination of contract: none

Revised Estimate of Reserves: Same as above

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Production this Period (Ore or Concentrates) none

Amount of Previous Production (since date of contract) none

Total DMEA Production to date none

% of Revised Reserves Mined none

Production Remarks:

Note: On Uranium projects check with AEC to assure that our records are in agreement with theirs.

Other Remarks: Production from the property during 1942-52 totaled 1,112,941 tons of ore assaying 1.5% lead, 0.63% zinc and 0.11 percent copper with 0.098 ounce gold and 1.9 ounces silver per ton. From this, it is seen that the ore generally was very low grade.

The property has been completely shut down since May 29, 1954.

Signed C. M. Harrer (Engineer)
C. M. Harrer

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

RECEIVED
FEB 13 1956

224 New Customhouse
Denver 2, Colorado

February 10, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 2991 (Lead-Zinc-Copper), Contract Idm-E558
Shenandoah-Dives Mining Company, San Juan County, Colo.

In compliance with the "Special Notice" instructions contained in the "Minutes, Operating Committee," No. 622, dated January 27, 1956, we are enclosing the original and one copy of the Operator's Final Report.

The Field Team's Final Report will be forwarded as soon as the engineering and geologic sections are available.

W. M. Traver

W. M. Traver

Enclosures

Ofr. Final Rpt.

RECEIVED
DMEA
Date Rec'd FEB 13 1956
NOV 7 1955
BUREAU OF MINES
Denver, Colorado

SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado
Nov. 4, 1955

Mr. W. M. Traver,
Executive Officer, DMEA
Field Team, Region III
224 New Customhouse
Denver 2, Colorado.

Re: Docket DMEA 2991
(Lead,Zinc,Copper),
Contract IDM-E 558
Final Report

Dear Sir:

Enclosed please find five copies each of:-

1 Sample record by 100 ft. blocks--averages of our drift samples, omitting all diamond drill hole samples.
2 Copies of all samples taken--this a duplication of the monthly reports, to give you the complete sample record for the project.
3 Claim map showing Crosscut and Drift performance in Green and diamond drill holes in red.
4 Detailed cost of project, June 16, 1953 through May 29, 1954.

This report covers the period, June 16, 1953 through May 29, 1954. Government participation under the DMEA contract was started on July 6th, a Government Engineer giving us an official starting point on that date. Therefore, the total crosscutting and drifting amounted to 2,988.5 feet. Government participation 2,799.5 ft. A total of 1,228.5 ft. of diamond drilling was done. Ore crushed, transported over tramway and stockpiled at mill 2,325 tons. Waste removed 12,168 tons.

A vein was cut at the 758 co-or. in the crosscut. At the time we did not believe this could be the letter "G" vein because of the strike and a reverse dip of 75 degrees. The crosscut was extended beyond this point to the 908 co-or., approximately 50 feet beyond where we should have found the vein. A diamond drill hole 221 feet straight ahead failed to disclose vein structure. A drift was started from the 700 co-or. and turned to pick up the 758 vein about 100 feet west from the crosscut. After completing the turn we found only a narrow streak of lead ore that pinched out in a few feet. The drift was advanced to 360 W. co-or. At this point three diamond drill holes were driven. Two of the drill holes to the southwest disclosed ore. The drift was then turned to the southwest and at 460 W. the letter "G" vein, on proper strike and dip, showed ore with fair values, which continued to about 777 W. From 777 W. to 1050 W. we were in low grade vein structure. At this time we asked for and were granted permission to drift East from the crosscut. A fair grade of ore was found from 18 E. to 105 E. Only low grade vein material was found the remainder of the distance East to Co-or 481 when we suspended operations. The last 100 feet of drifting to the East was on good vein structure showing quartz and heavy iron, and on proper dip and strike of the letter "G" vein. The above indicates that we hit the letter "G" vein (758 in the X-C) in a faulted Zone.

Yours truly,

Edwin A. Larson

Edwin A. Larson, Res. Mgr.

EAL:l
cc: B.F.S.-Denver
KC. Office

LETTER "G" VEIN

Assays and values of ore by 100 ft. blocks
Averaged from daily drift samples
Co-ordinates East & West from Crosscut

	Au Oz.	Ag Oz.	Pb %	Cu %	Zn %	Gross Value	60 % Net Smelter
Metal Prices	$35.00	.90	.15	.40	.12	$	$
460 W - 500 W	.01	1.77	1.52	.23	.60	9.78	5.87
500 W - 600 W	.007	1.22	1.12	.15	-	5.90	3.54
600 W - 700 W	.011	1.40	2.75	.50	.20	14.37	8.62
700 W - 800 W	.01	1.27	2.34	.68	.14	14.28	8.57
800 W - 900 W	.008	.40	.21	.38	.30	5.03	3.02
900 W - 1000 W	.01	.20	.30	.10	-	2.23	1.34
1000 W - 1050 W	.01	.10	.10	-	-	.74	.38
18 E - 100 E	.03	2.21	1.32	1.23	.26	17.46	10.48
100 E - 200 E	.034	.72	.57	.35	.28	7.02	4.21
200 E - 300 E	.03	.31	.35	.15	.28	4.25	2.55
300 E - 400 E	.014	.24	.10	.10	.10	2.05	1.23
400 E - 481 E	.01	.33	.10	.20	.16	2.93	1.76

(Diamond Drill hole at 316 E Average 11.3% Fe)

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SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado.

DRIFT SAMPLES FOR THE MONTH OF JANUARY 1954

Metal prices:		
	Au	$35.00
	Ag	.90
	Pb	.13
	Cu	.29
	Zn	.095

Date	Sample No.		Width ft.	Au Oz.	Ag Oz.	Pb %	Cu %	Zn %	Value Gross	Value Net-60%
1/29/54	1093	Co-or 460 W	7.0	.01	1.9	.8	.28	.9	$ 7.47	$4.48
1/30/54	1094	" 472 W	7.0	.01	2.0	1.4	.24	.7	8.51	5.11
2/1/54	1095	" 485 W	8.0	.01	1.7	3.2	.36	.6	13.43	8.06

SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado

DRIFT SAMPLES FOR THE MONTH OF FEBRUARY 1954

				Au	Ag	Pb	Cu	Zn		
		Metal Prices		$35.00	$ .90	$ .12	$ .29	$ .09		
Date	Sample No.		Width Ft.	Au Oz.	Ag Oz	Pb %	Cu %	Zn %	Value Gross	Value Net-60%
2/2/54	1096	495 W drift	9.0	.01	1.5	.7	.04	.1	$ 3.79	$ 2.27
2/3/54	1097	507 W drift	9.0	.01	1.8	.9	.14	-	4.94	2.96
2/4/54	1098	520 W drift	8.0	Tr.	.5	.2	.02	.1	1.23	.74
2/5/54	1099	531 W drift	8.0	Tr.	.7	.4	.04	-	1.82	1.09
2/6/54	1100	542 W drift	8.0	.01	.9	.6	.04	-	2.83	1.70
2/8/54	1240	554 W drift	8.5	.01	1.2	1.4	.08	-	5.25	3.15
2/9/54	1241	563 W Drift	8.5	.01	1.8	1.1	.32	.1	6.65	3.99
2/10/54	1242	575 W Drift	8.5	.01	1.6	3.1	.18	.2	10.63	6.38
2/11/54	1243	589 W Drift	8.5	.01	1.3	1.3	.38	-	6.84	4.10
2/12/54	1244	601 W Drift	9.0	.02	1.8	2.2	.56	-	10.85	6.51
2/13/54	1245	614 W.Drift	5.0	.01	1.5	3.0	.20	.3	10.60	6.36
2/15/54	1246	626 W Drift	5.5	.02	2.0	6.5	.16	.2	19.39	11.63
2/16/54	1247	638 W Drift	9.0	.01	1.7	4.6	.68	.3	17.40	10.44
2/17/54	1249	651 W Drift	9.0	.01	1.3	2.2	1.04	.1	13.01	7.81
2/18/54	1250	665 W Drift	8.0	.01	1.5	1.0	.86	.6	10.17	6.10
2/19/54	1251	678 W Drift	8.0	Tr	.2	.3	.22	-	2.18	1.31
2/20/54	1254	691 W Drift	9.0	.01	1.2	2.2	.32	-	8.57	5.14
2/22/54	1255	701 W Drift	9.0	.01	2.0	3.8	.70	.10	15.51	9.31
2/23/54	1256	712 W Drift	8.5	.01	.9	2.0	.12	-	6.66	4.00
2/24/54	1257	725 W Drift	8.5	.02	2.2	6.8	.44	.50	22.45	13.47
2/25/54	1258	739 W Drift	8.5	.01	1.5	1.5	1.45	.20	14.07	8.44
2/26/54	1259	753 W. Drift	8.5	Tr.	.4	.4	.10	-	1.90	1.14
2/27/54	1260	765 W Drift	8.0	.01	1.4	1.9	.90	.10	11.57	6.94
3/1/54	1261	777 W Drift	8.0	.01	1.2	2.2	1.35	.10	14.72	8.83

SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado

DRIFT SAMPLES FOR THE MONTH OF MARCH 1954

				Au.	Ag	Pb	Cu	Zn			
			Metal Prices	$35.00	$ .90	$ .12	$ .29	$ .09			
Date	Sample No.		Width Ft.	Au Oz.	Ag Oz.	Pb %	Cu %	Zn %	Value Gross	Value Net-60%	
3/2/54	1262	Test hole	7.0	.01	.4	.2	.3	.2	$ 3.29	$ 1.97	
3/2/54	1263	789 W. Drift	9.0	.01	.6	.1	.4	.1	3.63	2.18	
3/3/54	1264	802 W. Drift	9.0	.01	.2	.4	.2	1.8	5.89	3.53	
3/4/54	1265	815 W. Drift	8.5	.02	.4	.4	.3	.2	4.12	2.47	
3/5/54	1266	828 W. Drift	8.5	.01	1.6	.2	1.9	.1	13.47	8.08	
3/6/54	1267	840 W. Drift	9.0	-	.1	.2	-	-	.57	.34	
3/8/54	1428	840 DDH 0-6'		.01	.6	.2	.4	.1	3.87	2.32	Avg $2.34
3/9/54	1429	840 DDH 6-12'		.03	.3	.1	.4	.1	4.06	2.44	
3/10/54	1268	852 W. Drift	8.0	.01	.2	.1	.1	.1	1.53	.92	
3/11/54	1269	865 W. Drift	8.5	-	.1	.1	-	.1	.60	.36	
3/12/54	1270	878 W. Drift	9.0	.01	.3	.1	.3	.1	2.78	1.67	
3/13/54	1271	891 W. Drift	9.0	.01	.3	.2	.2	.1	2.44	1.46	
3/15/54	1272	904 W. Drift	8.5	-	.1	.1	.2	.1	1.67	1.00	
3/16/54	1273	910 W. Drift	8.5	-	-	.1	.1	.1	1.00	.60	
3/17/54	1274	923 W. Drift	9.0	.01	.1	-	.1	-	1.02	.61	
3/18/54	1275	938 W. Drift	8.5	.01	.7	2.6	.1	.1	7.98	4.79	
3/19/54	1276	950 W. Drift	10.0	.01	.4	.1	-	-	.95	.57	
3/22/54	1430	950 DDH 0-6'		.02	.7	.1	.5	.1	4.65	2.79	$1.18
	1431	950 DDH 6-12'		.01	.2	-	.1	.1	1.29	.77	
	1432	950 DDH 12-16'		.02	.5	-	.1	.1	1.91	1.15	
3/24/54	1277	956 W. Drift	9.0	.02	.2	.1	.1	.1	1.88	1.13	
3/25/54	1278	970 W. Drift	8.5	.01	.1	-	-	-	.44	.26	
3/26/54	1279	983 W. Drift	8.5	-	.1	-	-	-	.09	.05	
3/27/54	1280	998 W. Drift	8.5	.02	.2	.1	-	-	.77	.46	
3/29/54	1281	1010 W. Drift	8.5	.01	.1	.1	-	.1	.77	.46	
3/30/54	1282	1023 W. Drift	9.0	-	-	.1	-	.1	.35	.21	$.36
3/31/54	1283	1036 W. Drift	8.5	-	-	-	-	-	-	-	
4/1/54	1284	1050 W. Drift	8.5	.01	.1	.1	-	-	.68	.41	

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

DATE April 1954

Metal Prices $35. .90 12¢ 29¢ 9¢

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
1285	18 E. Drift 4/5	8.5'	.02	1.7	1.4	.9	.5	$ 11.71	$ 7.03
1286	28 E. Drift 4/6	8.5'	.04	2.3	3.0	1.8	.3	21.65	12.99
1287	38 E. Drift 4/7	8.5'	.03	1.5	2.6	1.1	.5	15.92	9.55
1288	48 E. Drift 4/8	8.5'	.03	1.0	.5	1.0	.2	9.31	5.58
1289	60 E. Drift 4.9	8.5'	.03	1.5	.6	1.2	.2	11.16	6.70
1290	70 E. Drift 4/10	8.5'	.04	3.2	.9	2.2	.1	19.38	11.62
1291	82 E. Drift 4/12	8.5'	.02	.7	.6	.5	.2	6.03	3.62
1292	78 E. Test Hole, 5 ft. left side of drift		.08	1.4	.8	1.2	.2	13.30	7.98
1293	78 E. Test Hole, 6 ft. right side of drift		.02	.4	.1	.5	.2	4.56	2.74
1294	94 E. Drift 4/13	8.5'	.03	5.8	1.0	1.2	.1	15.81	9.49
1295	105 E. Drift 4/14	8.5'	.02	2.3	.7	.9	.2	10.03	6.02
1296	115 E. Drift 4/15	8.5'	.01	.4	.2	.3	.1	3.11	1.87
1297	111 E. Test Hole, 10 ft. left side of drift		.02	.7	1.1	.3	.1	5.89	3.53
1298	111 E. Test Hole, 8 ft. right side of drift		.02	.6	.2	.3	.2	3.92	2.35

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

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DATE April 1954

Metal Prices $35. .90 12¢ 29¢ 9¢

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
1299	126 E. Drift 4/16/54	8.5'	.04	1.0	.5	.6	.2	$ 7.34	$ 4.40
1300	138 E. Drift 4/17/54	8.5'	.01	.8	.7	.6	.1	6.41	3.85
1433	148 E. Drift 4/19/54	8.5'	.02	.7	1.1	.4	.2	6.65	3.99
1434	146 E. Test Hole 7 feet left side		.02	.3	.6	.2	.1	3.75	2.25
1435	158 E. Drift 4/20/54	8.5'	.06	.2	.5	.2	.8	6.08	3.65
	165 E. Dia.Drill Hole # 291 40 ft Right Side								
540	0 to 10'		.01	.8	.4	.08	.1	2.67	1.60
541	10' to 15'		.03	3.0	1.1	.86	.6	12.46	7.48
1542	15' to 20'		.01	.5	.5	.08	–	2.46	1.48
543	20' to 30'		.01	.8	.6	.04	.2	3.10	1.86
1544	30' to 40'		Tr	.5	.3	.04	–	1.40	.84
1547	0 to 10' (cuttings from DDH)		.16	1.3	.4	.12	.1	8.61	5.17
1548	10' to 20' (cuttings from DDH)		.04	1.7	.7	.64	.3	8.86	5.32
	165 E. Dia.Drill Hole # 290 10 ft left side								
1538	0 to 10'		–	.1	.1	–	.2	.69	.41
1539	Cuttings, 0 to 10'		.01	.2	.1	–	1.4	3.29	1.97
	95 E Dia.Drill Hole # 292 22 ft Right side								
1545	0 to 10'		.01	.2	.1	.1	.4	2.07	1.24
1546	10' to 22'		.01	.1	.2	.1	.5	2.40	1.44
1549	0 to 10' (cuttings)		.01	.2	.1	.1	.2	2.23	1.34
550	10' to 22' (cuttings)		.03	.3	.3	.1	.6	3.70	2.22

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

DATE April 1954

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
			$35.	.90	12¢	29¢	9¢		
1436	167 E. Drift 4/23/54	8.5	.03	.7	1.6	.3	.3	7.80	4.68
1437	174 E. Drift 4/24/54	8.5	.12	.4	.2	.2	.4	6.92	4.15
1438	185 E. Drift 4/26/54	8.5	.02	.6	.1	-	.3	2.02	1.21
1439	196 E. Drift 4/27/54	8.5	.01	.1	.1	-	.2	1.04	.62
1440	208 E. Drift 4/28/54	9.0	.08	.3	.2	.15	.1	4.60	2.76
1441	204 E. Test Hole	8.0	Tr.	.1	.1	-	.1	.51	.31
1442	220 E. Drift 4/29/54	8.5	.01	.4	.1	.3	.7	3.95	2.37
1443	231 E. Drift 4/30/54	8.5	.01	.2	.2	.1	.1	1.77	1.06
1541	Dia. Drill Hole # 291 10' to 15'								
	Vanadium .05								
	Uranium .01								
	Molybdenum .08								
	Manganese 2.4								
1444	242 E. Drift 5/1/54	8.5	.04	.2	.5	.1	.2	3.72	2.23
1445	247 E. Drift 5/3/54	8.5	.02	1.0	1.3	.2	.3	6.42	3.85

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

DATE May 1954

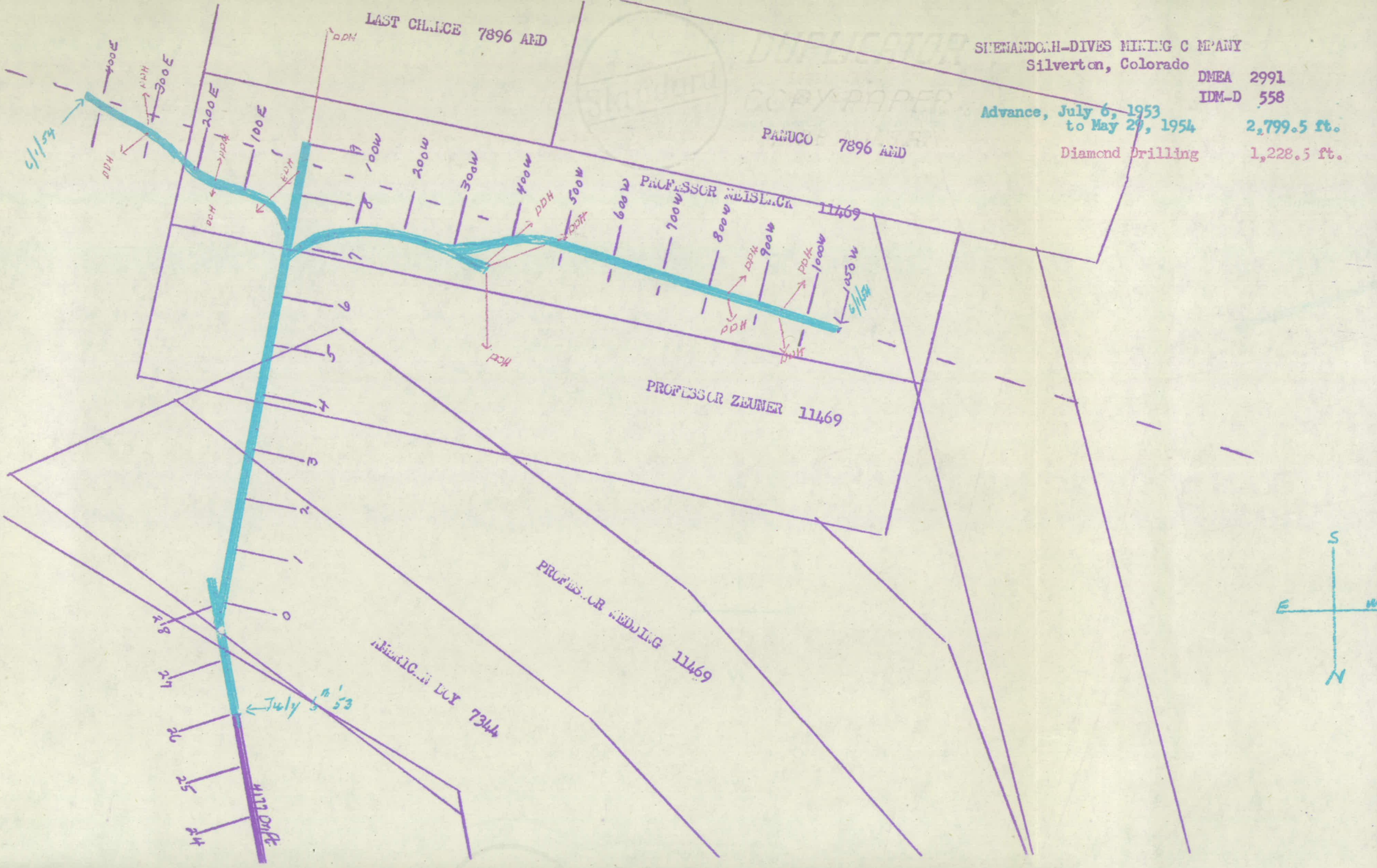
SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
			$35.	.90	12¢	29¢	9¢		
1446	259 E. Drift	8.5'	.07	.3	.3	.15	.7	5.57	3.34
1447	264 E. Test Hole 8 feet Footwall		Tr.	.1	.1	-	.15	.60	.36
1448	270 E. Drift	8.5'	.01	.1	.3	.15	.1	2.21	1.33
1451	280 E. Drift	8.5'	.01	.2	.2	.1	.2	1.95	1.17
1452	292 E. Drift	8.5'	.01	.1	.1	.1	.1	1.44	.86
1453	303 E. Drift	8.5'	.04	.1	.1	.1	-	2.31	1.39
1454	313 E. Drift	8.5'	Tr.	.1	.1	-	.1	.51	.31
	316 E. Dia. Drill Hole # 294								
1551	0 - 5 ft. Left Side		.01	.2	.1	.1	.1	1.53	.92
1552	5 - 10 ft. " "		.01	.4	.2	.6	.1	4.85	2.91
1553	10 - 15 ft. " "		.07	.2	.1	.3	.2	4.97	2.98
	(Dia.Drill samples average 11.3 Iron)								
1455	329 E. Drift	8.5'	.01	.2	.1	.1	.1	1.53	.92
1456	340 E. Drift	8.5'	.01	.2	.1	.15	.1	1.82	1.09
1457	350 E. Drift	8.5'	.01	.3	.1	.1	.1	1.62	.97
1458	360 E. Drift	8.5'	.02	.5	.1	.15	.1	2.44	1.46
1459	370 E. Drift	8.5'	.01	.3	.1	.20	.1	2.20	1.32
1460	381 E. Drift	8.5'	.01	.2	.1	.10	.1	1.53	.92

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

DATE May 1954

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
			$35.	.90	12¢	29¢	9¢		
1461	396 E. Drift	8.5	.01	.3	.1	.1	.1	$ 1.62	$ .97
1462	408 E. Drift	8.5	.01	.2	.1	.25	.1	2.40	1.44
1463	418 E. Drift	8.5	.01	.4	.1	.20	.6	3.19	1.91
1464	429 E. Drift	8.5	.01	.1	.1	.10	.1	1.53	.92
1465	440 E. Drift	8.5	.01	.4	.1	.20	-	2.11	1.27
1466	452 E. Drift	8.5	.01	.3	.1	.15	.1	1.91	1.15
1467	464 E. Drift	8.5	.01	.4	.2	.20	.1	2.53	1.52
1468	476 E. Drift	8.5	.01	.4	.1	.20	.1	2.29	1.37
1469	481 E. Drift	7.5	.01	.5	.1	.30	.2	3.14	1.88
1450	990 W. Drift .02 Uranium								
1449	167 E. Drift .02 Uranium								


SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado
DMEA 2991
IDM-D 558
Advance, July 6, 1953
to May 20, 1954 2,799.5 ft.
Diamond Drilling 1,228.5 ft.
LAST CHANCE 7896 AMD
PANUCO 7896 AMD
PROFESSOR MEISLACK 11469
PROFESSOR ZEUNER 11469
PROFESSOR WEDDING 11469
MERIC..N BOY 7344
6/1/54
July 5th '53
DDH
S
E
N

SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado

Letter "G" Crosscut and Drift.
June 16, 1953 to May 29, 1954

Total advance	2,988.5 ft.*
Diamond drilling	1,228.5 ft
Ore stockpiled	2,325 tons
Waste Removed	12,168 tons

* Government participation, D.M.E.A. Contract 2,799.5 feet

	Total	Cost/ft. Basis 2,988.5 ft.
Labor - Miners	$ 41,004.53	$ 13.72
Liability Insurance	2,362.63	.79
Payroll Tax	1,301.08	.44
Explosives	10,845.51	3.63
Electric Caps	3,700.84	1.24
Track & Ditch	6,533.111	2.19
Air, Water & Vent. Lines	7,456.24	2.49
Electric Power	18,924.21	6.33
Drill Steel	5,496.75	1.84
Sharpening	2,651.42	.89
Supervision - Supt.	9,000.00	3.01
- Shift Bosses	10,200.00	3.41
Clerk	4,200.00	1.41
M&R Compressor	1,722.73	.58
" Drills	2,622.70	.88
" Locomotives	1,741.05	.58
" Cars & Dumper	1,694.60	.57
" Elec Plant & Trolley	2,273.47	.76
" Edison Mine Lamps	1,719.09	.57
" Mucking Machine	1,865.82	.62
Engineering & Assaying	749.05	.25
Lubrication	142.39	.05
Tools	150.37	.05
Diamond Drilling	2,804.93	.94
Timbering	252.95	.08
Stockpiling ore at Mill	692.67	.23
Total	$ 142,108.14	$ 47.55
Government D.M.E.A. Contract 2991 2,799.5 feet @ 25.15	70,407.43	23.55
	$ 71,700.71	$ 24.00

Does not include Aerial tramway costs of transporting men, material and ore to mill stockpile (approx. $9,660.)
Depreciation of equipment is not included

25th Ave Customhouse
Denver 2, Colorado

October 17, 1955

Mr. Benjamin F. Stapleton, Jr.
c/o Ireland, Ireland, Stapleton and Fryer
Attorneys and Counselors at Law
620 Denver Club Building
Denver 2, Colorado

Re: Docket DMA 1552
(Lead, Zinc, Copper),
Contract IDm-1556

Dear Mr. Stapleton:

As provided in Article 5(b) of the contract form, DP-200(A), Exploration Project Contract IDm-1556, your company is obligated to prepare and submit five copies of a final engineering and geologic report covering all work completed under the project. Until we have received this report and clearance from the Contract Administration and Audit Division, we will continue to withhold the $300.00 which was deducted from your May, 1954, progress report and voucher.

Very truly yours,

G. W. Trevor

W. H. Trevor
Executive Officer, DMA
Field Team, Region III

WHTrevor/ WHT
cc: Chairman, Oper. Comm. (3)
Stapleton
Mann (2)
Personnel
Contr. File
Chron.

[illegible] New Customhouse
Denver 2, Colorado

October 17, 1955

Mr. Benjamin F. Stapleton, Jr.
c/o Ireland, Ireland, Stapleton and Pryor
Attorneys and Counselors at Law
400 Denver Club Building
Denver 2, Colorado

Re: Docket [illegible]
(Lead, Zinc, Copper),
Contract [illegible]

Dear Mr. Stapleton:

As provided in Article 5(b) of the contract form, MF-200(A), Exploration Project Contract [illegible], your company is obligated to prepare and submit five copies of a final engineering and geologic report covering all work completed under the project. Until we have received this report and clearance from the Contract Administration and Audit Division, we will continue to withhold the $300.00 which was deducted from your May, 1954, progress report and voucher.

Very truly yours,

for W. M. Trover
Executive Officer, [illegible]
Field Team, Region III

WLB:pel
cc: Chairman, Oper. Comm. (3)
Earnings
Chron (2)
Terminated
Contrac. file
Chron.

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

RECEIVED
OCT 1 1955

224 New Customhouse
Denver 2, Colorado

October 12, 1955

Memorandum

To: Chairman of the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 2991 (Lead, Zinc, Copper), Contract Idm-E558, Shenandoah-Dives Mining Company, Letter "G" vein, San Juan County, Colorado

Enclosed are the Government's, Division, and Docket copies of the Termination Agreement that have been signed by Benjamin F. Stapleton, Jr., President, Shenandoah-Dives Mining Company. Other copies have been distributed in the usual manner.

W. M. Traver

By J. W. Townsend
J. W. Townsend

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
SEP 26 1955

224 New Customhouse
Denver 2, Colorado

September 21, 1955

Memorandum

To: Chairman of the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 2991 (Lead-Zinc-Copper), Contract No. Idm-E558, Shenandoah-Dives Mining Company (Letter "G" Vein Project), San Juan County, Colorado

Returned herewith are all copies of an Amendment to the subject contract which were not executed by the contractor and accordingly should be voided. The owner's Consent to Lien forms which were attached were forwarded to the contractor for signature and not returned.

W. M. Traver

W. M. Traver

Enclosures to 500

RECEIVED
SEP 26 1955

DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

September 21, 1955

Mr. Benjamin W. Stapleton, Jr.
c/o Ireland, Ireland, Stapleton and Pryor
Attorneys and Counselors at Law
420 Denver Club Building
Denver 2, Colorado

Re: Docket No. DMEA 2991 (Lead-Zinc-Copper), Contract No. Idm-E558, Shenandoah-Dives Mining Company, (Letter "G" Vein Project), San Juan County, Colorado

Dear Mr. Stapleton:

This will confirm my delivery to you this morning of the Government's, Division, Docket, Finance Office, and Field Team's copies of a Termination Agreement covering the subject contract. These are for the consideration of your corporation's Board of Directors and their instructions to you regarding signature.

After all five forms are properly executed by your signature as President and the corporate seal affixed, please return them to me and the Operator's copy will be forwarded to you for attachment to your contract.

It is doubtful if, under the circumstances as you explained them to me, the Administrator would look with favor on another extension of the contract.

Very truly yours,

W. M. Traver
Executive Officer
DMEA Field Team
Region III

WMT:prl
cc: Shaw (2)
Harshman
Secretary, Oper. Comm. (2)
Townsend
Subj. Corres.
Chron.

File Copy
Surname
Transmit Selfridge

500

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

SEP 12 1955

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-2991 (Lead-Zinc-Copper)
Shenandoah-Dives Mining Company
Letter "C" Vein Project
San Juan County, Colorado
Contract No. Idm-E558

Dear Mr. Traver:

With reference to your memorandum of August 18, we are enclosing the original and five copies of an agreement for mutual termination of the cited contract.

If it meets with your approval, kindly present it to the attorney for the Operator for signature and, when completed, distribute the copies in the usual manner. Otherwise, all copies should be returned to us with your comments.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (GCS)

Enclosures

WRGriswold/bjl (9/7/55)

APPROVED:

P. F. Yopes (GCS)
Member, Bureau of Mines

/s/ M. E. Nelson (GCS)
Member, Geological Survey

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

R.C.G.

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

August 29, 1955

PRELIMINARY SUMMARY REPORT
SHENANDOAH-DIVES MINING COMPANY
DOCKET NO. DMEA-2991
CONTRACT NO. IDM-E558
SAN JUAN COUNTY, COLORADO

The cited project was covered by a short form contract dated June 26, 1953.

Agreed work units and costs were:

3,000 ft. drifting and crosscutting at $50.30	$150,900.00
500 ft. raising @ $122.00	61,000.00
Total	$211,900.00
Government's participation 50%	105,950.00

The general purpose of the project was to explore the "Letter G" vein of the Silver Lake Group, owned by the A.S. & R. Company.

Work actually completed consisted of 1,180 ft. of crosscutting and 1,619 ft. of drifting, at a total cost of $140,814.85. Results were generally disappointing; such mineralized vein as was encountered was mostly hopelessly submarginal.

The project was closed down near the end of May 1954, and has since been dormant in unauthorized recess. Attempts to secure execution of a recessing amendment have failed.

We are now advised by the field that the agreement by which the Shenandoah-Dives Mining Company held this property has been cancelled by the A.S. & R. Co. due to non-payment of taxes. Apparently nothing remains but to make a termination of the contract. This could be done by various methods - non-performance of work - unpromising results - or mutually.

Mr. Traver has suggested that we prepare a mutual termination agreement here and forward it to him. He will then call upon the attorney of the company and request signature.

W. R. Griswold

WRG/er
Copy to: Docket
Base Metals
Chron.

File Copy
Surname
Griswold

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

August 24, 1955

Memorandum

To: Acting Assistant Solicitor, Defense Minerals

From: Chief, Base Metals Division

Subject: Preparation of Mutual Termination Agreement, Docket No. DMEA-2991, Shenandoah-Dives Mining Company, Letter "C" Vein Project, San Juan County, Colorado, Contract No. Idm-E558, Lead-Zinc-Copper.

Will you kindly prepare a mutual termination agreement for the cited contract, providing:

A pseudo-certification.

The project has been in unauthorized recess since May 29, 1954.

W. R. Griswold

W. R. Griswold

WRG/er

Copy to: Docket
Base Metals
Chron.

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

August 24, 1955

Memorandum for the Files

From: Chief, Base Metals Division

Subject: Phone conversation about Docket No. DMEA-2991, Shenandoah-Dives Mining Company, San Juan County, Colorado, Contract No. Idm-E558, Lead-Zinc-Copper.

On this date the undersigned had a phone conversation with Mr. W. M. Traver, Region III, regarding the cited project. We explained to Mr. Traver that we hoped to be able to make a disposition of this contract, either by termination or recess, yet with a reasonable regard to the Operator's plans.

It was Mr. Traver's suggestion that we prepare and forward to him a Mutual Termination Agreement. He would then call upon Mr. Stapleton, attorney for the Operator, and request execution of such agreement.

W R Griswold

W. R. Griswold

WRG/er

Copy to: Docket
Base Metals
Chron.

File Copy
Surname

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

August 23, 1955

Memorandum

To: The Administrator

From: Chief, Base Metals Division

Subject: Docket No. DMEA-2991 (Lead-Zinc-Copper), Contract Idm-E558, Shenandoah-Dives Mining Company, San Juan County, Colorado

You may recall the cited case. The application came in shortly after the door was closed against lead-zinc a couple of years ago. You may recall that Senator Milliken took the matter up with O.D.M.

Project results were disappointing and work was stopped in mid 1954.

We were quite willing to recess and sent such an amendment to the field, but apparently the attorney for the Operator was unable to secure the necessary new owners consent to lien. Now we are advised by Mr. Traver that the agreement between A.S.&R. Co. (owners of the land) and the Operator has been cancelled.

It seems obvious that the contract must be terminated; however, when you have a moment I would like to discuss it with you.

W. R. Griswold

W. R. Griswold

WRG/er
Copy to: Docket
Base Metals
Chron.

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

Noted
CDM

August 19, 1955

Memorandum

To: The Files

From: George C. Selfridge
Special Assistant

Subject: Docket DMEA-2991, Contract Idm-E558 (Lead-Copper-Zinc), Shenandoah-Dives Mining Company, Letter "G" Vein Project, San Juan County, Colorado.

During a telephone conversation with Mr. Traver, I mentioned the status of the subject contract which has been in unauthorized recess for a considerable length of time. It was his opinion that the American Smelting and Refining Company would not sign a new Owner's Consent to Lien. The matter of a new mutual termination agreement containing a pseudo certification was discussed. He suggested that a termination agreement be drawn up and that he would make an attempt to get it signed by the operator.

George C. Selfridge.
George C. Selfridge

August 19, 1955

Memorandum

To: The Files

From: George C. Selfridge
Special Assistant

Subject: Docket [illegible]-2991, Contract Idm-[illegible] (Lead-Copper-Zinc), Shenandoah-Dives Mining Company, Letter "g" Vein Project, San Juan County, Colorado.

During a telephone conversation with Mr. Traver, I mentioned the status of the subject contract which has been in unauthorized recess for a considerable length of time. It was his opinion that the American Smelting and Refining Company would not sign a new Owner's Consent to Lease. The matter of a new mutual termination agreement containing a pseudo certification was discussed. He suggested that a termination agreement be drawn up and that he would make an attempt to get it signed by the operator.

George C. Selfridge

George C. Selfridge (GCS)

GCSelfridge/hb/fw

cc: Docket File
Admr. Read. File
Mr. Mittendorf
Mr. F. E. Johnson
Mr. Selfridge
Mr. Griswold

R.C.S.

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

224 New Customhouse
Denver, Colorado

August 18, 1955

Memorandum

To: Chairman of the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 2991 (Lead, Zinc,Copper), Contract Idm-E558, Shenandoah-Dives Mining Company, San Juan County, Colorado

This acknowledges your letter of August 5, 1955 in which you asked for information on the status of exploration project work under Contract Idm-E558. Undoubtedly, on the date of your letter you had not received the Field Team's memorandum of August 2, 1955, which described in some detail the "dead center" status of this project.

We have repeatedly tried to contact Ben W. Stapleton, Jr., President, by both letter and telephone, but he refuses to return telephone calls or reply to letters so that we have been unable to ascertain their intentions. We will continue our efforts and attempt to obtain consideration of a Termination by Agreement. However, we believe that a letter direct to Mr. Stapleton over the Administrator's signature might produce results more promptly. We recommend that your office prepare Termination by Agreement documents and send them direct to Stapleton for signature, or if you prefer, send them to me and I will make a personal call at his office in an attempt to obtain signature, his reasons for noncompliance, or suggestions he may have for other procedure.

W. M. Traver

W. M. Traver

File Copy
Surname
Griswold
Martin
Johnson
Matteucci

500

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

AUG 15 1955

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket No. DMEA-2991 (Lead-Zinc-Copper)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
San Juan County, Colorado
Contract No. Idm-2558

Dear Mr. Traver:

We have your memorandum of August 2, covering the cited contract, which had crossed our letter of August 5 in the mails.

It seems obvious that the contract must be terminated in one form or another. However, it would, of course, be better to effect a mutual termination, as we outlined, if such is possible. We shall take no action until we hear further from you.

Sincerely yours,

W. S. Martin

ACTING Chairman, Operating Committee (WB)

APPROVED:

/s/ Robert W. Geehan (WB)
Member, Bureau of Mines

Thor H. Kiilsgaard (WB)
Member, Geological Survey

WRGriswold/er 8/10/55

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

File Copy
Surname
Griswold
Johnson
Martin
Mitchenoff

500

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

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

AUG - 5 1955

Re: Docket No. DMEA-2991 (Lead-Zinc-Copper)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
San Juan County, Colorado
Contract No. Idm-2558

Dear Mr. Traver:

We presume you have had no satisfactory reply to your letter of June 16, to Mr. Benjamin W. Stapleton, Jr., referring to the Owner's Consent to Lien which applies to the cited contract.

Our records show that no work was done on this project since May of 1954. We do, of course, have projects in recess which have been idle for a longer period of time than this. However, in this particular case, we do not seem to be able to obtain execution of even a simple recessing amendment.

We appreciated the fact that this company was engaged in certain negotiations relative to their property and we had no desire to be arbitrary or intolerant in our attitude. Yet, we do find it difficult to carry this project, over a long period, in a nebulous condition -- neither active nor in recess.

Possibly the company now might be receptive to the idea of terminating the project by a mutual termination agreement. Such an agreement would, of course, protect the Government's interest by a clause providing for royalty payments to the Government if, later on, production should be made from the lands included in the contract.

It is our suggestion that you discuss such a settlement of the contract with the Operator or its attorney.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (GHB)

APPROVED:

/s/ Robert W. Gesheen (GHB)
Member, Bureau of Mines

/S/ M. E. Nelson (GHB)
Member, Geological Survey

WRGriswold/bjl (8/2/55)
Copy to: Docket (GHB)
Admr. R.File
Op. Committee
Base Metals
Mr. Johnson
Mr. Kiilsgaard
Mr. Bishop
Chron.
R.C.B.

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

224 New Customhouse
Denver 2, Colorado

RECEIVED
AUG - 8 1955

August 2, 1955

Memorandum

To: Chairman, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket DMEA-2991 (Lead-Copper-Zinc), Contract IDM-E558, Shenandoah-Dives Mining Company, San Juan County, Colorado

We have been unsuccessful in obtaining any response to telephone calls or letters to Benjamin W. Stapleton, Jr., president of the company which operated the subject contract with regard to your proposed amendment to allow a recess and extend the completion date of the contract.

Briefly, the status of the contract is as follows:

1. The project has been in unauthorized recess since May 29, 1955.

2. Shenandoah-Dives failed to pay taxes for 1952 voiding their operating contract with the American Smelting and Refining Company, and that agreement has been canceled. American Smelting and Refining Company owns the property, as you know, where the exploration was performed.

3. American Smelting and Refining Company presumably is not interested in taking over operation of the property and our contract for various reasons, among them the fact that they would have to renegotiate with Shenandoah-Dives in order to operate through their property; also, any operation they might undertake would be subject to unreasonable terms by the labor union. As a result, they feel they would be unable to operate profitably as the operation has been marginal, even under past efficient management.

4. Climax Molybdenum Company is apparently not interested in taking the operations over because they would have to renegotiate with both American Smelting and Refining Company and Shenandoah-Dives in any program they might undertake. They would also more than likely have a high cost union contract to face.

5. It is a logical assumption that Shenandoah-Dives has been unable or realizes that it is useless to attempt to obtain signatures on the Owner's Consent to Lien forms for attachment to your amendment.

Under the circumstances there appears to be no other alternative than to effect cancellation of the contract for failure to prosecute operations in accordance with Article 8(b) of the contract.

The Region III Field Team reluctantly recommends such action, unless the Operating Committee determines that the problem can be solved in some other manner.

Possibly you have in mind some other company such as the Newmont Mining Company that might consider looking at the possibilities of taking over the operations.

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

UNITED STATES
DEPARTMENT OF THE INTER[illegible]
DEFENSE MINERALS EXPLORATION ADMINISTR[illegible]
WASHINGTON 25, D. C.

RECEIVED
JUN 20 1955

224 New Customhouse
Denver 2, Colorado

[illegible] June 16, 1955

Mr. Benjamin W. Stapleton, Jr.
c/o Ireland, Ireland, Stapleton and Pryor
Attorneys and Counselors at Law
Denver Club Building
Denver 2, Colorado

Re: [illegible]A 2991 (Lead-Copper-Zinc)
[illegible] IDM-E558
[illegible]ah-Dives Mining Company
[illegible] County, Colorado

Dear Mr. Stapleton:

Attempts to contact you by [illegible] the past ten days at your office with reference to the captioned [illegible]act have been unsuccessful.

Our letter of March 24, 19[illegible]itted for your information a copy [illegible] amendment prepared by the [illegible]on DMEA office authorizing [illegible] for completion of work [illegible] were copies of Standard [illegible] by the American Smelting [illegible]

The action to initiate an exte[illegible] resulted from your request of February 17, 1[illegible] your company's best interest to keep the con[illegible]

Inasmuch as the expiration dat[illegible] contract, June 26, 19[illegible] is only about a week away, we will apprecia[illegible]pt of the executed Owner's Consent to Lien forms or informati[illegible] you as to when they may be expected. Except for these forms t[illegible]ent is in our hands signed by the Administrator ready for sub[illegible] to you for signature.

A prompt reply will be appr[illegible]

[illegible]y yours,
[illegible] TRAVER
[illegible]aver
[illegible]ve Officer, DMEA

[illegible]T:jp
cc Subject
Chron
Chairman, Oper. Comm. (2)
Harshman
Shaw
Townsend

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

MAR 28 1955

224 New Customhouse
Denver 2, Colorado

March 24, 1955

Mr. Benjamin W. Stapleton, Jr.
c/o Ireland, Ireland, Stapleton and Pryor
Attorneys and Counselors at Law
Denver Club Building
Denver 2, Colorado

Re: Docket DMEA 2991 (Lead-Copper-Zinc)
Contract IDM-E558
Shenandoah-Dives Mining Company
San Juan County, Colorado

Dear Mr. Stapleton:

In reference to matter discussed in your letter of February 17, 1955 and prior correspondence, we have received from the Washington office, DMEA, an amendment prepared to authorize a recess of operations and extend the period for completion of the project work. However, before releasing the amendment we have been instructed to obtain new Owner's Consent to Lien which is necessary in conjunction with extending the life of the contract and other provisions in the amendment relative thereto.

For your information and the purpose cited we are enclosing a copy of proposed Amendment No. 2 and the original and six copies of Form MF-203 Owner's Consent to Lien which are to be executed by the American Smelting and Refining Company. The original and five properly executed copies of Form MF-203 are to be returned to this office.

Upon receipt of the new Owner's Consent to Lien forms properly executed we will then forward the amendment to you for signature by an authorized official of the company.

Very truly yours,

W. M. Traver

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures
JWT:jp
cc Subject
Chron
Chairman, Op. Comm.
Harshman
Shaw
Townsend

File Copy
Surname
Griswold
Chamberlin
Selfridge
Edmunson
Whitenack

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

MAR 17 1955

Mr. W. H. Traver, Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-2991 (Lead-Zinc-Copper)
Shenandoah-Dives Mining Company
Letter "G" Vein Project
San Juan County, Colorado
Contract No. Idm-2558

Dear Mr. Traver:

Referring to your letter of February 23 covering the cited contract, we are enclosing the original and five copies of Amendment No. 2, which provide for the requested recess.

We call your attention to the enclosed memorandum from the Acting Assistant Solicitor, Defense Minerals, dated March 10. He points out the necessity for a new Owner's Consent to Lien, since we are extending the completion period beyond the ten year period. The new Owner's Consent to Lien forms are also enclosed.

If you approve the amendment please present it to the Operator for signature and, when completed, distribute the copies in the usual manner. However, if you are not in accord with the terms of the amendment and any proposed changes lie beyond the range of your delegated authority, all copies should be returned to us with your comments.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (JHB)

Enclosure

APPROVED:

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

Thor H. Kiilsgaard (JHB)
Member, Geological Survey

WRGriswold/er 3/14/55
Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

MAR 10 1955

Memorandum

To: The Administrator, DMEA
Attention: W. R. Griswold

From: Acting Assistant Solicitor, Defense Minerals

Subject: Docket No. DMEA-2991, Contract Idm-E558, Shenandoah-Dives Mining Company, San Juan County, Colorado, Lead, Zinc and Copper.

Pursuant to a memorandum dated March 3 from Mr. Griswold, we have prepared the attached Amendment No. 2. A new Owner's Consent to Lien should be acquired to cover the full period of royalty payment, on the latest form which is attached.

J. L. Horflund
Acting Assistant Solicitor,
Defense Minerals

Rubin

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SOLICITOR
WASHINGTON 25, D. C.

MAR 10 1955

Memorandum

To: The Administrator, DMEA
Attention: W. R. Griswold

From: Acting Assistant Solicitor, Defense Minerals

Subject: Docket No. DMEA-2991, Contract Idm-E558, Shenandoah-Dives Mining Company, San Juan County, Colorado, Lead, Zinc and Copper.

Pursuant to a memorandum dated March 3 from Mr. Griswold, we have prepared the attached Amendment No. 2. A new Owner's Consent to Lien should be acquired to cover the full period of royalty payment, on the latest form which is attached.

J. L. Hofflund

J. L. Hofflund
Acting Assistant Solicitor,
Defense Minerals

HCRubin:gjb 3/9/55

Copy to: DMEA Docket
Sol. Docket
J. L. Hofflund
H. C. Rubin
W. R. Griswold
Chron. File

File Copy
Surname

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

March 3, 1955

Memorandum

To: Acting Assistant Solicitor, Defense Minerals

From: Chief, Base Metals Division

Subject: Docket No. DMEA-2991, Contract Idm-X558, Shenandoah Dives Mining Co., San Juan County, Colorado, Lead, Zinc and Copper.

As requested by the Operator, will you kindly prepare a recessing amendment for the cited contract which will cover the period May 19, 1954 to June 26, 1955. Likewise, the completion period should be made 3 years, instead of two; also the repayment period should be made 12 years.

W. R. Griswold
W. R. Griswold

WRG/er

Copy to: Docket
Base Metals
Chron.

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

224 New Customhouse
Denver 2, Colorado

February 23, 1955

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 2991 (Lead-Zinc-Copper), Contract Idm-E558, Shenandoah Dives Mining Co., Letter G Vein, San Juan County, Colorado

In conjunction with matter discussed in our memorandum of February 11, 1955 and telephone call from W.R. Griswold of the Washington office February 15, we are enclosing the original and three copies of a letter dated February 17, 1955 from the operator requesting authorization of a recess of operations from May 29, 1954 until June 26, 1955.

The operator's letter is forwarded for your consideration and appropriate action.

W. M. Traver

Enclosures

CLARENCE L. IRELAND
GAIL L. IRELAND
BENJAMIN F. STAPLETON, JR.
WILBUR M. PRYOR, JR.
JOHN S. KELLOGG
WILLIAM B. NAUGLE

IRELAND, IRELAND, STAPLETON & PRYOR
ATTORNEYS AND COUNSELORS AT LAW
Denver Club Building
MIDLAND SAVINGS BUILDING
DENVER 2, COLORADO

DMEA
Date Rec'd.
FEB 18 1955
BUREAU OF MINES
Denver, Colorado

February 17, 1955

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region No. 4
224 New Customs House
Denver 2, Colorado

In Re: Docket DMEA 2991
(Lead, copper, zinc)
(Contract IDM-E558)

Dear Mr. Traver:

As you know, we have not applied to you for a formal recess agreement under Contract IDM-E558 because we have been actively negotiating for the operation of the property by the Climax Molybdenum Company. To date, we have not received word as to their disposition to our proposal.

However, so that the files in your office may be complete please take this letter as a request for recess of operations under Contract IDM-E558 for the period from May 29th, 1954, when we ceased operations at Silverton, until June 26th, 1955. We would appreciate hearing from you as to whether or not such a recess of operations has been approved.

As soon as we are able to tell you more definitely of the plans of the corporation, we will communicate with you again. It is our hope, of course, that operations can commence very soon after the spring thaws.

Yours very truly

SHENANDOAH-DIVES MINING COMPANY

By: Benjamin F. Stapleton, Jr.
PRESIDENT

BFS:mg

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

February 16, 1955

Memorandum for the File

From: Chief, Base Metals Division

Subject: Docket No. DMEA-2991, Shenandoah Dives Mining Co., Letter G Vein Project, San Juan County, Colorado, Contract No. Idm-E558, Lead-Zinc-Copper.

On this date we had a phone conversation with Mr. W. M. Traver, Executive Officer, Region III, regarding his memo of February 11, in which he requested that this office take certain action.

We explained to him that we felt he should first phone or talk with a representative of the operating company, in an informal manner, to learn of their intentions and suggest they formally request a recessing amendment.

W. R. Griswold

WRG/er

Copy to: Docket
Base Metals
Chron.

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

224 New Customhouse
Denver 2, Colorado

February 11, 1955

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 2991 (Lead-Zinc-Copper), Contract Idm-E558, Shenandoah Dives Mining Co., Letter G Vein Project, San Juan County, Colorado

Reference is made to your letter of December 22, 1954 to this office and our letter of December 30, 1954 to Mr. Benjamin F. Stapleton, a copy of which was forwarded to you, regarding matters relative to the unauthorized recess of operations.

To date we have not received a reply to our letter of December 30, therefore we recommend that such action as is indicated be initiated by your office.

W. M. Traver

W. M. Traver

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

224 New Customhouse
Denver 2, Colorado

December 30, 1954

Mr. Benjamin F. Stapleton, Jr.
Shenandoah Dives Mining Co.
c/o Ireland, Ireland, Stapleton & Pryor
Attorneys and Counselors at Law
Midland Savings Building
Denver 2, Colorado

Re: Docket DMEA 2991
(Lead-Copper-Zinc)
Contract Idm-E558

Dear Mr. Stapleton:

Reference is made to your letter of December 16, 1954 and prior correspondence relative to the status of work under the referenced contract.

The Defense Minerals Exploration Administration tries at all times to be sympathetic to the problems of the mining industry. However, DMEA contracts cannot be approved for continuance in a vague and nebulous state, neither active nor recessed by formal agreement between the parties concerned.

It is believed to be in the best interests of Shenandoah Dives Mining Company to maintain the contract in good standing, which can be done by your requesting approval of a recess of operations for such time as is deemed necessary to resolve matters which you state are in the process of negotiation.

It is not necessary for you to divulge the confidential nature of such negotiations in order to justify your request for approval of a recess of operations.

We trust that we will hear from you at an early date.

JWT:jp
cc Subject
Chron
Harshman) w/copy Chairman's
Traver) letter 12/22/54
Townsend
Chairman, Op. Comm. ✓

Very truly yours,

W H King

W. H. King
Executive Officer, DMEA
Field Team, Region IV

File Copy
Surname
Griswold
Selfridge
Johnson
Mitkendorf

500

DEC 22 1954

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "C" Vein Project
San Juan County, Colorado
Contract No. Idm-8558

Dear Mr. King:

We have your letter of December 17, regarding the cited contract, and also copies of a letter dated December 16 from the Operator's attorneys.

We are not clear as to why the attorneys request contract continuance without a formal recess agreement. Possibly, they feel that such an agreement would involve a lengthy and complicated process, whereas it is actually only a matter of simple routine.

Will you please explain to them that at all times we try to be sympathetic to the various problems of the industry and that we are quite willing to grant a recessing amendment, especially since it is our understanding that the property is being maintained in good "stand-by" condition. However, we do dislike to have contracts in a vague and nebulous state, neither active nor in recess. In fact, we do not feel that we possess the authority to give approval to such a status. Hence, it is emphatically to the Operator's own best interest to reinstate his contract via an amendment.

Please explain that we have no desire to force the Operator to reveal details of confidential business negotiations still pending. If they will merely advise us as to a date when they feel operations probably could be resumed, we shall prepare the necessary amendment here.

WRGriswold/bjl (12/21/54)

Sincerely yours,

George C. Selfridge (JHB)
Chairman, Operating Committee

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

APPROVED:

C. H. JOHNSON
Member, Bureau of Mines (JHB)

Thor H. Kiilsgaard
Member, Geological Survey (JHB)

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

224 New Customhouse
Denver 2, Colorado

December 17, 1954

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2991 (Lead-Copper-Zinc), Contract IDM-E558, Shenandoah Dives Mining Company, San Juan County, Colorado

In conjunction with matter discussed in your letter of October 14, 1954 and other communications in the matter, we are enclosing for your information and such action as you deem appropriate the original and three copies of a letter dated December 16, 1954 from Benjamin F. Stapleton, Jr., wherein he advises of certain negotiations which are in process which may enable resumption of work under the subject contract. Also enclosed is a copy of our letter of December 17 acknowledging receipt of Stapleton's letter of December 16.

Please advise as to how we should proceed in the matter.

W. H. King

W. H. King

Encls.

224 New Customhouse
Denver 2, Colorado

December 17, 1954

Mr. Benjamin F. Stapleton, Jr.
Ireland, Ireland, Stapleton and Pryor
Attorneys and Counselors at Law
Midland Savings Building
Denver 2, Colorado

Re: Docket DMEA 2991 (Lead-Copper-Zinc), Contract IDM-E558, Shenandoah Dives Mining Co., San Juan County, Colorado

Dear Mr. Stapleton:

Receipt is acknowledged of your letter of December 16 wherein you advise as to negotiations now in progress which if consummated would permit resumption of operations under the referenced contract.

Your letter has been forwarded to the Washington office, DMEA, for their information and consideration and such action as they deem appropriate, on which you will hear either direct from the Washington office or from this office.

Very truly yours,

W. H. KING

W. H. King
Executive Officer, DMEA
Field Team, Region IV

JWT:jp
cc Subject
Chron
Traver
Harshman
Chairman, Op. Comm.
Townsend

CLARENCE L. IRELAND
GAIL L. IRELAND
BENJAMIN F. STAPLETON, JR.
WILBUR M. PRYOR, JR.
JOHN S. KELLOGG
WILLIAM B. NAUGLE

IRELAND, IRELAND, STAPLETON & PRYOR
ATTORNEYS AND COUNSELORS AT LAW
MIDLAND SAVINGS BUILDING
DENVER 2, COLORADO

Mining Division
Date Rec'd.
DEC 17 1954
BUREAU OF MINES
Denver, Colorado

December 16, 1954

Defense Minerals Exploration Administration
224 New Custom House
Denver 2, Colorado

ATTENTION: Mr. King, Executive Officer
Region No. 4

In Re: Docket DMEA 2991
Contract IDM-E 558

Gentlemen:

The Shenandoah-Dives Mining Company with its principal mine at Silverton, Colorado, as you know, suspended operations under the above-entitled contract. This suspension came at the close of business during the last week in May, 1954.

Since that time the Company has been negotiating actively for additional financing or other means to again commence operations at Silverton.

So that you may be continually advised as to our situation we have today submitted to one of the large mining organizations a proposal for the exploration and development work at the mine, with an option for this mining company to purchase the property. I am sorry at this stage in the negotiations that I cannot disclose the name of the company with whom we are dealing. However, they have given every indication that such a proposal would be given sympathetic understanding and consideration, and it is my feeling that there is a good possibility of negotiations being satisfactorily terminated in the early part of 1955. However, until such negotiations are complete we will not be in a position to reopen our operations at the Silverton mine. We will keep you advised of the progress of our negotiations in the hope that we may have your cooperation in the event a satisfactory arrangement is made for the development and possible sale of the mine.

We trust that, under the circumstances, this project can be allowed to continue without a formal recess agreement until the present negotiations are satisfactorily concluded, at which time it is anticipated that active operations will commence.

Yours very truly,

IRELAND, IRELAND, STAPLETON & PRYOR

BY: Bryan F. Stapleton

BFS:mg

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 8 - 1954

224 New Customhouse
Denver 2, Colorado

November 5, 1954

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2991 (Lead-Copper-Zinc), Contract Idm-E558
Shenandoah Dives Mining Company, San Juan County, Colorado

In conjunction with matter discussed in your letter of October 14, 1954, and in reply to our letter to the Resident Manager of the company dated October 21, 1954 we are enclosing a copy of a letter dated November 4, 1954 from an official of the company, in reply to our letter of October 21.

John F. Shaw
For W. H. King

Enclosure

CLARENCE L. IRELAND
GAIL L. IRELAND
BENJAMIN F. STAPLETON, JR.
WILBUR N. PRYOR, JR.
JOHN B. KELLOGG
WILLIAM B. NAUGLE

IRELAND, IRELAND, STAPLETON & PRYOR
ATTORNEYS AND COUNSELORS AT LAW
MIDLAND SAVINGS BUILDING
DENVER 2, COLORADO

RECEIVED
Mining Division
Date Rec'd
NOV 5 - 1954
BUREAU OF MINES
Denver, Colorado

November 4, 1954

Mr. W. W. King, Executive Officer
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Re: Docket DMEA 2991
(Lead-Copper-Zinc)
Contract [illegible]

Dear Mr. King:

This will acknowledge receipt of your letter of October 21st, 1954. I have communicated your request to the Directors of the Sharandoah-Dives Mining Company, and will hear from them shortly. As soon as I do, I will call you up for an appointment to discuss the matter with you.

Yours very truly,

IRELAND, IRELAND, STAPLETON & PRYOR

By: Benjamin F. Stapleton Jr.

BFS:[illegible]

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

224 New Customhouse
Denver 2, Colorado

October 21, 1954

Mr. Edwin A. Larsen
Resident Manager
Shenandoah Dives Mining Co.
Silverton, Colorado

Re: Docket DMEA 2991
(Lead-Copper-Zinc)
Contract IDM-E558

Dear Mr. Larsen:

Reference is made to your letter of September 27, 1954 and prior correspondence relative to suspension of operations under Contract Idm-E558.

The Government cannot permit this project to continue in an indefinite status without a formal recess agreement. In order to prepare the formal recess agreement it is necessary that a definite period for which operations are to be recessed be established. Therefore, please advise this office at your earliest convenience as to the date on or before which you contemplate operations under the terms of the contract will be resumed.

Very truly yours,

W H King

W. H. King
Executive Officer, DMEA
Field Team, Region IV

JWT: jp
cc Subject
Chron
Chairman, Op. Comm.
Traver) w/copy Chairman's
Koschmann) letter 10-14-54
Townsend

File Copy
Surname
Griswold
Selfridge
Johnson
McHendorf

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

OCT 14 1954

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA 2991 (Lead-Copper-Zinc)
Shenandoah-Dives Mining Company
Letter "Q" Vein Project
San Juan County, Colorado
Contract No. Idm-E558

Dear Mr. King:

We have your letter of October 1 regarding the cited contract, together with copies of the Operator's letter of September 27.

We cannot permit this project to continue in an indefinite status, without a formal recess, and yet we cannot prepare a recessing amendment here without having some idea of the Operator's plans. Therefore will you please write this company, advising them that they should submit a specific request to you.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (2-6)

WRGriswold/er 10/12/54

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

APPROVED:

J. H. Hedges

Member, Bureau of Mines (2-6)

Thor H. Kiilsgaard

Member, Geological Survey (2-6)

R

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

224 New Customhouse
Denver 2, Colorado

October 1, 1954

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2991 (Lead-Copper-Zinc), Contract Idm-E558, Shenandoah Dives Mining Co., San Juan County, Colorado

Enclosed are the original and four copies of a letter dated September 27, 1954 from E. A. Larsen, Resident Manager, Shenandoah Dives Mining Company, which is in reply to our inquiry of September 21 relative to the operator's plans for resuming work under the contract.

It appears that an amendment should be prepared authorizing the recess of operations, however the matter is forwarded for your consideration and appropriate action.

W. H. King

Enclosures

SHENANDOAH-DIVES MINING COMPANY

SILVERTON, COLORADO

[redacted]
E. B. KANE, SECRETARY-TREASURER
616 FINANCE BUILDING
KANSAS CITY 6, MISSOURI

RECEIVED
OCT - 4 1954

[redacted]
EDWIN A. LARSON
[redacted]
RESIDENT MANAGER

Sept. 27, 1954

Mining Division
Date Rec'd.
SEP 30 1954
BUREAU OF MINES
Denver, Colorado

Mr. W. H. King, Executive Officer,
Defense Minerals Exploration Administration
Field Team, Region IV
224 New Custom House,
Denver 2, Colorado

Re: Docket DMEA 2991 (Lead-Copper-Zinc)
Contract IDM-E558

Dear Sir:

Your letter of Sept. 21st to Mr. Stapleton was forwarded to this office for reply.

Mine operations were suspended on May 29th. Since that time Mine equipment and facilities have been on a standby basis, as it was not anticipated that the work would be recessed for any great length of time. However, if work is not resumed by Nov. 1st (approx) we will be forced to continue suspension for the duration of the winter months.

I will keep you advised.

Very truly yours,

SHENANDOAH-DIVES MINING CO.

E. A. Larson, Res. Mgr.

EAL:L
cc: BFS
K.C.Office

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

Defense Minerals Administration
RECEIVED
SEP 24 1954

224 New Customhouse
Denver 2, Colorado

September 21, 1954

Mr. Benjamin F. Stapleton, Jr.
c/o Ireland, Ireland, Stapleton & Pryor
Attorneys and Counselors at Law
Midland Savings Building
Denver 2, Colorado

Re: Docket DMEA 2991 (Lead-Copper-Zinc)
Contract IDM-E558
Shenandoah Dives Mining Company
San Juan County, Colorado

Dear Mr. Stapleton:

The records in this office indicate that work under Contract IDM-E558 has been suspended since May 1954.

We will appreciate advice at your earliest convenience as to your intentions relative to resuming work under the contract.

If work operations are to be recessed for some time it appears that you should request authorization from the Government for the recess of operations, stating the date operations were suspended and the date on or before which they will be resumed.

Very truly yours,

W H King

W. H. King
Executive Officer, DMEA
Field Team, Region IV

JWT:jp
cc Subject
Chron
Chairman, Oper. Comm.
WMTraver
AHKoschmann
JWTownsend

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

224 New Customhouse
Denver 2, Colorado

April 23, 1954

Memorandum

To: C. O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2991 (Lead-Zinc-Copper), Contract IDM-E558, Shenandoah-Dives Mining Company, San Juan County, Colorado

Enclosed are the original and two copies of Amendment No. 1 to Contract IDM-E558 which has been prepared and executed in conformance with advice contained in a teletype from the Chairman of the Operating Committee dated April 14, 1954 to modify the description of drifting to be performed on the letter "G" vein. Also enclosed are three sets of data relevant to the amendment.

Copies of this amendment have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

W H King
W. H. King

Enclosures

RECEIVED
JUN 3 - 1954
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
April 15, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 2991, contract Idm-E558 (Lead-zinc-copper), Shenandoah-Dives Mining Company (Silver Lake group - Letter "G" vein), San Juan County, Colorado - Request for amendment

Enclosed are the original and seven copies of W. L. Dare's memorandum covering the above amendment request recommending approval.

Under the circumstances, the recommendation has my approval. However, I am of the opinion that the amount of footage allowed for drifting east should be left to the discretion of the Region IV Field Team and not be continued to the limit of all drifting remaining to complete unless the ore encountered in the one drill hole proves to have continuity in that direction.

Also, I believe the recommendations of the Survey geologist, who is certainly more conversant than anyone with conditions in the general area and the Shenandoah-Dives property in particular, should not be overlooked. Before contract funds are exhausted, a sufficient sum should be assigned to test by drill hole his theory of a possible offset of the Letter "G" beyond the present face of the west drift.

F. D. Everett

F. D. Everett, for
W. M. Traver

enclosures

cc 7
E558
DMEA Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
April 14, 1954

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: W. L. Bare

Subject: DMEA 2991, contract Idm-E558 (Lead-zinc-copper), Shenandoah-Dives Mining Company (Silver Lake group - Letter "G" vein), San Juan County, Colorado - Request for amendment

Benjamin F. Stapleton, Jr., Director, and Edwin A. Larson, Resident Manager, Shenandoah-Dives Mining Company, in a letter to J. H. East, Jr., Regional Director, Region IV, dated March 31, 1954, requested an amendment to contract Idm-E558, to permit revision of the original work program.

This requested revision proposed that remaining contract drifting be completed along the Letter "G" vein east of the main crosscut rather than continuing west as originally planned. The operator's reasoning for ceasing work in the west heading is primarily because of the poor mineralization exposed in 273 feet of drifting completed in March 1954, contending that no indications exist that warrant additional drifting in the westerly direction. The proposed drifting east from the crosscut is based entirely upon the results of a horizontal diamond drill hole drilled from the crosscut in January 1954. The hole encountered 8 feet of vein material approximately 60 feet east of the crosscut that assayed 0.03 ounce gold, 2.9 ounces silver per ton, 4.6 percent lead, 0.5 percent zinc, and 0.20 percent copper.

The fact that ore does not exist at this depth along the Letter "G" vein system westerly in the area yet to be explored has not been proven. David J. Varnes, Geological Survey, who has conducted geological research in the area, was consulted and reported that the major fault planes of the Titusville or Letter "G" fault have shown the characteristic of irregular left-hand offsets along its strike. Varnes suggested drilling a long diamond drill hole southwest from the present west drift face to explore for a mineralized offset. A barren relatively strong fracture exists in the present breast; however, it does not eliminate the possibility of a mineralized offset further west and south in an area that has not been explored by diamond drilling to date.

The main problem appears to be one of economics. From information gained from Larson, the company directors, advised of the discouraging results of drifting completed in March, are in doubt as to the financial justification of continuing the project in operation, if the drifting is to be continued to the west.

The drifting east will commence in good ore as indicated by the one drill hole and will be in relatively virgin ground. For approximately 420 feet of drifting there will be 1,200 feet of back above the drift and for the next 650 feet there will be 1,300 feet of back.

Before the current metal price decline, the Shenandoah-Dives mining and milling operations had not only been the mainstay of the town of Silverton but had provided custom milling necessary to keep other smaller mines in the area operating.

Considering the future consequences of complete shutdown and also the fact that drifting east will start in ore and continue in ground with a reasonably good ore potential, the requested amendment is recommended for approval.

W. L. Dare
Mining Engineer

cc 7
E558
DMEA Chron.

WMF/pam

April 13, 1954

Memorandum

To: A. H. Koschmann AHK

From: D. J. Varnes

Subject: BMEA Docket 2991 (lead-copper-zinc), Contract 1dm-E558, Shenandoah Dives Mining Company, San Juan County, Colorado. Proposal to drift east in lieu of performing balance of drifting to the west on the Letter "G" vein

I have no direct information regarding the Letter "G" vein in this vicinity, from either surface outcrop or from underground workings. This is within the area mapped by Mr. Burbank. The request to drift east appears reasonable in view of the disappointing showing to the west, and I know of no geologic reasons to believe that the eastern area would be less favorable than the western area. At this depth, the vein is, you might say, an unknown quantity for considerable distances east and west of the crosscut.

The maps accompanying the request indicate that there are two en echelon parts to the Letter "G." The arrangement of these veins is entirely in keeping with present ideas on the origin of the fissure, i. e., it is a right-handed shear zone. The Shenandoah-Dives vein zone also has such en echelon veins. If the vein to the east dies out, I would recommend putting in a diamond drill hole pointed ahead and to the left at about 45° to the trend of the drift. In fact, if the present west heading shows no vein structure, I would recommend that a hole be put in pointing ahead and to the left.

IRELAND, IRELAND, STAPLETON & PRYOR
ATTORNEYS AND COUNSELORS AT LAW
MIDLAND SAVINGS BUILDING
DENVER 2, COLORADO

CLARENCE L. IRELAND
GAIL L. IRELAND
BENJAMIN F. STAPLETON, JR.
WILBUR M. PRYOR, JR.
JOHN S. KELLOGG
WILLIAM B. NAUGLE

March 31, 1954

Bureau of Mines
New Customhouse
Denver, Colorado

Attention: Mr. East, Regional Director

IN RE: DMEA 2991
IDM-E 558
Shenandoah-Dives Mining Company, Silverton, Colorado

Gentlemen:

This letter is written by the undersigned, Benjamin F. Stapleton, Jr., as a Director of the Shenandoah-Dives Mining Company, and Mr. E. A. Larson, as the Resident Manager at Silverton, and is written pursuant to a resolution of the Board of Directors of the company at a meeting of the Board.

In reference to the exploration project contract set forth above at the Shenandoah-Dives mining properties, Silverton, Colorado, this letter will serve as a request for a change order under said contract as will be more fully set forth in this letter.

We are enclosing herewith copy of a progress map of the project as of March 31, 1954.

You will recall that under the project we had been drifting to the west from the cross cut on the Letter "O" Vein during the month of March. Drifting to the west was continued for a length of 273 feet. The drifting during March resulted in no commercial grades of ore suitable for mining. There were no indications during the March drifting of any better prospects further to the west.

You will recall in our report to Mr. W. M. Trever, Chief of the Mineral Resources Branch, Mining Division, Bureau of Mines, dated January 16, 1954, a copy of which report is in your hands, that we diamond drilled a hole referred to as No. 4 to the east of the cross cut, which resulted in crossing a vein of ore 60 feet east of the cross cut which assayed with a net smelter return of $11.63.

In view of the unfavorable showings during the month of March in the drifting to the west and in further consideration of the most favorable diamond drilled Hole No. 4 showing ore to the east, it is requested that as of March 31, 1954, the contract for exploration under which the company is now working, be changed and amended to provide for drifting the remainder of the contracted feet, namely 489.5 feet, to the east along the vein indicated by diamond drilled Hole No. 4.

We feel that a change order in the contract allowing for drifting to the east will prove beneficial not only to the company but to the Government as well. So that working continue as rapidly as possible, we would appreciate it if you would do whatever is possible to expedite this change order so that drifting operations may be commenced to the east as of April 1, 1954.

Yours very truly,

Benjamin F. Stapleton, Jr.
Director

W. A. Larson
Resident Manager

BFS:lm

P.S. Enclosed herewith are nine (9) photostat copies of a portion of the map "Figure 4" referred to in Exhibit "A" and attached to the contract, which shows the work completed to date, and the proposed change in the work outline.

File Copy
Surname

Griswold
Hedges
Jarvalze
Selfridge
Kilmurray
Mathewson

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

APR 14 1954

T E L E T Y P E

WRGriswold/bjl, Rm. 4058, Ext. 3669

Base Metals Div., DMEA, Interior

14X4401(01) Revolving Fund, Defense Production Act, Interior (Allocated Working Fund to Office of Secy)

Date:

To: W. H. King, Executive Officer, DMEA Field Team, Region IV, Denver, Colorado

Reurtt April 7, Docket DMEA 2991, Shenandoah-Dives Mining Company, Contract Idm-E558. You may prepare amendment as you recommend. We suggest that drifting be allowed without specifying whether to be done easterly or westerly. Referring to question of raise, we would probably not be inclined to grant large increase of funds which apparently would be necessary to drive a very much longer raise in the easterly area. We advise no action regarding raise at this time.

George C. Selfridge
Chairman, Operating Committee (245)

Written 4/14/154

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

SENT
APR 14 1954
Clerical Service Section

File Copy
Surname

500

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

N.S. in R.R.

April 12, 1954

Memorandum for the Files

From: W. R. Griswold, Chief, Base Metals Division

Subject: Docket No. DMEA 2991, Shenandoah-Dives Mining Company, Contract No. Idm-E558

A phone conversation was held with Mr. W. H. King relative to his teletype of April 7, referring to the subject contract.

Mr. King explained that drifting westerly on the letter G vein during the past month had shown poor results and that he therefore advised that this Operator be allowed to drift in an easterly direction to explore the letter G vein to see if ore could be encountered. We see no reason why such a request should be denied.

Mr. King also explained that the raise allowed under the contract would have to be located in a different location than originally proposed, probably at some increase in cost, since it would have to be longer than if done at the originally planned location. This matter will be taken care of at a later date.

W. R. Griswold

W. R. Griswold

Copy to:
Mails & Files
Base Metals
Chron.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 8 1954

Mr. C.O. Mittendorf
April 7, 1954
1:40 P.M.

DN 235 BUREAU MINES 4-7-54 11-21 AM

C O MITTENDORF

REFERENCE DOCKET DMEA 2991, CONTRACT IDM-E558, SHENANDOAH-DIVES MINING COMPANY. CONDITIONS ENCOUNTERED IN DRIFTING TO WEST ON LETTER "G" VEIN DO NOT WARRANT COMPLETING WORK AS PRESENTYXXX PRESENTLY DESCRIBED IN CONTRACT. COMGANY REQUESTS AMENDMENT TO THE CONTRACT, EFFECTIVE APRIL 1,1954, TO PERMIT PERFORMANCE OF BALANCE OF DRIFTING, 689.5 FEET, TO THE EAST FROM THE CROSSCUT TO EXPLORE ORE DISCLOSDXXX DISCLOSED BY XXXXXX A COMPANY DRILL HOLE. COMPANY WILL SUBMIT REQUEST AT LATER DATE FOR RELOCATION OF PROPOSED RAISE WHICH WILL PROBABLY INVOLVE ADDITIONAL FOOTAGE AND FUNDS. THE CHANGE IN DIRECTION OF DRIFTING APPEARS TO BE TO THE INTEREST OF THE GOVERNMENT AND WE HAVE GIVEN ORAL APPROVAL TO PRECLUDE SUSPENSION OF OPRXXX OPERATIONS. PLEASE TELETYP AUTHORIZATION FOR US TO PREPARE AMENDMENT FOR CHANGE IN LOCATION OF BALANCE OF DRIFTING.

W H KING

Denver, Colo.

APR 7 2 07 PM '54
BUREAU OF MINES
MAIL ROOM
WASHINGTON, D. C.

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

224 New Customhouse
Denver 2, Colorado

October 15, 1953

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. DMEA 2991, Contract Idm-E558, Shenandoah-Dives Mining Company

Enclosed are certified copies of Location Certificate No. 9433, Lorraine Lode Mining Claim; Location Certificate No. 94333, American Girl Lode Mining Claim, and a copy of a map showing location of these claims.

John F. Shaw
For W. H. King

Enclosures

Filed for record the ..... day ..... A. D. 19..., at ..... o'clock ..... M. ..... RECORDER

Reception No. ..... By ..... DEPUTY.

STATE OF COLORADO,
County of San Juan } ss.

Know all Men by these Presents,

That American Smelting & Refining Company

the undersigned, has, this 23rd day of September 19 53, located and claimed, and by these presents do locate and claim, by right of discovery and location, in compliance with the Mining Acts of Congress, approved May 10, 1872, and all subsequent acts, and with local customs, laws and regulations 1500 linear feet and horizontal measurement on the Lorraine Lode, vein, ledge or deposit, along the vein thereof, with all its dips, angles and variations, as allowed by law, together with 300 feet on the North side, and 300 feet on the South side of the middle of said vein, at the surface, so far as can be determined from present developments; and all veins, lodes, ledges or deposits and surface ground within the lines of said claim, 650 feet running S 70° E. from center of discovery Cut and 850 feet running N 70° W from center of discovery Cut; said discovery being situated upon said lode, vein, ledge or deposit, and within the lines of said claim, in Animas Mining District, County of San Juan and State of Colorado, described by metes and bounds as follows, to-wit:

Beginning at corner No. 1

Starting from USLM Buckeye, proceeding on a bearing of N 77° W for a distance of 1230 feet to Cor. 1; thence on a bearing of N 70° W for a distance of 1500 feet to cor. 3; thence on a bearing of N 20° E. for a distance of 600 feet to Cor. 4; thence on a bearing of S. 70° E. for a distance of 1500 feet to Cor. 6; thence on a bearing of S. 20° W. for a distance of 600 feet to Cor. 1.

Said lode was discovered on the 6th day of July A. D. 19 53

ATTEST:

Date of location Sept. 8th 27 A. D. 19 53

Date of Certificate A. D. 19

Seal

Seal

Seal

Seal

Seal

Seal

No. 94332

Location Certificate

On the Lorraine Lode

Mining Claim of American Smelting

& Refining Company

in Animas Mining

District, San Juan County,
State of Colorado.

STATE OF COLORADO,
County of San Juan } **ss.**

I hereby certify that this Location Certificate was filed for record in my office at 10:10 o'clock A.M., Sept. 23rd 1953, and is duly recorded in Book 172 at Page 359.

(Signed) SYLVAI L. GAYLORD
RECORDER.

By SHARON MCHNEY
DEPUTY.

Fees, $ 1.00

WHEN RECORDED RETURN TO

Edwin A. Larson,

Silverton, Colo.

Out West Prtg. & Staty. Co., Colorado Springs, Colo. L1804

(compared) (indexed)

I hereby certify that this a duplicate of a location certificate of the Lorraine Lode filed for record in my office at 10:10 A.M., September 23, 1953, and duly recorded in Book 172, page 359.

Sylvai L. Gaylord
County Clerk & Recorder

Filed for record the ..... day ....., A. D. 19....., at ..... o'clock ..... M.

Reception No. ..... RECORDER.

STATE OF COLORADO,
County of San Juan } ss.

Know all Men by these Presents,

That American Smelting & Refining Company

the undersigned, ha..... ....., this 23rd day of Sept. 19 53, located and claimed, and by these presents do..... locate and claim, by right of discovery and location, in compliance with the Mining Acts of Congress, approved May 10, 1872, and all subsequent acts, and with local customs, laws and regulations 1000 linear feet and horizontal measurement on the American Girl Lode, vein, ledge or deposit, along the vein thereof, with all its dips, angles and variations, as allowed by law, together with 150 feet on the North East side, and 150 feet on the South West side of the middle of said vein, at the surface, so far as can be determined from present developments; and all veins, lodes, ledges or deposits and surface ground within the lines of said claim, 400 feet running S. 55° E. from center of discovery Cut and 600 feet running N. 55° W. from center of discovery Cut; said discovery Cut being situated upon said lode, vein, ledge or deposit, and within the lines of said claim, in Animas Mining District, County of San Juan and State of Colorado, described by metes and bounds as follows, to-wit:

Beginning at corner No. 1

Starting from USLM Buckeye, proceeding on a bearing of N. 36° E. for a distance of 835 feet to Cor. 1; thence on a bearing of N. 55° W. for a distance of 1000 feet to Cor. 3; thence on a bearing of N. 35° E. for a distance of 300 feet to Cor. 4; thence on a bearing of S.55° E. for a distance of 1000 feet to Cor. 6; thence on a bearing of S. 35° W. for a distance of 300 feet to Cor. 1.

Said lode was discovered on the 6th day of July A. D. 19 53

ATTEST:

Date of location ..... A. D. 19.....

Date of Certificate ..... A. D. 19.....

Seal

Seal

Seal

Seal

Seal

Seal

No. 94333

Location Certificate

On the American Girl Lode

Mining Claim of American Smelting & Refining Company

in Animas Mining

District, San Juan County,

State of Colorado.

STATE OF COLORADO,

County of San Juan } ss.

I hereby certify that this Location Certificate was filed for record in my office at 10.12 o'clock A. M., Sept. 23rd 1953, and is duly recorded in Book 172 at Page 360

(signed) SYLVIA L. GAYLORD
RECORDER.

By SHARON M. FREY
DEPUTY.

Fees, $ 1.00

WHEN RECORDED RETURN TO

Edwin J. Larson,

Silverton, Colo.

Out West Prtg. & Staty. Co., Colorado Springs, Colo. M1163

Compared, Checked

Duplicate of a location certificate of the American Girl, lode, and recorded in my office at 10:12 A.M., September 23, 1953, in Book 172, page 360.

Sylvia L. Gaylord
County Clerk and Recorder

913

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 30 1953

224 New Customhouse
Denver 2, Colorado

July 27, 1953

REGISTERED

Memorandum

To: C.O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Contract Idm-E558, Docket DMEA-2991, Shenandoah-Dives Mining Company, San Juan County, Colorado (Lead, Copper, Zinc)

Enclosed are the original and two copies of Contract Idm-E558. Copies of this contract have been given to the operator, the Fiscal Officer, Region IV, and a copy has been retained for our files.

W. H. King
W. H. King

Enclosures

cc
7-30

DMEA

N.S. in R.R.

RGriswold/bjl/hmj
3669 4058

July 24, 1953

Docket Selfridge

N. H. King, Executive Officer, DMEA Field Team, Region IV, Denver, Colorado

Reurlet July 22, Docket DMEA-2991, Contract Idm-E558, Shenandoah Dives Mining Company. Document submitted is considered to be satisfactory and contract may be released.if following added by you to AnnexxII of contract quote By instrument dated July 14, 1953, as amended Norman E. Maxwell owner of a one-third interest in the aforementioned American Boy claim granted the Operator a 15 year easement for a crosscut mining tunnel and tracks and the necessary right of ingress and egress end-quote. No contract amendment required.

Chairman, Operating Committee

COPY TO: Docket
Admr. R. File
Op. Committee
Base Metals (DMEA)
Mr. Bishop (USBM)
Mr. Kinkel (USGS)
Accounts
Chron.

SENT
JUL 24 1953
Clerical Service Section

R.C.J. 7-24-53

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 23 1953

224 New Customhouse
Denver 2, Colorado

July 22, 1953
AIR MAIL
SPECIAL DELIVERY

Memorandum

To: C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2991, Contract Idm-E558, Shenandoah-Dives Mining Company

Enclosed is a copy of an Easement and Agreement dated July 14, 1953, and one copy of Amendment to Easement and Agreement dated July 16, 1953, between Norman E. Maxwell and Shenandoah-Dives Mining Company, with respect to American Boy Mining Claim, Survey No. 7244, San Juan County, Colorado.

Please advise us by teletype if this document satisfies the requirements laid down in the letter dated July 16, 1953 from the Chairman of the Operating Committee and if we may release the contract to the operator.

Shenandoah-Dives has returned to us six copies of Owner's Consent to Lien, Form MF-203, properly executed by the American Smelting and Refining Company.

The Shenandoah-Dives Company agrees to accept the responsibility for royalty payments for the one-third interest in the American Boy Claim owned by Norman E. Maxwell. Please prepare an amendment to Contract Idm-E558, which will provide for this royalty payment.

W. H. King
W. H. King

Enclosures

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

Department of the Interior
Defense Minerals Administration
RECEIVED
JUL 23 1953

224 New Customhouse
Denver 2, Colorado

July 22, 1953
AIR MAIL
SPECIAL DELIVERY

Memorandum

To: C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2991, Contract Idm-E558, Shenandoah-Dives Mining Company

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Please advise us by teletype if this document satisfies the requirements laid down in the letter dated July 16, 1953 from the Chairman of the Operating Committee and if we may release the contract to the operator.

Shenandoah-Dives has returned to us six copies of Owner's Consent to Lien, Form MF-203, properly executed by the American Smelting and Refining Company.

The Shenandoah-Dives Company agrees to accept the responsibility for royalty payments for the one-third interest in the American Boy Claim owned by Norman E. Maxwell. Please prepare an amendment to Contract Idm-E558, which will provide for this royalty payment.

W. H. King
W. H. King

Enclosures
J. Field
Koschmann
sub
chron

Defense Minerals Administration
RECEIVED
JUL 2 0 1953

EASEMENT AND AGREEMENT

THIS CONTRACT AND AGREEMENT, made and entered into between NORMAN E. MAXWELL of Midland County, Texas, hereinafter called Maxwell, and SHENANDOAH-DIVES MINING COMPANY, a corporation having its principal office in Denver, Colorado, acting through its officers hereunto duly authorized, and hereinafter called Shenandoah,

W I T N E S S E T H:

1.

Maxwell hereby grants to Shenandoah the right, power and authority to construct and maintain, at the sole risk, cost and expense of Shenandoah, a crosscut mining tunnel and tracks through and across the American Boy Mining Claim, Survey No. 7244, San Juan County, Colorado, as an extension of the present drift of Shenandoah in the Melville Vein, which extension is to be constructed in an endeavor to explore what is known as the Letter G Vein; Maxwell grants to Shenandoah the right of ingress and egress through and across the American Boy Claim and through the proposed crosscut mining tunnel for all purposes incident to mining operations by Shenandoah upon claims owned or under lease by it covering the Letter G Vein and which are reached by access through the proposed crosscut mining tunnel; the easement and incidental rights here granted shall be for a term of 15 years and as long thereafter as mining operations are prosecuted by Shenandoah in the Letter G Vein necessitating the use of the mining tunnel mentioned above.

2.

Promptly following completion of the proposed mining tunnel across the American Boy Claim, Shenandoah agrees to furnish

Maxwell full information relative to any veins of mineral ore encountered in the driving and construction of the said tunnel and to furnish to Maxwell a map correctly reflecting the location, strike and dip of each such vein, together with a copy of all assays of ore taken from each such vein.

3.

If any mineral ore of commercial value is encountered and recovered in the driving and construction of the proposed tunnel, Shenandoah agrees to pay to Maxwell as a royalty on the said mineral ore, free of all cost and expense of mining and transportation to the mill, ten per cent (10%) of the gross market value of the said mineral ore as determined by sampling the ore at the head of the mill; by reason of the fact that the interest of Maxwell in the American Boy Claim is an undivided interest, Maxwell shall be entitled to receive that portion of the royalty above provided for as conforms to his undivided interest in the said claim. In addition to payment to Maxwell of the royalty specified above, Shenandoah agrees to pay such other royalties as have been heretofore reserved or created with respect to mineral production from the said American Boy Claim.

4.

If a vein of commercial ore is encountered on the American Boy Claim in the driving and construction of the proposed tunnel, it is agreed that the parties hereto shall enter into a joint operating agreement for the working and development of the vein or veins on the American Boy Claim, the terms and provisions of such agreement to be negotiated between the parties hereto promptly following any such discovery of commercial ore on the American Boy Claim. Development of any veins of commercial ore encountered on the American Boy Claim shall be commenced and prosecuted as promptly as is consistent with the primary objective

of Shenandoah in the construction of the proposed crosscut mining tunnel so that if reasonably possible, development on the American Boy Claim shall commence and proceed contemporaneously with the construction of the proposed mining tunnel; however, if the commitments of Shenandoah are such that the two operations may not be carried on simultaneously, then development of any commercial ore on the American Boy Claim shall be commenced within a reasonable time following the completion of Shenandoah's primary objective in driving a crosscut tunnel to the Letter G Vein.

5.

Shenandoah grants to Maxwell and his duly authorized representatives the right at all safe and reasonable times to enter through the workings of Shenandoah for the purpose of inspection of all operations of every character through, upon or affecting the American Boy Claim.

6.

The covenants and agreements hereinabove shown to be kept and performed by the parties hereto constitute full consideration for this contract, the terms and provisons of which shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, successors, assigns and legal representatives; however, the rights of Shenandoah under this easement and agreement shall not be transferred or assigned without the written consent of Maxwell.

WITNESS THE EXECUTION HEREOF this the 14th day of July, 1953.

Norman E. Maxwell

Norman E. Maxwell

SHENANDOAH-DIVES MINING COMPANY

By: William C Lucas
Vice President

ATTEST:

E. B. Kane
Secretary

THE STATE OF TEXAS |
COUNTY OF MIDLAND |

The foregoing instrument was acknowledged before me this 14th day of July, 1953, by NORMAN E. MAXWELL.

Witness my hand and official seal.

Jan Morrison
Notary Public, Midland County, Texas

My commission expires:
June 1, 1955

THE STATE OF MISSOURI
COUNTY OF JACKSON

The foregoing instrument was acknowledged before me this 21st day of July, 1953, by William C. Lucas Vice-President of SHENANDOAH-DIVES MINING COMPANY.

Witness my hand and official seal.

Gladys M. Ezell
Notary Public, Jackson County, ~~Colorado~~ Missouri

My commission expires:
September 24, 1956

Recorded
JUL 20 1953

AMENDMENT TO EASEMENT AND AGREEMENT

THIS AMENDMENT entered into between NORMAN E. MAXWELL, of Midland County, Texas, hereinafter called Maxwell, and SHENANDOAH-DIVES MINING COMPANY, a Colorado corporation, acting through its officers hereunto duly authorized, and hereinafter called Shenandoah,

W I T N E S S E T H :

1. That paragraph 3 of the Easement and Agreement between the parties dated July 14, 1953, is hereby superseded and amended to read as follows:

"3.

"(a) If any mineral or ore of commercial value, shall be encountered, recovered and saved in the driving and construction of the proposed tunnel, Shenandoah shall pay to Maxwell a royalty of 15% of one-third (1/3) of the net smelter returns on all crude ore sold to a smelter, and 10% of one-third (1/3) of the net smelter returns on all concentrates. Such net smelter returns to be calculated after deducting freight, hauling, and treatment charges.

"(b) All such ores shall be sold in the name of Shenandoah, and duplicate settlement sheets shall be forthwith furnished to Maxwell. Each settlement shall be accompanied by a duplicate of the smelter returns for each lot of such ore or concentrates sold to a smelter.

"(c) Shenandoah shall indemnify and hold Maxwell harmless from any claim for royalties on such ore asserted by any owner or owners of the remaining undivided two-thirds (2/3) or other interest in said American Boy claim."

2. Except as so amended, said Easement and Agreement of July 14, 1953, shall be and remain in full force and effect.

Executed this 16th day of July, 1953.

Norman E. Maxwell
Norman E. Maxwell

SHENANDOAH-DIVES MINING COMPANY

By William C. Lucas
Vice President

ATTEST:

E. B. Kane
Secretary

STATE OF TEXAS)
) ss.
County of Midland)

The foregoing instrument was acknowledged before me this 17th day of July, 1953, by NORMAN E. MAXWELL.

My commission expires: June 1, 1955

Witness my hand and official seal.

Geta Buchanan
Notary Public

STATE OF MISSOURI)
) ss.
County of Jackson)

The foregoing instrument was acknowledged before me this 21st day of July, 1953, by WILLIAM C. LUCAS, Vice President of Shenandoah-Dives Mining Company, a Colorado corporation.

My commission expires: September 26, 1956

Witness my hand and official seal.

Gladys M. Ellis
Notary Public

FILE COPY
SURNAME: [redacted]

Griswold
Ackane
Owlow
Selfridge
K Johnson
Mitterdorf

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

JUL 16 1953

Mr. W. H. King
Executive Officer
DMA Field Team, Region IV
Bureau of Mines
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket No. [illegible]-2991 (lead-zinc-copper)
Shenandoah-Dives Mining Co.
Silver Lake Mine
San Juan County, Colorado
Contract No. Adm-5556

Dear Mr. King:

Referring to your letter of July 3, 1953, regarding the above docket, we are not concerned over the matter of possible royalty payments from ores which may be encountered in the American Boy Claim. It is our understanding that this claim has little relationship to the target area and there is little likelihood that ores would be encountered therein. However, in such an event, it would be satisfactory that the American Smelting and Refining Company accept responsibility for the two-thirds interest which they own and the Shenandoah-Dives Company assume the responsibility for possible royalty payments for the other one-third interest, as you suggest.

Our main concern is the matter of right-of-way for the crosscut tunnel in its penetration through the American Boy Claim. It very well could be that an owner of a minority interest in this claim might be in a position to create a difficult situation. Therefore, we phoned you a few days ago that the Shenandoah-Dives Company would have to furnish us with good and sufficient proof that this right-of-way matter had been resolved.

WRGriswold/jh
7/13/53

cc. to: Docket
Adm. Reading File
Oper. Comm.
Base Metals
Chron.
Messrs. Bishop
Kinkel

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

MDA
7-16-53

APPROVED:

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

A. R. Kinkel, Jr.
Member, Geological Survey (JHB)

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 6 1953

224 New Customhouse
Denver 2, Colorado

July 3, 1953

SPECIAL DELIVERY

Memorandum

To: C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration

From: Executive Officer, DMEA Field Team, Region IV

Subject: Shenandoah-Dives Mining Company, Docket 2991, (Lead-Zinc)
Silverton, San Juan County, Colorado

Mr. Kentor, the local representative of the Shenandoah-Dives Mining Company, notified us today that the American Smelting and Refining Company refused to sign the Owner's Consent to Lien form prepared by the Washington office.

They objected to being responsible for 100 percent of the royalties from the American Boy claim, inasmuch as they only own a two-thirds interest in this claim.

We recommend that a new Owner's Consent to Lien form be prepared, which would only obligate the American Smelting and Refining Company for two-thirds of any royalty due the Government on the American Boy claim. The Shenandoah-Dives Mining Company is willing to assume the responsibility for payment to the Government of the other one-third of any royalty due on the claim.

We also recommend that the Owner's Consent to Lien on this one-third royalty be waived and the contract be amended to hold the Shenandoah-Dives Mining Company responsible for this royalty.

W. H. King

W. H. King

Grossvoll
Betty

Notation for Files:

June 5, 1953

Ed Keating, representing Senators Millikin and Johnson of Colorado, phoned to check on the status of the Shenandoah Dives application. I told him the Region had informed me by phone, last night, that the examination was completed and that their reports were in preparation. I cautioned Keating not to assume that the application would be approved as requested, because the mine was of a very marginal nature as a producer of strategic metals and I did not at this time know whether we would be able to justify the project under our regulations. He understood my position fully and agreed that he would avoid any inference of a promise to the applicant that his project would be approved. He requested that we advise him when final action is taken on the case. His extensions are 1512 and 1513.

C. O. Mittendorf (for)

June 26, 1953

Mr. Ed Keating was told by phone, at 1:20 p.m. today, that Mr. East was then on his way to the plane with the contracts signed by the Administrator; that they would be in Denver tonight; that they still have to be signed by the operator. (He saidMr. Mittendorf had told him the Subordination Agreements still have to be annexed.)

He asked for, and was told, the total amount of funds involved and the Government's contribution.

R. L. Webster

FILE COPY
SURNAME:

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

Mr. W. W. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

JUN 2 1953

Re: Docket No. DMEA 2991 (Lead-Copper-Zinc)
Shenandoah Dives Mining Co.
Silver Lake Mine
San Juan County, Colorado

Dear Mr. King:

Enclosed are the original and five copies of the subject contract, which has been prepared in accordance with your recommendations. If it meets with your approval will you kindly present it for signature and distribute in the usual manner.

Since the ground covered by the project is not owned by the Applicant, it must of course secure the Owner's Consent to Lien, which should be attached to the contract forms prior to distribution for signature. You will note that such Owner's Consent to Lien also contains a clause protecting the Government in the case of the American Boy Claim, number 7244, which is only two-thirds owned by the American Smelting & Refining Company. You will find these forms enclosed.

We call to your attention the statement in the report by Hazen and Varnes as follows:

> "Near the 1,400-foot point of the proposed drifting on the letter "C" vein, the work will progress onto "open" ground unless the old system of apex rights will hold valid at this time. Vertical side lines of claims would not cover the exploration drifting beyond the 1,400-foot point."

Until the above question is clarified the Government could not participate in the expense of work in such area.

Sincerely yours,

SIGNED
George C. Selfridge
Chairman, Operating Committee

Enclosures - 6
APPROVED:

J. H. Hedges
Member, Bureau of Mines

A. R. Kinkel, Jr.
Member, Geological Survey

WRGriswold/hmj (6/25/53
CC to: Docket
Adm. R. File
Op. Committee
Base Metals Div.
Mr. Kinkel
Mr. Bishop

FILE COPY
SURNAME:

UNITED STATES
DEPARTMENT OF THE INTERIOR 140
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

KANE
Parker

June 25, 1953

N.S. in R.v R.

Memorandum

To: The Administrator
Through: Mr. W. R. Griswold

From: Chief Counsel

Subject: Shenandoah-Dives Mining Company, Docket No. DMEA-2991 (Lead, Copper, Zinc)

There is attached, in satisfactory legal form for execution, a contract covering the above-described project, subject to the attachment of—

1. Annex II describing the property.
2. Owner's Consent to Lien.
3. Map (Fig. 4) referred to in Exhibit "A."

/s/ Albert E. Kane
J. L. Hofflund
for Chief Counsel

Attachments

AEKane:ep

Copy to: Mails & Files
Mr. Hofflund
Mr. Kane
Chron.

P. S. It appears that the American Smelting and Refining Company, which has leased the various claims to the Operator, owns only a two-thirds interest in the American Boy Claim No. 7344 through which passes the crosscut. Therefore, in the Owner's Consent to Lien we are providing that the American Smelting and Refining Company will hold the Government harmless from any loss which may occur by reason of its not owning the entire claim.

A.E.K.

WRGriswold/bjl
Copy to: Docket
Op. Committee
Base Metals
Chron.

June 25, 1953

Memorandum

To: The Administrator

From: Chief, Base Metals Division

Subject: Docket No. DMEA-2991, Shenandoah-Dives Mining Company, Silver Lake Mine, San Juan County, Colorado

The subject contract is for the sum of $211,900.00, and covers 3,000 feet of drifting and crosscutting and a 500-foot raise.

The size of drifts and crosscuts is 8-1/2 by 8-1/2 feet, which is necessary for various reasons. The electric locomotive trolley requires ample headroom, mine cars are large size (105 cu. ft.), large size vent pipe will be required, water ditches must be of ample size, etc., demanding adequate width. The crosscuts and drifts are allowed an agreed unit cost of $50.30 per foot, which amount has been well substantiated by the Applicant.

The 500-foot raise is given an agreed unit cost of $122.00 per foot. Such a price would be excessive for ordinary raises of usual length, but when raises are driven to such a height as this, costs are multiplied. This figure has also been well substantiated by the Applicant.

The general purpose of the project is to develop the letter "G" vein of the Silver Lake mine group. The property is owned by the American Smelting & Refining Co., and is leased under a 30-year agreement to the Applicant.

The project is considered to have excellent chances of opening up substantial tonnages of intermediate grade ore (lead-copper-zinc). Obviously, a forecast of possible ore grade would be difficult, but from past records of the veins of the immediate area we might reasonably expect something in the vicinity of 1.9 per cent lead, 0.45 per cent copper, and 2.0 per cent zinc, with auxilliary gold and silver. The project is well endorsed by all reviewers.

The Applicant company has a long record for efficient mine operation.

W. R. Griswold

W. R. Griswold

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

June 25, 1953

Memorandum

To: The Administrator

From: Chief, Base Metals Division

Subject: Docket No. DMEA-2991, Shenandoah-Dives Mining Company, Silver Lake Mine, San Juan County, Colorado

The subject contract is for the sum of $211,900.00, and covers 3,000 feet of drifting and crosscutting and a 500-foot raise.

The size of drifts and crosscuts is 8-1/2 by 8-1/2 feet, which is necessary for various reasons. The electric locomotive trolley requires ample headroom, mine cars are large size (105 cu. ft.), large size vent pipe will be required, water ditches must be of ample size, etc., demanding adequate width. The crosscuts and drifts are allowed an agreed unit cost of $50.30 per foot, which amount has been well substantiated by the Applicant.

The 500-foot raise is given an agreed unit cost of $122.00 per foot. Such a price would be excessive for ordinary raises of usual length, but when raises are driven to such a height as this, costs are multiplied. This figure has also been well substantiated by the Applicant.

The general purpose of the project is to develop the letter "G" vein of the Silver Lake mine group. The property is owned by the American Smelting & Refining Co., and is leased under a 30-year agreement to the Applicant.

The project is considered to have excellent chances of opening up substantial tonnages of intermediate grade ore (lead-copper-zinc). Obviously, a forecast of possible ore grade would be difficult, but from past records of the veins of the immediate area we might reasonably expect something in the vicinity of 1.9 per cent lead, 0.45 per cent copper, and 2.0 per cent zinc, with auxilliary gold and silver. The project is well endorsed by all reviewers.

The Applicant company has a long record for efficient mine operation.

W. R. Griswold

W. R. Griswold

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

140

June 25, 1953

Memorandum

To: The Administrator
Through: Mr. W. R. Griswold

From: Chief Counsel

Subject: Shenandoah-Dives Mining Company, Docket No. DMEA-2991 (Lead, Copper, Zinc)

There is attached, in satisfactory legal form for execution, a contract covering the above-described project, subject to the attachment of—

1. Annex II describing the property.
2. Owner's Consent to Lien.
3. Map (Fig. 4) referred to in Exhibit "A."

Albert E. Kane
for J. L. Hofflund
Chief Counsel

Attachments

P. S. It appears that the American Smelting and Refining Company, which has leased the various claims to the Operator, owns only a two-thirds interest in the American Boy Claim No. 7244 through which passes the crosscut. Therefore, in the Owner's Consent to Lien we are providing that the American Smelting and Refining Company will hold the Government harmless from any loss which may occur by reason of its not owning the entire claim.

A.E.K.
A.E.K.

FILE COPY
SURNAME:

500

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

June 24, 1953

Memorandum

To: Chief Counsel

From: Chief, Base Metals Division

Subject: Short form, agreed unit cost contract for Docket No. DMEA-2991, Shenandoah-Dives Mining Co., incorporated in the State of Colorado, Letter "G" vein, San Juan County, Colorado.

It is desired that we issue a short form agreed unit cost contract to the Applicant company. The work period is to be two years.

W. R. Griswold

Attachment

WRGriswold/bjl

Copy to: Docket
Base Metals
Chron.

IN REPLY REFER TO:

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

June 23, 1953

Memorandum

Re: DMEA-2991
Shenandoah-Dives Mining Co,
San Juan County, Colorado
$211,900
Lead-zinc-copper

To: Mr. W. R. Griswold

From: E. L. Newcomb, USGS

Subject: Recommendation for approval

The applicant proposes to explore the Letter "G" vein structure by driving 1300 feet of crosscut from the Shenandoah-Dives main level and then to drift 1700 feet and raise 500 feet on the vein to the Unity Tunnel Level.

The field team recommends the application be approved.

Old workings on the Letter "G" partially developed 2 or 3 northward plunging ore shoots. As the Letter "G" vein has not been mined since 1908, it is reasonable to assume that most of the old levels are inaccessible.

The Letter "G" vein occurs in a strong shear zone and follows a dike which was injected prior to mineralization. Past experience in the district has shown that veins which follow dikes are more continuous than those which do not follow dikes. The Letter "G" is considered to be a major ore controlling structure. Past production from the Shenandoah-Dives operations has been developed in the Eureka rhyolite and the Burns latite. It is expected that the proposed exploration will be in the favorable Eureka rhyolite.

The data available on past production from the Letter "G" is known primarily in terms of total dollar value. The values shown on Figure 8 (field team report) represent assays taken during the years 1903 to 1908. Very few individual assay widths and assays of gold, silver, copper and lead are given. However, it is reasonable to assume that ore widths, metal proportions and total values are roughly comparable to those in the Shenandoah-Dives and Silver Lake mines. Also, that any future production from the Letter "G" vein structure will be at least equal to the average grade of total past production. Reserves on the Letter "G" vein have been estimated by the applicant to be about 3 million tons. On the basis of present data, this estimate must be regarded as a very optimistic "guess-timate."

The Shenandoah-Dives Mining Company was in continuous operation for over 25 years, and only recently terminated its operations. The company operated a 750-ton mill which had sufficient capacity to operate as a custom mill for several smaller operators in the area.

Ore reserves of the company are nearly exhausted. However, according to the field team, there are 72,900 tons of broken ore on the Shenandoah-Dives, Silver Lake and Melville veins. All of this ore apparently has a net smelter value of about $6.00 which is equal to the present mining costs per rock ton.

The Letter "G" vein is the best exploration proposition remaining on the operator's property. The grade of mineralization which should be intersected by the proposed exploration probably will be comparable to the average grade of past production from adjoining veins. There is a chance that the value of the ore may be high enough to justify mining at present prices and mining costs. The proposed exploration is the type of project DMEA should support. The Shenandoah-Dives Mining Company has demonstrated its competency and mining efficiency by the very fact that it was able to operate on ore that many operators might consider too low grade to mine.

I recommend the applicant's proposal be approved.

E. L. Newcomb

E. L. Newcomb
Geologist

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

June 23, 1953

Memorandum

To: W. R. Griswold, Base Metals Branch, DMEA

From: O. M. Bishop, Base Metals Branch, USBM

Subject: Docket No. DMEA-2991 (Exploration program for Shenandoah Dives Mining Company, San Juan County, Colorado, American Smelting and Refining lease, $211,900)

The proposed exploration consists of 1,300 feet of crosscut to the Letter "G" vein, and 1,700 feet of drifting and 500 feet of raising on the vein so as to connect with old mine workings.

The vein can be traced about 11,000 feet on the outcrop, and has been partially developed and mined over a strike length of 5,000 feet in the portions 500 to 1,200 feet above the proposed crosscut and drift. If successful the exploration will make up to 2,000 feet of stoping backs accessible. Indications are that 3,000,000 tons of ore averaging 6 feet or more in width may be made available. The grade of the ore is only partially known, but assays indicate ore values are such as to permit a profitable operation at current costs and metal prices. Past production of the Silver Lake Mines, which included part of that from the Letter "G" vein (in the period 1902-1918), totaled 630,645 tons of 0.14 ounces gold, 4.5 ounces silver, 1.9 percent lead, and 0.9 percent copper plus an unknown amount of zinc that was not recovered. Seven samples obtained in 1951 from the No. 7-L level 1,200 feet above the proposed work indicated 750 feet of ore averaging 6.6 feet wide with an average metal content of 0.03 ounces gold, 2.0 ounces silver, 2.9 percent lead, 0.6 percent copper, and 2 percent zinc. Such an ore with copper @ 20¢ and lead @ 13¢ a pound, and exclusive of the zinc content, would have a net worth at the smelter, after milling losses, of about $7.50 per ton. It should be noted that milling equipment and practice at the company's 700-ton mill is of the highest quality and that marketable lead, zinc and copper concentrates are recovered.

We agree with the examining team that the application should be approved.

O. M. Bishop

O. M. Bishop

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

224 New Customhouse
Denver 2, Colorado

June 12, 1953.

Memorandum

To: Secretary to the Operating Committee, Defense Minerals Exploration Administration

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2991 (Lead-Zinc), Shenandoah-Dives Mining Company, San Juan County, Colorado.

Enclosed are the original and three copies of the final report on Docket No. DMEA-2991.

The proposed project consists of crosscutting 1300 feet to cut the Letter "G" vein, drifting 1700 feet on the vein, and raising 500 feet on the vein.

The estimated cost of the project is $211,900.00. The amount of Government participation would be $105,950.00.

We recommend that this application be approved and an exploration project contract be prepared.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-19-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

June 18, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2991 (Lead-Zinc), Shenandoah-Dives Mining Company, San Juan County, Colorado.

Enclosed are nine copies of the final report on Docket No. DMEA-2991 by Scott W. Hansen, Jr., Mining Engineer, United States Bureau of Mines, and D. J. Varnes, Geologist, United States Geological Survey.

The proposed work consists of crosscutting 1300 feet to cut the Letter "G" vein, drifting 1700 feet on the vein, and raising 500 feet on the vein.

The estimated cost of the work is $211,900.00.

We agree with the examining team that this application be approved.

W. H. King
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-19-53
(date)

For extra copy, see envelope attached.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
June 11, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 2991, Shenandoah-Dives Mining Company (Lead-zinc), San Juan County, Colorado

Please find enclosed the original and eight copies of the "Summary, Conclusions, and Recommendations", by Scott W. Hazen, Jr. and D. J. Varnes and of Hazen's engineering report on the subject docket.

Hazen concludes the applicant company has a 20,000-ton-a-month production potential and in addition maintains custom milling facilities which are the main support for the town of Silverton and the surrounding area. The proposed exploration has every chance of success as ore in the Letter "G" vein can be expected to continue to depths equal to other veins in the San Juan Region and furnish an ore supply to the mill for a number of years. He recommends a short-term contract for 3,000 feet of drifting at $50.30 a foot, or $150,900.00, and 500 feet of raising at $122.00 a foot, or $61,000.00—a total of $211,900.00.

I concur with his conclusions and recommendations.

W. M. Traver

W. M. Traver

enclosures

WMT/eb

cc: 8
DMEA 2991
Chron.

Reviewed by
DMEA OPERATING COMMITTEE
6-19-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

GCL 6/26/53

DMEA 2991

Shenandoah-Dives Mining Company

San Juan County, Colorado

Lead-Zinc

Scott W. Hazen, Jr.
Bureau of Mines

D. J. Varnes
Geological Survey

June 11, 1953

Reviewed by
DMEA OPERATING COMMITTEE
6-19-53
(date)

DMEA 2991

SHENANDOAH-DIVES MINING COMPANY
SAN JUAN COUNTY, COLO.

Summary, Conclusions, and Recommendations

By Scott W. Hazen, Jr.
Mining Engineer
Bureau of Mines

D. J. Varnes
Geologist
Geological Survey

DMEA 2991

SHENANDOAH-DIVES MINING COMPANY
SAN JUAN COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Scott W. Hazen, Jr. and D. J. Varnes

The Shenandoah-Dives Mining Company, of Silverton, San Juan County, Colo., has applied for a Defense Minerals Exploration Administration loan to extend the main level of the mine about 1,300 feet to cut the Letter "G" vein, drift 1,700 feet on the vein, and then drive a 500-foot raise on the vein to connect with the old upper workings.

The Letter "G" vein is known to have a surface outcrop over 11,000 feet long. Earlier underground work at higher levels extended along a length of about 5,000 feet over the proposed area of exploration. The maximum available back is about 2,000 feet. The vein material occupies a strong shear fracture, which had already been injected with dike material in several stages prior to mineralization. It is the habit in the Silverton area for veins which follow dikes to be more continuous, although not necessarily more productive, than those which do not follow dikes. The Letter "G" vein is considered to be one of the master fractures which controlled development of many other veins in the South Silverton Mining District. As a whole, the geologic setting is favorable to the proposed exploration.

There are two partially developed mines on the upper portion of the vein. These mines operated prior to 1910. Their assay records

indicate several ore shoots which could be mined at present low metal prices and other areas which could be mined at slightly better metal prices. Charles A. Chase, Executive Vice-President of the Shenandoah-Dives Mining Company, who has been in active charge of the mining for about 25 years, estimates there will be a 15-year ore reserve developed on this Letter "G" vein. It is the only possible source of ore for the company, as all other known veins in the company's sphere of operation have been developed and mined. Present ore reserves are practically nonexistant and are far too low in value to be mined at a profit. The average ore being mined when the mine closed in April 1953 had a net smelter value of $4.00 per ton, while mining costs were averaging $6.00 per ton. All known or possible ore reserves in the veins being mined are of equal or even lower value.

The mine is situated in the rugged, mountainous San Juan County but has proper facilities to operate all winter. Through its custom mill facilities, the company has been the mainstay of most other mining operations in the Silverton area. It has employed about 150 men at the mine and mill and produced 18,000 to 20,000 tons of ore per month since 1930. With careful management and supervision it was able to continue operations even through the depression years of the 1930's.

Claims on which the exploration will be performed are owned by the American Smelting and Refining Company. The Shenandoah-Dives

Mining Company has a lease on the claims. Subordination agreements will be necessary. It also appears that the lease should be amended to permit a lien against the lease and to incorporate Government repayment royalties as a specific charge. Both parties have outstanding development "leases" which are specifically allowed for on a repayment schedule in the lease. The exploration will cross a small angular fraction of "open" ground near the beginning point. The American Smelting and Refining Company has verbally indicated it will arrange to have the fraction covered by location as soon as the area is accessible. The crosscutting will cross the American Boy claim, No. 7244, in which the American Smelting and Refining Company holds only two-thirds ownership. The remaining one-third ownership is held by D. J. Maxwell, McClintic Building, Midland, Texas. Near the 1,400-foot point of the proposed drifting on the Letter "G" vein, the work will progress on to "open" ground unless the old system of apex rights will hold valid at this time. Vertical side lines of claims would not cover the exploration drifting beyond the 1,400-foot point.

The Shenandoah-Dives Mining Company has the facilities and equipment to produce 20,000 tons of ore per month and also has maintained a custom milling program which is absolutely essential to the survival of many other small mining operations in the district. The mine and mill employed an average of 150 men, plus keeping at least another 50 men working through the custom mill facilities. Actually, the entire mining and business community of Silverton, 1,000 people, is completely dependent upon the Shenandoah-Dives Mining Company.

There is no doubt that the company is faced with a complete lack of ore reserves unless the exploration program is carried out. Without abnormally high lead-zinc prices, it is not conceivable that the mine can operate again except to finish pulling broken ore and old stope fills. This could be accomplished in 6 months. Completion of the exploration program as proposed is expected to make available a large tonnage of ore and keep a major producing property in operation, as well as facilitate other mining in the district.

The exploration proposed is recommended at a total cost of $211,900.00. Government participation at 50 percent will be $105,950.00. The contract can be prepared on a short form MF-200(A).

Drifting costs have been calculated at $50.30 per foot, or $150,900.00 for 3,000 feet. Exploration raising costs have been calculated at $122.00 per foot, or $61,000.00 for 500 feet.

Although total time for completion has been calculated at 16 months, delays and driving the production portion of the raise will increase the time. It is recommended that 24 months be allowed for completion time.

DMEA 2991

SHENANDOAH-DIVES MINING COMPANY
SAN JUAN COUNTY, COLORADO

Engineering Report

By Scott M. Hagan, Jr.
Mining Engineer
Bureau of Mines

DMEA 2991

SHENANDOAH-DIVES MINING COMPANY
SAN JUAN COUNTY, COLORADO

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DMEA 2991

SHENANDOAH-DIVES MINING COMPANY
SAN JUAN COUNTY, COLORADO

ENGINEERING REPORT

By

Scott W. Hasen, Jr.

INTRODUCTION

The Shenandoah-Dives Mining Company, of Silverton, San Juan County, Colo., has applied for a Defense Minerals Exploration Administration loan to extend the main level of the mine to the south about 1,300 feet to cut the Letter "G" vein, drift 1,700 feet westerly on the Letter "G" vein, and then drive a 500-foot raise on the vein to connect with the old upper workings. The exploration will eventually open up a vein which is known to have a surface outcrop over 11,000 feet long, and to have been exposed underground along a length of 5,000 feet and with an available back of 2,000 feet maximum. The vein has a dike wall and, based on mining on other veins in the immediate vicinity, lead-copper-zinc mineralization is expected to extend in depth to the exploration tunnel level.

Assay maps made prior to 1908 from two old mines operated at that time indicate ore bodies have been found from surface to the bottom of the old workings, a vertical range of 2,000 feet. Assay values indicate the ore can be profitably mined at present low metal prices. Charles A. Chase, Executive Vice-President of the Shenandoah-Dives Mining Company expects to open up 15 years' ore reserve, or approximately 3,000,000 tons.

The company has operated continuously from 1928 to April 1953 when it was forced to close because of low-grade ore and low metal prices. Examination of the mine and stope records indicates the mine cannot be expected to reopen unless new sources of ore are found. Twenty-five years of continuous operation has completely depleted the ore on the three major veins which the company has worked. The operation has employed 130 men at the mine and 20 men in the 750-ton mill and has operated a custom milling service which has sustained many other mining operations in the district.

ACKNOWLEDGMENTS

Charles A. Chase, Executive Vice-President of the Shenandoah-Dives Mining Company, John Holmgren, Mine Superintendent, and Edwin A. Larson, Office Manager, furnished all the data and assistance necessary for the mine examination and report.

LOCATION, TOPOGRAPHY, AND CLIMATE

The mine is situated in the rugged, mountainous San Juan County of Colorado (fig. 1). The mill is in the Animas River Valley, 2-1/2 miles northeast of Silverton, and the mine is in Arrastre Basin, 2 miles south of the mill. A 2-mile aerial tramway connects the mill and mine (fig. 2). All materials, supplies, and employees are transported to the mine by way of the tram. A very steep road does exist between the mill and mine, but it is seldom used and is not maintained in winter. Elevations are approximately 9,600 feet at the mill and 11,200 feet at the mine. The cliffs of the cirque basin

The American Smelting and Refining Company owns two-thirds of the American Boy claim, No. 7244. The remaining one-third ownership is held by D. J. Maxwell, McClintic Building, Midland, Texas.

Drifting beyond approximately 1,400 feet on the Letter "G" vein will cross out of located or patented claim ground unless the old system of apex rights will hold valid at this time. This will involve apex rights on the Titusville claim, which is owned by the American Smelting and Refining Company and included in the lease.

DESCRIPTION OF THE DEPOSITS

Reports describing the geology and ore deposits of Arrastre Basin and adjacent areas have been written by Ransome,[1] Burbank,[2] and Varnes.[3] The following general description of the deposits is largely from their reports.

Most of the rocks near Silverton and in the vicinity of Arrastre Basin are volcanics which rest upon pre-Cambrian schist and remnants of Paleozoic quartzite and limestone. The schists have been exposed in the Highland Mary mine, southeast of the Shenandoah-Dives, but the workings of the latter mine are in the overlying Eureka

1/ Ransome, F. L., Economic Geology of the Silverton Quadrangle: Geological Survey Bull. 182, 1901.
2/ Burbank, W. S., Vein Systems of the Arrastre Basin and Regional Geologic Structure in Silverton and Telluride Quadrangles, Colorado: Colorado Scientific Society Proceedings, vol. 13, no. 5, 1933.
3/ Varnes, D. J., Geology and Ore Deposits of the South Silverton Area, San Juan County, Colorado, Paper presented at annual convention of Colorado Mining Association, Denver, Colorado, February 7, 1948.

rhyolite and Burns latite. These two volcanic formations thin out toward the east. The present face of the drift on the 4,177 vein is in a flow-breccia of the Eureka rhyolite and all the exploration is expected to be in the Eureka rhyolite.

Burbank has recognized and described the main structural feature of the region as being a large caldera. It lies north of Silverton and is roughly in the shape of a shield with a diameter of about 8 miles. The Animas River Valley forms the southeasterly side of a downfaulted central block. A ring fault zone surrounds the caldera, and in the vicinity of the Shenandoah-Dives mill in the Animas River Valley the displacement is about 2,000 feet. Outside the ring fault there is a second zone a few miles in width wherein shearing and faulting have occurred. Stocks of monzonite have been intruded into the ring fault zone. Some of the outer zone fractures were filled by andesite and latite dikes. Apparently, mineralizing solutions have been introduced at intervals during movements in and around the caldera. Some of the veins occupy fractures which are radial to the caldera and appear to be concentrated within areas leading outward toward other intrusive stocks (fig. 3). On the south side of the caldera most of the veins occupy shear fractures. The Shenandoah-Dives - North Star - Mayflower vein system is one of these shears, and it strikes N. 45° to 50° W. and dips 70° to the northeast. Stoping along 7,000 feet of this vein and through a vertical range in excess of 2,000 feet has accounted for most of the production of the Shenandoah-Dives Mining Company.

The Silver Lake or 3,220 vein strikes northwest-southeast similar and about parallel to the Shenandoah-Dives - North Star - Mayflower vein, but the Silver Lake is much flatter, dipping 50° northeast.

The Melville or 4,177 vein curves away from the Silver Lake vein and strikes nearly north-south. The vein dips irregularly from 80° to 65° to the west. Production by the Shenandoah-Dives Mining Company from the Silver Lake and Melville veins has been considerably less than from the Shenandoah-Dives - North Star - Mayflower vein. Stoping widths on all the veins have varied from 4 feet to as much as 10 feet.

MINEABLE ORE RESERVES

Ore reserves at the mine are nearly exhausted. Actually, the company had been losing money since the fall of 1952. The ore being mined had an average net smelter value of only $4.00 per ton, and mining costs were averaging $6.00 per ton.

On April 1, 1953, an estimated 7,800 tons of broken ore, net smelter value of $6.00 per ton, remained in the "44" stope on the Shenandoah-Dives vein. The 900 drift on this vein had no ore left in it.

The Silver Lake or 3,220 vein had an estimated 42,100 tons of broken ore remaining in the stopes on April 1, 1953. Average net smelter values for ore in the back of these stopes are:

No. 6 stope	$4.31 per ton
No. 7 stope	5.53
No. 8 stope	2.34
No. 9 stope	5.09
No. 10 stope	2.81
200 level drift	$1.72 to $1.50 per ton

Broken ore in the stopes on the 4,177 or Melville vein on April 1, 1953, amounted to 29,000 tons. Average net smelter values for the ore in the back of these stopes are:

No. 617 stope	$1.96 per ton
No. 618 stope	2.57
No. 370-18 stope	2.57
No. 370-20 stope	4.06
No. 370-21 stope	5.16
370 drift east and west	$1.50 to $2.00 per ton

The 600 level (617 and 618 stopes) has the largest tonnage. Pillars in stopes above this area have been blasted, and old stope fill has been pulled. The estimated average net smelter value of the old stope fill is $5.00 per ton. This fill has been classed as stope "overdraw." The reserves of stope fill are unknown.

Total known broken ore reserve:

Shenandoah-Dives vein	7,800 tons
Silver Lake vein	42,100
4,177 or Melville vein	29,000
	78,900 tons
Less tonnage pulled April 1 to 15, 1953	6,000
Total known reserve of broken ore	72,900 tons

Ore reserves on the Letter "G" vein are shown on figure 8. These are values represented by assays taken during the years of 1903 to 1908 when the mines were being operated by the Silver Lake Mines. Sample distances are at 5-foot and 10-foot intervals. Total width of assay and total dollar value are given. Individual assay widths and individual assays for gold, silver, copper, and lead are not given. It is not possible to apply a percentage increase to adjust the dollar value to the present time. The old dollar values of the ore were based

on $19.50 gold, $0.50 silver, $0.40 per unit lead, and $1.50 per unit copper and are generally higher than net smelter values of existing Shenandoah-Dives ore.

Chase's estimate of 15 years' ore reserve, or approximately 3,000,000 tons, from the Letter "G" vein may be optimistic, but he is the authority for Arrastre Basin and has 25 years' mining experience in the particular area. The Letter "G" vein has dikes associated with it, and in this area the presence of a dike along the fissure tends to increase the probability of mineralization at depth. The earlier mining has progressed to within 500 feet of the main Shenandoah-Dives crosscut level. All the other veins have been mined to the crosscut level, although this depth is, no doubt, nearing the limit of economic ore.

PRESENT STATUS

Exploration and Development

The Shenandoah-Dives Mining Company has been in continuous operation since 1928. During this period the company has drifted 64,100 feet, crosscut 6,120 feet, raised 19,323 feet, completed 941 feet of sinking, drilled 22,850 feet in drill hole exploration, and produced 4,121,877 tons of ore.

In 1928 and 1929 initial development accounted for 27.7 percent of the ore, but since that time development has produced only about 10.7 percent of the ore. The company states that it has followed out all the known veins and has no future possiblities for development of more ore along these veins. Exploration raises have also been

driven on "end zones" to check for possible widening of the veins between exploration levels. Except for the low-grade ore being produced when the mine closed in April 1953, all available ore has been stoped. Figures 4, 6, and 7 show the mine workings.

The steep mountain country is favorable for development by an adit, and the main working level known as the Mayflower level has been driven at an elevation of 11,200 feet. This is about 2,000 feet below the summit of Little Giant Mountain, where the Shenandoah-Dives - North Star - Mayflower vein crosses the mountain. Mining operations have been carried out from the Mayflower level by raises and levels driven at 150-foot intervals. The first major raise driven was 1,700 feet long. This raise has been used to transport men and supplies and to lower ore.

Shrinkage stoping has been used to extract the ore. The drifts are protected by pillars. When possible, the drifts have been driven to the end of the ore bodies and mining has been in retreat from these extremities of the ore. Recently this has not been possible as the ore development has not kept pace with production requirements.

Mining and Milling Equipment and Facilities

Production averaged 18,000 tons of ore per month, with a mine crew of 130 men and a mill crew of 20 men. Custom milling work was handled with the regular crew at the mill.

Mine facilities include a five-story bunkhouse-boardinghouse, change rooms, offices, and shops necessary for servicing mining equipment. Underground haulage is by 60- and 80-horsepower trolley motors

using 75- and 125-cubic-foot mine cars. A 30-inch gage track is used.

Shops, compressor, and crushers are installed underground. The compressor is a 2,080-cubic-foot-per-minute Chicago Pneumatic unit, and air is distributed underground with 8-inch, 6-inch, and 4-inch lines. Ore is dropped from the underground ore pocket to a Telsmith primary crusher and then to a Symons cone secondary crusher. Crushed ore is then delivered to the aerial tramway and transported 2 miles to the 750-ton flotation mill.

All mine supplies are received at the mill and transported by tram to the mine. A short jig-back tram connects the main tram mine terminal with the mine portal.

PROPOSED EXPLORATION AND DEVELOPMENT PROGRAM

It is proposed to extend the present 4,177 or Melville vein drift for approximately 400 feet along the vein and then establish a bearing, estimated S. 18° W., and drive by crosscutting directly to the Letter "G" vein. This will total an estimated 1,300 feet. It is then proposed to drift 1,700 feet westerly along the Letter "G" vein. These two items are to total 3,000 feet. It is then proposed to drive a 500-foot raise on the Letter "G" vein to connect with old upper workings on the vein. These old workings are now drained in their lowest levels by old drifts and crosscuts to surface but are caved, and some water can be expected in the old workings. The drifts and crosscuts are to be driven 8-1/2 by 8-1/2 feet in size, which is necessary to accommodate the haulage equipment. The raise is to be driven 6 by 14 feet in size. The company desires to drive the 220

feet of 4- by 6-foot doghole connecting drifts from the raise at 40-foot intervals at the same time but at company expense. The company also wants to drive the sublevel stations. These items, as well as the ore pass raise, were considered to be preparation for mining and the time and money involved were deducted in the cost estimates. There is no question as to the reasoning or good mining practice involved, but these items were not considered as exploration. The exploration and raise details are shown on figures 4 and 5. Completion times have been cut to a minimum in figuring costs. Delays will be encountered, and driving the production portion of the raise will increase the total time necessary for completion. It is recommended the contract be written to be completed in 24 months.

ESTIMATED COSTS OF THE PROJECT

No new facilities, buildings, fixtures, or installations are needed.

No rehabilitation or repairs are necessary as the applicant has completed all of this work.

The applicant desires the contract prepared on a short form, if possible. The only major supplies not on hand are ventilation pipe, electric power cable to hoist at raise, explosives, and bits. All equipment is available at the mine.

The applicant has shown a total cost of the exploration project as $229,630.00, but this does not include supplies on hand, depreciation, and purchase of ventilation pipe. The sum of the total money requested is as follows:

Total shown	$229,630.00
Depreciation for drifting period, based on 60 months for total facilities listed	74,452.08
Depreciation for raising period	43,838.76
Supplies listed as on hand	14,398.25
Plus ventilation pipe, drift	3,900.00
Plus ventilation pipe, raise	500.00
Revised total	$366,719.09

In computing the exploration costs, only equipment and facilities directly used with and for the exploration have been included in depreciation. The supervision costs have been halved on the consideration that the supervisors will be actually on company time and work for half the period of duty. Tramway operation has been divided approximately the same way.

Drifting and crosscutting costs have been calculated at $50.30 per foot, or $150,900.00.

Item	Cost per foot	Percent
Labor	$24.56	48.82
Supervision and engineering	4.24	8.43
Supplies	14.99	29.80
Depreciation	6.51	12.94
	$50.30	99.99

Raising costs have been calculated at $122.00 per foot, or $41,000.00.

Item	Cost per foot	Percent
Labor	$ 58.36	47.84
Supervision	14.85	12.17
Supplies	26.20	21.48
Depreciation	22.57	18.50
	$121.98	99.99
Use	$122.00	

Total money required is $211,900.00.

The raising cost is high, but labor costs for the period involved will permit the raisemen (8 men) to average only about $400.00 per month. The drifting operation will permit the men in the drift heading (6 men) to average $800.00 per month if they maintain the stiff time schedule used. The completion time for drifting has been reduced to 10 months, rather than the 12 used by the applicant. These earnings and costs are not excessive for similar work in the region. Other operating companies are paying at least $600.00 to $800.00 and as high as $1,200.00 per month on contracts. Raising time was used

at 6 months but does not include the extra time for driving the production portion of the work, doghole drifts, and stations.

Drifting - Crosscutting

The drifting and crosscutting will be accomplished on a two-shift basis, 6 days per week. The applicant company operates on a 7-1/2-hour day or 45-hour week, which requires 5 hours overtime per week. This schedule has been investigated and approved by the Wage Stabilization Board.

Three miners will be used in the drift heading. Drift size is 8-1/2 by 8-1/2 feet and is necessary to accommodate the large mine cars and other equipment.

A two-machine jumbo will be used and a 6-foot round blasted on each shift. This will amount to 300 feet per month, or 10 months for the 3,000 feet of drifting and crosscutting.

Estimated Costs of Drifting and Crosscutting

Labor

Miners, six, three on each shift They will drill, blast, muck out, and tram the rock. Contract price at $16.00 per foot, 3,000 feet at $16.00 per foot	$ 48,000.00
Helper, underground One required on day shift to drill plugs and hang air line, water line, ventilation pipe, and trolley line. Paid at rate of $1.78 per hour, or $84.55 per week of 45 hours, including overtime. 48 weeks at $84.55 per week	4,058.40

Electrician

One required to service and maintain tramway, trolley, motors, trolley motor generators, mine lamps, compressor motors, and so forth.

Paid on salary basis at $410.00 per month, 10 months at $410.00 per month $ 4,100.00

Shopman-compressorman

Two required, one on each shift, mechanic rating. They will grind bits and sharpen steel, as well as tend compressor, and work on the jig-back tram handling supplies from tram to mine.

Paid at rate of $1.60 per hour, or $76.00 per week of 45 hours, including overtime.

48 weeks at $76.00 per week, times 2 7,296.00

Tramway operation

This normally requires one man at each end on each shift, or four men. The company believes it will be able to work out a system using watchmen and overtime to permit operation on $1,140.00 labor cost per month. All mining equipment, supplies, and manpower must be transported by the tram. Although the tram is absolutely essential to the exploration, it would be used to move a small maintenance crew and supplies if the exploration was not undertaken. An arbitrary division is made at splitting the cost at $600.00 per month.

10 months' operation at $600.00 6,000.00

<u>Supervision</u>

Superintendent

Although no other mining or rehabilitation is anticipated during the exploration, it does not seem justifiable to charge more than 50 percent of the superintendent's time to the exploration project.

Paid at the monthly rate of $750.00.

10 months at $375.00 3,750.00

Shift bosses

Two men, one on each shift. Again, it is assumed these men will patrol the entire mine, checking for caves and repair work. The single heading on exploration will not utilize their full time. One-half of the cost is considered justified.

Paid at the rate of $425.00 per month.
10 months at $212.50, times 2 — $ 4,250.00

Office charges

The office manager's monthly salary has been prorated in the application and $350.00 of the $625.00 per month has been charged. This is an equitable charge as most of his work will be dealing with the exploration accounting.

10 months at $350.00 — 3,500.00

Engineering

To be hired on a when-actually-employed basis.

Estimated at $25.00 per day.
Total cost — 500.00

Total payroll — $ 81,454.40

Payroll tax

Social security	1.5 percent	
Unemployment insurance	.3	
	1.8 percent	1,466.18

Workmen's compensation and occupational disease insurance

$4.27 per $100.00 of payroll — 3,477.92

Total Labor and Supervision — $ 86,398.50

Materials and Supplies

Explosives

The applicant's estimated cost of $4.00 per foot is conservative as a 30-hole round is expected to take 125 pounds of powder at $18.10 per 100 pounds, plus the cost of 30 electric detonators.

3,000 feet at $4.00 per foot	$ 12,000.00

Power, electric

For compressor, tram, haulage underground, et cetera. The Western Colorado Power Company believes the 200-horsepower four-stage compressor can be cut to single-stage operation and power bills cut to $4.50 per foot.

3,000 feet at $4.50 per foot	13,500.00

Drill steel and bits

The applicant's estimate is based on previous drifting costs for 1947 and is considered accurate.

3,000 feet at $2.20 per foot	6,600.00

Track

Sufficient track, including splice bars, is on hand to complete the exploration.

Actual cost, used.	
3,000 feet 52-pound track at $133 per foot	3,990.00
Bolts and spikes	310.00

Ventilation pipe

Current price for 11-inch metal pipe is $1.30 per foot

3,000 feet at $1.30 per foot	3,900.00

Air line

3,270 feet 4-inch air line and couplings on hand (270 feet used to bring pipe to heading)	2,975.70

Water line

3,000 feet of water line.	
2,575 feet on hand (2-inch and 1-inch)	888.75
425 feet at $0.35 per foot	148.75

Ties

1,000 ties at $0.65 each	650.00
Total Materials and Supplies	$ 44,963.20

Depreciation	Equipment valuation
One 200-horsepower 125-kilowatt 250-volt synchronous motor generator set, complete with switches, value $7,500.00. One 75-horsepower 75-kilowatt 250-volt motor generator set, value $2,500.00. The small unit will be used most of the time and the larger unit will be necessary when mucking. Accordingly, depreciation is calculated at an average of using the larger unit only.	$ 7,500.00
One 2,000-c.f.m. Chicago-Pneumatic compressor, four-stage, with 200-horsepower electric motor	18,500.00
One 80-horsepower 9-ton trolley locomotive	13,000.00
Electric shop, equipment lamps, charging panel, et cetera	1,000.00
Eight 125-cubic foot mine cars and dumpers	14,000.00
One Eimco 21-B mucking machine (new)	5,000.00
One two-column jumbo, hydraulic operated (homemade)	1,000.00
Shop equipment, steel sharpeners, forges, general shop equipment	1,500.00
One 1,800-c.f.m. 20-horsepower Ingersoll-Rand blower and motor	2,600.00
Two Gardner-Denver drifters (new) cost for 2 machines	2,140.00
One Gardner-Denver drifter (used) for reserve use	760.00
Air hoses, water hoses, oilers	200.00
Tramway, company value set at $150,000.00. Exploration use is evaluated at one-third	50,000.00
Total valuation of equipment	$117,200.00

Depreciation on 60-month basis:
$117,200.00 ÷ 60 = $1,953.34 per month

Total Depreciation for 10 months	$ 19,533.40
Total Estimated Costs of Drifting and Crosscutting	$150,895.10
Cost per foot, 3,000 feet of drifting and crosscutting (8-1/2 by 8-1/2 feet)	$ 50.298
Use	$ 50.30

This cost breaks down as follows:

Item	Cost per foot	Percent
Labor	$24.56	48.82
Supervision and engineering	4.24	8.43
Supplies	14.99	29.80
Depreciation	6.51	12.94
	$50.30	99.99

Raising

The applicant's representatives state that the dogholes crosscuts, 20 feet long at 40-foot intervals, must be driven during the raising. From a practical viewpoint of mining, there is no argument, but, as a matter of exploration, it is the opinion of the examining engineer that the dogholes are preparation for mining and not exploration. The expense of driving the 220 feet of doghole drifts at $10.00 per foot should be borne by the applicant company.

The same is true of the sublevel stations and the control chutes. There is an advantage in servicing the raise work with the extra station room. It is, however, considered preparation for mining, rather than exploration. The cost of the 90 feet of station crosscut at $14.00 per foot and the control chutes should be borne by the applicant company.

Operating time for driving the dogholes and station crosscut should be disallowed to reduce charges of supervision and depreciation. An estimated reduction of 1 month is considered equitable. This reduces the time to 6 months.

Estimated Costs of Raising

Labor

Miners, contract
500 feet of 6- by 14-feet compartment raise on the vein will be driven in two shifts and under contract. Three men will be used in the raise and one hoistman at the bottom of the raise; all are figured in the contract price. Although this seems a high price it figures about $400.00 per month per man, which is less than average for good contract miners.
500 feet at $35.00 per foot — $ 17,500.00

Electrician
Same duties as in drifting and including installing 3,000 feet of 2,300-volt cable to raise and electric hoist and substation for hoist.
6 months at $410.00 per month — 2,460.00

Shopman-compressorman
Same duties as under drifting, two needed on each shift.
26 weeks at $76.00 per week, times 2 — 3,952.00

Tramway operation
Same as in drifting.
6 months at $600.00 per month — 3,600.00

Supervision

Superintendent		
One-half charged to exploration.		
Monthly salary, $750.00.		
6 months at $375.00 per month	$ 2,250.00	
Shift bosses		
Two required, same as drifting. One-half charged to exploration.		
Monthly salary, $425.00.		
6 months at $212.50 per month, times 2	2,550.00	
Office charges		
6 months at $350.00 per month	2,100.00	
Engineering		
To be hired on when-actually-employed basis.		
4 days at $25.00 per day	100.00	
Total payroll	$ 34,512.00	
Payroll tax		
Social security and unemployment insurance, at 1.8 percent	621.22	
Workman's compensation and occupational disease insurance		
$4.27 per $100.00 of payroll	1,473.58	
Total Labor and Supervision		$ 36,606.80

Materials and Supplies

Explosives		
The raise round is figured at 30 holes and a 5.5-foot round. The applicant has estimated $3.00 per foot for explosives, including electric detonators.		
500 feet at $3.00 per foot	$ 1,500.00	
Power, electric		
Compressor, tram, haulage underground,, raise hoist, ventilation fan.		
500 feet at $4.50 per foot	2,250.00	

Drill steel and bits		
Estimated cost at $1.25 per foot.		
500 feet at $1.25 per foot	$ 625.00	
Ventilation pipe		
500 feet, 8-inch, at $1.00 per foot	500.00	
Air line		
500 feet, 2-inch, at $0.65 per foot	325.00	
Water line		
500 feet, 1-inch, at $0.35 per foot	175.00	
Timber		
Ladders, stulls, chute lining, et cetera. Rough sawed lumber can be purchased for $70.00 per thousand, delivered to the mill. Round timber can be purchased at $0.22 per linear foot.		
Estimated timber cost, $3.00 per foot.		
500 feet at $3.00 per foot	1,500.00	
Hoist cable		
Hoist at bottom of raise, need 1,100 feet.		
1,100 feet 9/16-inch hoist cable	225.00	
Power cable		
For hoist. Must be advanced 3,000 feet from present location.		
3,000 feet, 2,300-volt power cable, underground, at $2.00 per foot	6,000.00	
Total Materials and Supplies		$ 13,100.00

Depreciation	Equipment valuation
Motor generator set	$ 7,500.00
Compressor	18,500.00
Locomotive	13,000.00
Electric shop, equipment	1,000.00
Mine cars	14,000.00
Shop equipment	1,500.00
Blower, 20-horsepower (ventilation)	2,600.00
Stopers, two	1,560.00
Air hoses, oilers, water hoses	200.00
Hoist, 35-horsepower, electric	3,000.00
Tramway	50,000.00
Total valuation of equipment	$112,860.00

Depreciation on 60-month basis:
$112,860.00 ÷ 60 = $1,881.00 per month

Total Depreciation for 6 months	$ 11,286.00
Total Estimated Costs of Raising	$ 60,992.80
Cost per foot, 500 feet of raising (6 by 14 feet)	$ 121.986
Use	$ 122.00

This cost breaks down as follows:

Item	Cost per foot	Percent
Labor	$ 58.36	47.84
Supervision	14.85	12.17
Supplies	26.20	21.48
Depreciation	22.57	18.50
	$121.98	99.99

Total Money Requirements

Drifting and crosscutting (8-1/2 by 8-1/2 feet) 3,000 feet at $50.30 per foot	$150,900.00
Raising (6 by 14 feet) 500 feet at $122.00 per foot	61,000.00
Total	$211,900.00

Completion times have been cut to a minimum in figuring costs. Delays will be encountered, and driving the production portion of the raise will increase the total time necessary for completion. It is recommended the contract be written to allow completion in 24 months.

Diamond drilling to check walls has not been included and is considered a company responsibility.

PROPOSED FINANCING

The Shenandoah-Dives Mining Company has almost all the supplies, materials, equipment, and facilities on hand to perform the exploration proposed. The company is expecting that a proportion of the exploration funds will be furnished by the American Smelting and Refining Company as owners of the property. Such arrangements have been made in the past. The applicant's stockholders have signified willingness to furnish the money necessary to complete the program and have told the management to proceed.

CONCLUSIONS

The Shenandoah-Dives Mining Company has the facilities and equipment to produce 20,000 tons of ore per month. It has also maintained a custom milling program which is absolutely essential to the survival of many other small mining operations in the district. The mine and mill employed an average of 150 men, plus keeping at least another 50 men working through the custom mill facilities.

There is no doubt the company is faced with a complete lack of ore reserves unless the exploration program is carried out. The mine cannot operate again without abnormally high lead-zinc prices, except to complete pulling broken ore and stope fills. This could be accomplished in 6 months.

The proposed exploration will eventually open up the Letter "G" vein, which is known to have been exposed underground along a length of 5,000 feet with an available back of 2,000 feet maximum. The vein has a dike wall and mineralization is expected to continue in depth, as it has on the other veins already mined. Assay records indicate several ore shoots which could be mined at present low metal prices. Chase's expected 15-year ore reserve may be optimistic, but the reserve should be large, although nothing definite can be estimated, except on the basis of the old maps.

RECOMMENDATIONS

It is recommended that the proposed exploration be approved at a cost of $211,900.00 and a contract prepared on short form MF-200 (A). Drifting and crosscutting costs have been calculated at $50.30 per foot, or $150,900.00 for 3,000 feet.

	Cost per foot
Labor	$24.56
Supervision and engineering	4.24
Supplies	14.99
Depreciation	6.51
	$50.30

Exploration raising costs have been calculated at $122.00 per foot, or $61,000.00 for 500 feet.

		Cost per foot
Labor		$ 58.16
Supervision		14.85
Supplies		26.20
Depreciation		22.77
		$121.98
	Use	$122.00

Total time for drifting has been taken as 10 months. Total time for driving the exploration portion of the raise has been taken as 6 months. This cuts the completion times to a minimum for cost figuring. Delays will be encountered, and driving the production portion of the raise will increase the total time necessary for completion. It is recommended the contract be written to allow completion in 24 months.

pm
eb

Charge to the account of _____ $ _____

CLASS OF SERVICE DESIRED			
DOMESTIC		CABLE	
TELEGRAM		ORDINARY	
DAY LETTER		URGENT RATE	
SERIAL		DEFERRED	
NIGHT LETTER		NIGHT LETTER	

Patrons should check class of service desired; otherwise the message will be transmitted as a telegram or ordinary cablegram.

WESTERN UNION

A. N. WILLIAMS
PRESIDENT

1206

CHECK
ACCOUNTING INFORMATION
TIME FILED

Send the following telegram, subject to the terms on back hereof, which are hereby agreed to

SILVERTON COLORADO JUNE 3 1953

CONFIRMATION

C. O. MITTENDORF, ADMINISTRATOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON D. C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 4 1953

PLEASE REACTIVATE PROCESSING OUR APPLICATION DOCKET NUMBER DMEA 2991.

THIS INFORMATION PHONED EXECUTIVE OFFICER DENVER TODAY. THANKS

SHENANDOAH DIVES MINING COMPANY
E A LARSON

Phoned W.U.
9.35 AM
EAL.

ALL MESSAGES TAKEN BY THIS COMPANY ARE SUBJECT TO THE FOLLOWING TERMS:

To guard against mistakes or delays, the sender of a message should order it repeated, that is, telegraphed back to the originating office for comparison. For this, one-half the unrepeated message rate is charged in addition. Unless otherwise indicated on its face, this is an unrepeated message and paid for as such, in consideration whereof it is agreed between the sender of the message and this Company as follows:

1. The Company shall not be liable for mistakes or delays in the transmission or delivery, or for non-delivery, of any message received for transmission at the unrepeated-message rate beyond the sum of five hundred dollars; nor for mistakes or delays in the transmission or delivery, or for non-delivery, of any message received for transmission at the repeated-message rate beyond the sum of five thousand dollars, unless specially valued; nor in any case for delays arising from unavoidable interruption in the working of its lines.

2. In any event the Company shall not be liable for damages for mistakes or delays in the transmission or delivery, or for the non-delivery, of any message, whether caused by the negligence of its servants or otherwise, beyond the actual loss, not exceeding in any event the sum of five thousand dollars, at which amount the sender of each message represents that the message is valued, unless a greater value is stated in writing by the sender thereof at the time the message is tendered for transmission, and unless the repeated-message rate is paid or agreed to be paid, and an additional charge equal to one-tenth of one per cent of the amount by which such valuation shall exceed five thousand dollars.

3. The Company is hereby made the agent of the sender, without liability, to forward this message over the lines of any other company when necessary to reach its destination.

4. Except as otherwise indicated in connection with the listing of individual places in the filed tariffs of the Company, the amount paid for the transmission of a domestic telegram or an incoming cable or radio message covers its delivery within the following limits: In cities or towns of 5,000 or more inhabitants where the Company has an office which, as shown by the filed tariffs of the Company, is not operated through the agency of a railroad company, within two miles of any open main or branch office of the Company; in cities or towns of 5,000 or more inhabitants where, as shown by the filed tariffs of the Company, the telegraph service is performed through the agency of a railroad company, within one mile of the telegraph office; in cities or towns of less than 5,000 inhabitants in which an office of the Company is located, within one-half mile of the telegraph office. Beyond the limits above specified the Company does not undertake to make delivery, but will endeavor to arrange for delivery as the agent of the sender, with the understanding that the sender authorizes the collection of any additional charge from the addressee and agrees to pay such additional charge if it is not collected from the addressee. There will be no additional charge for deliveries made by telephone within the corporate limits of any city or town in which an office of the Company is located.

5. No responsibility attaches to this Company concerning messages until the same are accepted at one of its transmitting offices: and if a message is sent to such office by one of the Company's messengers, he acts for that purpose as the agent of the sender.

6. The Company will not be liable for damages or statutory penalties in the case of any message except an intrastate message in Texas where the claim is not presented in writing to the Company within sixty days after the message is filed with the Company for transmission, and in the case of an intrastate message in Texas the Company will not be liable for damages or statutory penalties where the claim is not presented in writing to the Company within ninety-five days after the cause of action, if any, shall have accrued; provided, however, that neither of these conditions shall apply to claims for damages or overcharges within the purview of Section 415 of the Communications Act of 1934.

7. It is agreed that in any action by the Company to recover the tolls for any message or messages the prompt and correct transmission and delivery thereof shall be presumed, subject to rebuttal by competent evidence.

8. Special terms governing the transmission of messages according to their classes, as enumerated below, shall apply to messages in each of such respective classes in addition to all the foregoing terms.

9. No employee of the Company is authorized to vary the foregoing.

10-42

CLASSES OF SERVICE

DOMESTIC SERVICES

TELEGRAMS

A full-rate expedited service.

DAY LETTERS

A deferred service at lower than the standard telegram rates.

SERIALS

Messages sent in sections during the same day.

NIGHT LETTERS

Accepted up to 2 A.M. for delivery not earlier than the following morning at rates substantially lower than the standard telegram or day letter rates.

CABLE SERVICES

ORDINARIES

The standard service, at full rates. Code messages, consisting of 5-letter groups only, at a lower rate.

DEFERREDS

Plain-language messages, subject to being deferred in favor of full-rate messages.

NIGHT LETTERS

Overnight plain-language messages.

URGENTS

Messages taking precedence over all other messages except government messages.

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

W. P. MARSHALL, PRESIDENT

1201

(06)

SYMBOLS
DL=Day Letter
NL=Night Letter
LT=Int'l Letter Telegram
VLT=Int'l Victory Ltr.

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

JUN 5 PM 12 07

DWP031 PD=SILVERTON COLO 3 930A

=C O MITTENDORF ADMR, DEFENSE MINERALS EXPLORATION ADMN=

4674

PLEASE REACTIVATE PROCESSING OUR APPLICATION DOCKET NUMBER DMEA 2991 THIS INFORMATION PHONED EXECUTIVE OFFICER DENVER TODAY=

SHENANDOAH DIVES MINING CO D A LARSON=

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAIL
JUN 7 1953

FILE COPY
SURNAME:

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

MGriswold

ext 3669

Department of the Interior

Defense Minerals Exploration Administration
14X3923 - 970 Working Fund
Interior

June 2, 1953

DAY LETTER

MR. CHARLES A. CHALE
SHENANDOAH-DIVES MINING COMPANY
SILVERTON, COLORADO

REFURTEL MAY 15 REPLYING YOUR APPLICATION DOCKET NUMBER MMA 2991, LEAD-COPPER-ZINC, THIS TO ADVISE YOU THAT RESTRICTED PROGRAM DIRECTIVE DATED APRIL 15, MODIFIED ON JUNE 1 GIVING ALL AUTHORITY TO CONTINUE PROCESSING YOUR APPLICATION WHICH WAS PENDING PRIOR TO DATE REFTEL. KINDLY ADVISE THIS OFFICE AND EXECUTIVE OFFICER AT DENVER WHETHER OR NOT YOU DESIRE SUBJECT APPLICATION TO BE REACTIVATED.

MGriswold/hmj
(6/2/53)
CC to: Docket
Adm. R. File
Op. Committee
Base Metals Division
Region IV (2)
Mr. Kinkel
Mr. Bishop
Chron.

C. O. Mittendorf (fw)

C. O. MITTENDORF, ADMINISTRATOR
DEFENSE MINERAL EXPLORATION ADMINISTRATION

fw
6-2-53

FILE COPY
500 SURNAME:

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

MAY 29 1953

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA 2991 (Lead-Copper-Zinc)
Shenandoah-Dives Company
Silver Lake Mine
San Juan County, Colorado

Dear Mr. King:

This refers to your letter of April 16, 1953, with which you submitted the application of the above company for an exploration project contract.

On May 15, we had advised the Applicant by telegram that we were forced to deny his application due to the deletion of lead, zinc and other minerals from our eligible list.

However, we have just been advised that applications which were received prior to May 15 may now be considered. Hence, will you please arrange for the necessary field examination and recommendations for the above proposed project. We enclose a copy of the recommendation of the commodity members of the U. S. Geological Survey and the Bureau of Mines. You will note their suggestion as to Mr. David Varnes, geologist in the Denver office.

May we request that we receive your recommendations as promptly as possible. It is our understanding that the town of Silverton, Colorado is, to quite an extent, dependent upon the activities of the Applicant company, and naturally we wish to do everything which can properly be done to assist the mining communities.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosure

APPROVED:

J. H. Hedges

Member, Bureau of Mines

A. R. Kinkel, Jr.

Member, Geological Survey

WRGriswold/hmj (5/28/53)
CC to: Docket
Adm. R. File
Cp. Committee
Base Metals Div.
Mr. Kinkel
Mr. Bishop
Mr. Griswold
Chron.

Frances:

~~Mr Selfridge said he understand Mr Mitterdorf wanted to add a "PS" to this letter.~~

~~Also wants it to go out today.~~

I will phone him Monday Hazel

Con

FILE COPY
SURNAME:

Griswold

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

WRGriswold/hmj
(5/15/53)
CC to: Docket
Adm. R. File
Op. Committee
Base Metals Division
Region IV (2)
Mr. Kinkel
Mr. Bishop
Chron ext. 3669

Department of the Interior

Defense Minerals Exploration Administration
LLX3923-970 Working Fund Interior

May 15, 1953

Night Letter

MR. CHARLES A. CHASE
SHENANDOAH-DIVES MINING COMPANY
SILVERTON, COLORADO

RE YOUR EXPLORATION APPLICATION POCKET NUMBER [illegible] 2991, LEAD-COPPER-ZINC.

THIS IS TO ADVISE YOU THAT EFFECTIVE APRIL 15, 1953 EXPLORATION FUNDS RESTRICTED TO ASSISTANCE ONLY FOR SPECIFIED MINERALS STILL IN SHORT SUPPLY. LEAD- INC NO LONGER INCLUDED. CONSEQUENTLY WE DO NOT HAVE AUTHORITY OR FUNDS TO EXECUTE CONTRACT FOR EXPLORATION PROJECT ON YOUR PROPERTY AND YOUR APPLICATION THEREFORE IS DENIED. THIS IS WITHOUT PREJUDICE TO THE MERITS OF YOUR PROPOSED PROJECT. WE REGRET THE NECESSITY OF THIS ACTION AND APPRECIATION FOR YOUR INTEREST IN THE EXPLORATION PROGRAM AND COOPERATION DURING PERIOD YOUR APPLICATION UNDER CONSIDERATION.

C. O. Mittendorf (for)

C. O. MITTENDORF, ADMINISTRATOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

P.N.
5-15-53

IN REPLY REFER TO:

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

April 28, 1953

Memorandum

Re: DMEA-2991
Shenandoah-Dives Mining Co.
Animas District
San Juan County, Colorado
$229,630
Lead-zinc

To: Mr. W. R. Griswold

From: E. L. Newcomb - O. M. Bishop

Subject: Recommendation for field referral

The applicant requests assistance to explore downdip extension of the Letter "G" vein on the Silver Lake group of claims. The proposal involves 1300 feet of crosscutting and drifting to the Letter "G" vein from the 4177 Main Level, then drifting 1700 feet westerly on the vein and raising 500 feet to the Unity tunnel level.

Shenandoah-Dives was in continuous operation from 1928-1952 and produced about 4,200,000 tons of lead-zinc-silver-gold-copper ore worth about $26,280,000. The mine recently closed down presumably because of falling metal prices and a lack of presently minable ore reserves. According to the applicant, the property produced 70% of the total ore mined in San Juan County, and 11% of the ore mined in Colorado for the period 1928-1952.

The Silver Lake group of claims have about 90,000 feet of underground workings and about 23,000 feet of drill hole exploration have been done.

For the years 1942-1952, the total mine production was 1,800,000 tons averaging .086 oz. of gold, 1.89 oz. of silver, 1.5% lead, 0.68% zinc, and 0.26% copper. Average value of the ore, based on 60% of the gross market price, is $4.99 per ton. The average stoping width has ranged from 9.1 feet in 1928 to 6.7 feet in 1952. Although the ore is low grade, continuous production during the last 25 years was made possible by very efficient mine management.

The proposed exploration was discussed with Mr. W. S. Burbank of the Survey, and he suggested that the application be referred to Mr. David Varnes, USGS geologist in the Denver office. Mr. Varnes has recently completed mapping in the area of the Letter "G" vein. This work has not been published, and the report is not available to us in Washington.

We recommend that the application be referred to the field for review by the Survey and Bureau members of the field team. It should be noted that the characteristics of the structures vary at depth, with changes in the nature of the volcanics, and with changes in the strike and dip of the mineralized zones. Final judgment of the proposal should be based on underground evidence on the Mayflower, Iowa and other nearby veins at the horizons to be prospected.

E. L. Newcomb

E. L. Newcomb
Geologist

O. M. Bishop

O. M. Bishop
Base Metals Branch

IN REPLY REFER TO:

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

April 28, 1953

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E. L. Newcomb
Geologist

O. M. Bishop
Base Metals Branch

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

April 21, 1953

Memorandum

To: Executive Officer, DMEA Field Team, Region IV

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region IV

DMEA-2991 **Shenandoah-Dives Mining Company**

ROBERT E. ADAMS

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

38226

April 21, 1953

Mr. Charles A. Chase
Shenandoah-Dives Mining Company
Silverton, Colorado

Subject: DMEA-2991
Re: Exploration Assistance
Silver Lake Group

My dear Mr. Chase:

The receipt of your application dated April 15, 1953 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-2991 and referred to the Base Metals Division.

Kindly refer to DMEA-2991 in any future correspondence relating to your application.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams, Chief
Operations Control and
Statistics Division

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

224 New Customhouse
Denver 2, Colorado

April 16, 1953.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 20 1953

Memorandum

To: Secretary to the Operating Committee, Defense Minerals Exploration Administration.

From: Field Team, Region IV

Subject: Application for exploration assistance. Shenandoah-Dives Mining Company, Silverton, Colorado (Lead-Copper-Zinc).

Enclosed are three copies of application for exploration assistance submitted by the Shenandoah-Dives Mining Company, Silverton, Colorado. The estimated cost of the exploration project is $229,630.00.

It is suggested that this application be referred to W. S. Burbank, who has a vast knowledge of this particular area.

W. H. King
W. H. King

Enclosures

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

224 New Customhouse
Denver 2, Colorado

April 16, 1953.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 20 1953

Memorandum

To: Secretary to the Operating Committee, Defense Minerals Exploration Administration.

From: Field Team, Region IV

Subject: Application for exploration assistance. Shenandoah-Dives Mining Company, Silverton, Colorado (Lead-Copper-Zinc).

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W. H. King
W. H. King

Enclosures

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
APR 20 1953

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

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

Not to be filled in by applicant

Docket No. DMEA-2991
Metal or Mineral
Date Received 4-20-53
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Shenandoah-Dives Mining Company, Silverton, Colorado

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

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

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

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

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

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it

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

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

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

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

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

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

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

.....

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated April 15, 1953

Shenandoah-Dives Mining Company,
Silverton, Colorado
(Applicant)

By Warden A. Wade

Executive Vice President

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

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

We ask for assistance in a large project. The first step is drifting, followed by crosscutting, and that followed by drifting; thereafter comes raising.

These last two items at first glance suggest "preparation for mining." They would not weigh heavily as such for two reasons:

1. Natural ventilation not being established, production of ore of grade to be expected would be unbearably penalized, so the raise is required;

2. Prior experience has demonstrated that mining from bottom up is enough more costly than mining from top down, in retreat, to spell the difference between profit and loss. For us to do all this horizontal work without getting such access to the upper areas prior to production would penalize the work unbearably, so the raise is required.

The text enclosed "A Fragment of Colorado Mining History," plus the typed comparison presented here,

CONDENSED HISTORY OF PRODUCTION FROM

LIBERTY BELL MINE, 2 PERIODS:

	TONS	MINE COST			OTHER	TOTAL	NET	
		DEV.	OTHER	TOTAL	COST	COST	SMELTER	PROFIT
7-10	477,917	$.49	$2.43	$2.91	$2.85	$5.73	$6.98	$1.25
1-15	858,446	.22	1.54	1.76	2.33	4.08	6.12	2.01

plus the three photostats presented, show the astonishing benefit from what we call "orderly mining, in retreat from top." In September, 1906, the L. B. Mine set out on a determined campaign which produced the financial results of the tabulation above.

MF-103

UNITED STATES DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

Application for aid in an exploration project, pursuant to DMEA order 1, under the Defense Production Act of 1950, as amended

1. Name of Applicant.

(a) Shenandoah-Dives Mining Company
Silverton, San Juan County, Colorado.

(b) Incorporated, State of Colorado

(c) Home Office; Shenandoah-Dives Mining Company,
616 Finance Building,
Kansas City, Mo.

Officers
J. W. Oldham, President, 616 Finance Bldg., Kansas City, Mo.
E. B. Kane, Secty & Treas. 616 Finance Bldg., Kansas City, Mo.
Charles A. Chase, Executive Vice Pres., Silverton, Colo.

3. (a,b,c,d)

Exploration project in the Silver Lake Group of Claims, owned by the American Smelting & Refining Company and under lease to Shenandoah-Dives Mining Company for thirty years. Copy of lease is attached and lists all mining claims of the Silver Lake Group; the project map shows the claims where exploration work will be performed.

4. (a) Shenandoah-Dives Mining Company has been in operation since 1928 and has mined in the Silver Lake Group since 1942 as shown on map 5-b, part 1.

(b) Exhibits 1 & 2 from our annual report,(The Mine Record and a Summary of Production) plux exhibit 4-b-3 Mine Assay Record of ore excavated, are attached.

(c) Assay plan maps of Letter "G" vein, attached No. 4-c-1
Also please refer to maps under 5-b, parts 1,2,3 & 4.

(d) Shenandoah-Dives Mill is situated on oiled highway 2-1/2 miles easterly from Silverton (population 1400) in San Juan County, Colorado. Served by the Denver & Rio Grande Western Railroad. A 2 mile aerial tramway from Mill to Mine is the means of transportation for men, supplies and ore.

(e) Manpower is available in Silverton by reason of our recent suspension of Mining and Milling operations; Power is purchased from the Western Colorado Power Company, delivered to our Mill sub-station at 16,500 volts; We have ample water for Mine & Mill operations.

M F 103

No. 5. EXPLORATION PROJECT

5 (a) To explore for Lead, Copper & Zinc

5 (b) supported by maps--Part 1, 2, 3, 4.

Proposed Letter "G" Exploration Project, from 4177 ML Drift.

Extend present 4177 ML drift (24 Coord.) to at least the 28 Coord. about 400 ft. to explore for a downward continuation of the Melville-Iowa ore shoot worked above on the 370 and 600 levels by Shenandoah-Dives Mining Company and by previous operators of the old workings above. Walls of this drift should be checked by diamond-drilling to be sure that the structure drifted on is the main and/or only one coming down to main level. (See plan map and 370-L drift assay record). Extending this drift will increase the distance to the Letter "G" vein less than 50 feet. The results of our work above main level require this exploration. We will leave 50 feet at the end of this drift for a switch; slab and turn west from drift and drive a straight crosscut bearing S 18° W. to the Letter "G" vein. This crosscutting, assuming an average dip from old workings above and from dips taken on the outcrop of the Buckeye and Last Chance claims, will approximate 850 feet. Total exploratory drifting-crosscutting to Letter "G" vein will be about 1300 feet.

Turn and drift on the vein westerly 1700 feet.

Raise from near the end of the west drift to the Unity Tunnel Level 500 feet above. The dog-hole crosscutting (220 ft., 4' x 6') and the Station crosscutting (90 ft., 8'x 8') are necessarily a part of the Raise project as shown on project map, part 4. The ore pass is not included in this project---to be driven after completion of Raise.

SUMMARY

1300 ft of Drifting & Crosscutting to Letter "G" Vein
1700 ft of Drifting on Letter "G" Vein
500 ft of Raise, including 310 ft. of crosscutting from Raise.

No. 5 (c) The work will start promptly when exploration project is approved and to be completed in 19 months.

5 (d) Shenandoah-Dives Mining Company has operated for 25 years under the supervision of Mr. Charles A. Chase, Executive Vice President; Mr. John Holmgren, Mine Supt., has been with the Company 20 years and will supervise the exploration work; Others of the present staff have been with the Company many years.

3 d

Lease

AGREEMENT WITH

AMERICAN SMELTING & REFINING COMPANY

Dated January 1, 1953

to

January 1, 1983

AGREEMENT

THIS AGREEMENT, entered into as of this 1st day of January, 1953, regardless of the actual times of signing and acknowledgment, between AMERICAN SMELTING AND REFINING COMPANY, a New Jersey Corporation, party of the first part, hereinafter referred to as Asarco, and SHENANDOAH-DIVES MINING COMPANY, a Colorado Corporation, party of the second part, hereinafter referred to as the Mining Company,

W I T N E S S E T H

THAT WHEREAS, under date of September 8, 1936, the parties hereto entered into an agreement, and under date of July 1, 1942, entered into a supplemental agreement, and at divers times since July 1, 1942, entered into further supplements and modifications thereof, for and among other things, carrying on the operations of mining, tramming, milling, marketing and accounting for ores from Asarco's Silver Lake Unit, and the additional mining properties known as the Iowa Mine referred to in said agreements; and

WHEREAS, under the above agreements as supplemented and modified, Asarco has expended a total sum of $47,580.34 toward the cost of the Silver Lake Main Raise and Crosscut, as of the date hereof, and the Mining Company has incurred a net loss of $183,900.79 as of December 1, 1952; and

WHEREAS, the parties desire to make provision for the reimbursement to Asarco of said expenditures and to the Mining Company of said net losses, by the further working of the property covered hereby; and

WHEREAS, title to the Iowa Mine has been acquired by Asarco and said Iowa Mine shall be included in the property covered hereby; and

WHEREAS, it is the intention of the parties hereto that the Mining Company shall mine and operate the property covered hereby in the same diligent manner as under prior agreements and for the purposes hereinafter specified; and

WHEREAS, it is the desire of the parties that the area above as well as below

"D" level be developed and mined, and that the former distinction as to costs and profits from above and below "D" level be eliminated;

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements herein set forth to be duly performed by the respective parties hereto, it is agreed as follows:

Article 1. Previous Agreements Cancelled. The agreement of September 8, 1936, the supplemental agreement of July 1, 1942, and all supplements and modifications thereof are hereby superseded and cancelled as of the date of this agreement.

Article 2. Grant of Lease and Description of the Property. Asarco hereby leases to the Mining Company the property covered hereby, which lies in San Juan County, Colorado, and is more particularly described in Exhibit "A" attached hereto and made a part hereof. Any part of said property may be dropped from this agreement by mutual consent of both parties hereto.

Article 3. Term of Agreement. The term of this agreement shall be thirty (30) years from and after the date hereof, unless sooner terminated in the manner hereinafter provided.

Article 4. Manner of Work. The Mining Company shall diligently and in approved and minerlike fashion develop, mine, tram and mill ore from the above described property, shall pay and discharge all bills, costs and expenses, and shall hold Asarco harmless from any claim, suit or demand by reason thereof. The Mining Company shall use reasonable care to avoid mixing low grade, non-profitable material with better grade of ore in shipments to the mill. Until weights are determined and samples are taken, in accordance with established practice of the mine, ores mined from the property covered hereby shall be kept separate from all other ores.

Article 5. Definition of Net Smelter Returns. Net Smelter Returns shall be

defined as the calculated net value at the mill of the concentrates produced from ore mined from the above described property. The factors entering into such calculation shall be tonnage milled, head assay of the ore, metal recoveries and ratios of concentration, metal prices, freight rates and smelter schedules. Metal recoveries and ratios of concentration shall be those shown by mill records. Metal prices to be so employed shall be the average prices for the month in question as quoted in sources referred to in the applicable smelter schedules. Smelter schedules and freight rates so employed shall be those currently applicable to the concentrates produced in the mill.

After the Mining Company has exhausted its own ores, the net smelter returns shall be the actual amounts received by the Mining Company from the smelter, after deduction for the cost of transportation from mill to smelter. Any payment made by the Smelter to the Mining Company for ores or concentrates not produced from the property covered hereby shall not be included as a part of Net Smelter Returns. The phrase "not produced from the property covered hereby" refers to the Mining Company's own ore and to custom ore purchased by Mining Company and milled with ore from the property of Asarco.

<u>Article 6.</u> <u>Definition of Costs.</u> The cost hereunder shall be computed for each month and shall be applicable to the tonnage marketed during that month. It shall include only the actual out-of-pocket operating expenses of the Mining Company for developing, mining, tramming and milling incurred in the State of Colorado through the properties of the Mining Company and in the properties covered hereby, being the Mining Company's total Colorado cost in its operation of said properties, made up in detail as follows:

(a) All labor and material entering the portal for use there (mine hauling is prorated with Shenandoah-Dives Mine on tonnage);

(b) Electric and air-power used, to be prorated with Shenandoah-Dives Mine on basis of drill shifts employed;

(c) Divided supervision, to be prorated with Shenandoah-Dives Mine on basis of drill shifts employed;

(d) Aerial-tramway and milling, to be prorated with Shenandoah-Dives Mine on tonnages transported and milled;

(e) Assaying, to be prorated with Shenandoah-Dives Mine on basis of determinations made and to be prorated as to the Mill on basis of tonnage milled;

(f) All "production" taxes on ore produced from the property covered hereby, and all property taxes on the above described property of Asarco, including improvements, machinery and equipment located thereon;

(g) All property taxes (excluding production taxes on its own ore) on the property of Mining Company used in, benefiting or available for the development and/or operating of both the properties of Mining Company and Asarco shall be prorated on basis of tonnage milled;

(h) Workmen's Compensation Insurance, Unemployment Compensation, Old Age Benefit Charges, and any other charges under federal and/or state laws and regulations on all labor charged directly or prorated to said properties;

(i) Colorado management expense of the Mining Company, including clerical labor, office and miscellaneous items. Such expense shall not include legal expense arising out of any dispute between the parties hereto or any legal expenses incurred in connection with any matter not related to the operation of the properties covered by this agreement. All such expenses shall be prorated with Shenandoah-Dives Mine on the basis of mine payroll charged to said properties. Management expenses to be charged as cost shall be computed after deducting the proportionate share of such expense

applicable to the milling of custom ores, which proportion shall be based upon tonnages milled;

(j) Depreciation at the heretofore rate only upon equipment actually used in connection with the ores herein described, and not previously fully charged off, prorated with Shenandoah-Dives Mine on the basis of tonnage milled;

(k) The Mining Company's hotel operation to be prorated with Shenandoah-Dives Mine on the basis of mine payroll charged to said properties;

(l) Unforeseen expense properly chargeable, upon written agreement;

(m) Equipment purchased for Silver Lake Mine (see Article 14.)

Article 7. Working Capital Reserve Fund. Out of profits realized by the operations provided for by this agreement (see Article Eight (8), sub-paragraph (3)), Mining Company may accumulate a cash reserve fund out of twenty-five percent (25%) of the net profits in any one month. The object of this fund shall be to provide funds for and which may be expended by Mining Company, for developing, equipping, and operating the property covered by this agreement, including the Letter "G" vein. Upon termination of this agreement any monies in such reserve shall be divided between the parties, two-thirds to the Mining Company and one-third to Asarco. If, during the existence of this agreement the amount in such reserve shall be in excess of that reasonably required, such excess may be divided between the parties in the same proportions.

Article 8. Division of Net Profits. From the net smelter returns as above computed for any month, plus any premium or bonus, shall be deducted the costs for that month as above defined to determine profit. Losses incurred in any month after the date hereof shall be carried forward and applied against profits of future months.

The net profit thus derived in any month shall be applied as follows:

(1) One hundred percent (100%) to the reimbursement of Mining Company's

Net Loss of $183,900.79, as of December 1, 1952, and its possible losses thereafter,

(2) After the Mining Company has been reimbursed for its net losses as provided in (1) above, then one hundred percent (100%) of the net profit in any month shall be applied to the reimbursement of Asarco's expenditure of $47,580.34, as of the date of this agreement, provided however that the Mining Company may at its election pay the amount which would otherwise be due to Asarco under this sub-paragraph for any one month in four equal monthly installments following the month in which profits payable to Asarco are earned until the said amount $47,580.34, shall have been paid in full.

(3) Thereafter, net profits in each month, subject to provisions of sub-paragraph (1) of this Article 8, shall be divided as follows:

25% to be retained by Mining Company as a working Capital reserve fund for the operations under this agreement;

50% to be retained by Mining Company on account of its investment and management;

25% to be paid Asarco on account of its investment. Said 25% to be paid on or before the 25th day of the month following that in which earned;

provided, however, that Mining Company may, at its election, recover any monthly net losses sustained by it under this agreement, either by carry-over of such losses against subsequent profits, as authorized by sub-paragraph (1) of Article 8, or by charging such net losses against the Working Capital Reserve.

All property and rights of property in and to any and all ore mined or extracted from said premises and any part thereof shall remain and be in Asarco until Asarco shall have received its full share and payment therefor, and none of said ores shall be in any way subject to any lien, claim or demand of any other person whomsoever against the Mining Company until such share and payment shall have been received by Asarco.

<u>Article 9.</u> <u>Taxes.</u> The Mining Company shall pay before they are delinquent all

general property taxes assessed against Asarco's ownership in the above described property during the term of this agreement, beginning with and prorated from this date, and all production, severance or similar or other excise taxes. The Mining Company shall also pay before they are delinquent all taxes levied against any and all personal property, machinery and equipment placed upon the above described property by the Mining Company during the term of this agreement.

Article 10. Protection from Liens and Damages. The Mining Company shall keep the above described property and the whole and every part thereof free and clear of liens for labor done or work performed upon the above described property or material furnished to it for the development and operation thereof under this agreement while the same is in force and effect, and will save and keep harmless Asarco from all costs, loss or damage which may arise by reason of injury to any persons employed by the Mining Company in or upon the above described property or any part thereof, or which may arise by reason of injury to any persons or damage to any property as the result of any work or operations of the Mining Company or of its possession and occupancy of the above described property. A lien upon the property shall not constitute a default if the Mining Company in good faith disputes the validity of the claim, in which event the existence of the lien shall constitute a default only from and after the validity of the lien has been adjudicated.

Article 11. Insurance and Liability. The Mining Company shall provide all liability, unemployment compensation and other insurance and perform all obligations in respect to workmen's compensation, old age benefit laws and other federal or state laws and regulations, pay all costs and expenses thereof as part of cost of operation, post and keep posted full and adequate notices to that effect and to the effect that the Mining Company alone is operating said premises.

Article 12. Inspection and Books of Account. Accounts of said work and of disbursements and receipts in clear and intelligible detail shall be rendered for

each month to Asarco not later than the 25th of the succeeding month, and shall be accompanied by a check for Asarco's share of the profits if any. Asarco shall at all times have full and free access to the mine for inspection purposes, together with the right to check the handling and sampling of ores and to inspect and make copies of any and all records, books and papers relating to the operations hereunder; and to these ends the Mining Company will render all reasonable assistance. The Mining Company shall furnish duplicate pulps of samples for the purpose of check-assaying by Asarco and, in case of disagreement on assays, an umpire shall be selected by the parties. If the umpire's assay lies between the assays of the respective parties, it shall be taken as final; otherwise, the assay of the party lying between the assay of the umpire and that of the other party shall be taken as final. The losing party shall pay the cost of the umpire. One or more representatives of Asarco shall have the right to be present at any or all stages of operation. If no objection is made by Asarco within sixty (60) days from and after any operation or the receiving of any account, all objection thereto shall be considered waived.

Article 13. Arbitration. Any difference or dispute concerning any matter or thing done or omitted to be done hereunder by either party hereto shall, unless otherwise provided by controlling statutes, be referred to one arbitrator who shall be chosen by the American Arbitration Association, whose rules shall be followed. The award of the arbitrator shall be in writing and it shall be final and binding upon both parties and shall not be open to objection on account of the form of the proceeding or the award unless otherwise provided by the controlling statutes. The cost of every such reference to arbitration and of the award to be made thereunder shall be payable by such party or parties as may be directed or apportioned by the arbitrator.

Article 14. Equipment. It is contemplated that the Mining Company will from time to time hereafter purchase equipment, machinery, tools and supplies and charge the cost thereof to operations. All thereof so purchased and charged shall

belong two-thirds (2/3) to the Mining Company and one-third (1/3) to Asarco. Upon cancellation, expiration or other termination of this agreement, the Mining Company will pay to Asarco a sum equal to one-third (1/3) of the reasonable value of such equipment, machinery, tools and supplies remaining on the property which the Mining Company may elect to purchase, or will pay one-third (1/3) of the sales price received therefor if any thereof is sold. Any personal property wholly owned by the Mining Company, together with any personal property theretofore purchased and charged to operations and wherein the Mining Company shall have purchased the one-third (1/3) interest of Asarco, shall be removed from said premises by the Mining Company within nine (9) months after such cancellation, expiration or other termination.

Article 15. Unavoidable Delays. Operations hereunder may be suspended because of acts of nature, strikes, fire, flood, requirement or regulation of Government, or any other cause without regard to the foregoing enumerations, beyond the control of either party, it being agreed, however, that upon the removal of the cause of suspension the work hereunder shall be resumed.

Article 16. Merger of Existing Easements. The easement or right of way for an aerial tram line granted by Asarco to the Mining Company on June 21, 1929, and any easements for disposal of tailings by the Mining Company on mining claims belonging to Asarco shall be merged and included herein and shall expire herewith, notwithstanding any limitations of time or periodical rentals heretofore specified in said easements or rights of way. Any separate rentals therefor are hereby cancelled and superseded.

Provided, however, that any and all obligations of the Mining Company to save harmless Asarco from any and all liabilities resulting directly or indirectly from the dumping and depositing on the surface of the mining claims, or any of them, particularly the Gold and Buena Vista claims, of tailings arising from the milling operations of the Mining Company heretofore or hereafter conducted on said mining

claims, or on any thereof or in proximity thereto, shall continue after any cancellation or termination of this agreement.

Article 17. Sale of Ore and Concentrates. It is agreed between the parties that the concentrates or other products produced by the Mining Company under this agreement shall at the election of Asarco be sold to its smelters upon rates equal to competitive rates offered by other reputable smelters for similar products, freight differentials considered.

Article 18. Forfeiture Clause. The failure of the Mining Company to make or cause to be made any of the payments herein provided for or to keep or perform any agreement on its part to be kept and performed according to the terms and provisions of this agreement shall, at the election of Asarco, work a forfeiture hereof; provided, however, that in the event of a default on the part of the Mining Company, and the election of Asarco to terminate this agreement on account thereof, Asarco shall give to the Mining Company a written notice of its intention to declare a forfeiture of this agreement and to terminate the same on account thereof, specifying the particular default or defaults relied upon by it, and the Mining Company shall have sixty (60) days after receipt of such notice in which to make good such default or defaults in which event there shall be no forfeiture therefor. Waiver or failure to give notice of a particular default or defaults shall not be construed as condoning any subsequent default.

Article 19. Cancellation. This agreement may be cancelled by the Mining Company at any time upon sixty (60) days' written notice to Asarco. Upon such cancellation the Mining Company shall forthwith pay Asarco any profits accruing hereunder to Asarco, including Asarco's share of any monies remaining in the working capital reserve and shall pay all bills and other outstanding obligations of the Mining Company.

Article 20. Notices. Any notices required or permitted to be given hereunder

shall be considered as delivered forty-eight (48) hours after the same shall have been deposited in the United States mail, duly registered, with postage thereon prepaid, addressed to the respective addresses given below:

If to Asarco, Attention Mining Department
120 Broadway
New York 5, New York

and

600 Pacific National Life Building
Salt Lake City 1, Utah

and if to Mining Company Silverton, Colorado

and

616 Finance Building
Kansas City 6, Missouri

Said addresses for receiving notices may be changed by either party upon two (2) days' previous written notice to the other party.

Article 21. Assignment. The Mining Company may not assign this agreement, or lease or sub-lease any part of the above described property, without the written consent of Asarco.

Article 22. Inurement. These presents shall inure to the benefit of and be binding upon the respective successors and assigns of the parties hereto.

Article 23. Construction. Titles to the respective articles hereof shall not be deemed a part of this lease but shall be regarded as having been used for convenience only.

IN WITNESS WHEREOF, the parties have executed this agreement the day and year first above written.

AMERICAN SMELTING AND REFINING COMPANY

By /s/ R. F. Goodwin
Vice President

ATTEST:

/s/ G. A. Brockington
Secretary

SHENANDOAH-DIVES MINING COMPANY

By /s/ James W. Oldham
President

ATTEST:
/s/ E. B. Kane
Secretary

STATE OF NEW YORK)
) ss.
CITY AND COUNTY OF NEW YORK)

The foregoing instrument was acknowledge before me this 23rd day of January, 1953, by R. F. GOODWIN, Vice President of American Smelting and Refining Company.

My commission expires: March 30, 1954

Witness my hand and official seal.

/s/ John E. Dempsey
Notary Public

STATE OF MISSOURI)
) ss.
COUNTY OF JACKSON)

The foregoing instrument was acknowledged before me this 14th day of January, 1953, by Jas. W. Oldham, Pres. of Shenandoah-Dives Mining Company.

My commission expires: September 26, 1956

Witness my hand and official seal.

/s/ Gladys M. Ellis
Notary Public

EXHIBIT "A"

Claim	Survey No.	Claim	Survey No.
Arabian Boy	6994	Pyramid #3	14220
Badger	11448-A	Pyramid #2	14220
Barbedoes	14036	Pyramid	2461
Bear	280	Rivington Street	9003-A
Buckeye	232	Rochester	4764
Buckeye #2	7896	Round Mountain	5110-A
Carolina	5569-A	Royal	6198-A
Dandy	7896-Am	Royal Tiger #1	769
Emma	238	Sedalia	14029
Emma	14036	Seymour	96
Eckley Cox	14066	Silver Lake	2164-A
Essex Street	9106-A	Silver Lake Spur	6994
Freiburg	14047	Smuggler	14029
Galena	11448-A	Smyrna	12122-A
General Hale	14066	Solstice	5571
General Merritt	14030	Tiger Extension #2	14036
General Miles	14066	Titusville	403
Gretchen	2163-A	Unity	9120
Happy Jack	8492	Whale	4764
Home Stake	5471	Adams Placer	15143
Jaffa	12122-A	Alexandria	14024-A
Jamaica	14035	Algiers	11469
Jocko	14163	Ann Harris Placer	11596
Jupitor	14066	Argentine Lode	11380-A
Kingston	14035	Argentine Mill Site	11380-B
Lake View	14035	Blair Mt. Lode	13322-A
Last Chance	11448-A	Blair Mt. Mill Site	13322-B
Last Chance	7896 Am	Blair Mt. Placer	16469
Lena Allen	7802	Blair Placer	841
Leucosticte	5570	Big Giant Extension Lode	14320
Lowville	5529	Big Giant Lode	1156-A
Magnala	14035	Bowery Lode	155
Manilla	14030	Cairo Lode	11469
Martha V.F.	4952	Carolina Mill Site	5569-B
Maxwell	5530-A	Coin Lode	13322-A
Monte Carlo	14035	Combination Lode	16476
Naples	14035	Contention Lode	14320
Nevada	8530-A	Contra Costa Lode	2329
Nevada Extension	8497	Cremorne Lode	827
New York City	9104	Dana Lode	13322-A
Panuco	7896 Am	Desmosthenes	14196
Pompeii	404	Dick Bland Lode	13322-A
Porto Rico	14035	Dollie Blight	12671
Professor Neisback	11469	Dolly Varden #2 Lode	2616
Professor Newberry	14046	Dreadnaught	14320
Professor Percy	14066	Ellida	16476
Professor Stelzner	7568	El Paso Lode	9842-A
Professor Wedding	11469	Whale M.S.	9106-B
Professor Zeuner	11469	Esther Allen Lode	8801

Exhibit "A" (Cont.)

Claim	Survey No.
Extension and Combination of Dolly Varden No. 2 and	
Ethan Allen	2617
First Chance Lode	13322-A
Free Coinage Lode	9903
Frithoft	16476
General Garfield Lode	828
General Grant Lode	13322-A
General Hallack Lode	14047
General Logan Lode	13322-A
General Sherman Lode	13322-A
Genoa Lode	14024
George Hesse Lode	9852
Golden Fleece Lode	11714
Grey Eagle 1/4 of	16860 1/4 of
Growler	16476
Helena Roux Lode	9852
Illinois Lode	14019
Independence	16476
Iron Mask Lode	11148
Jeanette Roux Placer	11596
J. E. Ward Mill Site	9858
Jerusalem	14012
Jess Lode 1/2 of	9426 1/2 of
Jura Lode	2388
King Solomon Lode	409
Last Chance Lode	9284
La Veta Lode	14047
Leyner Lode	14324
Lightening Attracting	16476
Little Gertie Lode	15122
Lowville Mill Site	5529-B
Manhattan Lode	13322-A
Marcia L. Lode	8801-A
Marcia L. Mill Site	8801-B
Maxwell Mill Site	5530-B
M. D. Thatcher Placer	17699
Mountain Queen Lode	2389
North Star Ext. Lode	7772
Panic Lode	13322-A
Perhaps Lode	16476
Potomac Lode	457
Professor Chandler Lode	14047
Professor Richter Lode	14028
Professor Winkler Lode	9842-A
Professor Winkler Mill Site	9842-B
Republic Lode	1158
Riverside Lode	8801
Rochester	4764

Claim	Survey No.
Rochester Mill Site	8592
Sal Custer Lode	1849
Scranton City #2 Lode	16476
Scranton City Lode	15426
Silver Star Lode	681
Smyrna Mill Site	12122-B
Snow Shed Lode	14027
Southside Lode	14012
Spring Lode	14012
Tarpon Lode	15122
Trail Lode	13322-A
Twentieth Century	16476
Vienna Placer	14057
Von Cotta Lode	14052
Iowa	480
J. W. Collins	6561
Black Diamond	4811
Cub)	12193
Last Chance)	
Club	12978
Grip	6647
Elk	12977
Lakeside	12818
Melville	12353
1/2 Diamond L.	561-A
Royal Tiger	48
Stag	6646
White Diamond	13011
Dump	9843-A Am
Lake Shore	13064
Key	13065
Hillside)	
Exploit)	12946
Galicya Boy	13139
Dump Mill Site	9843-B
Iowa Mill Site	9837
Tiger Mill Site	13749
2/3 American Boy	7244
Aspen	199
Chloride	411
Legal Tender	753
Mammoth	499
McGregor	423
Susquehanna	447
Ruby Placer #1	654
Ruby Placer #2	655
Mill Site #1	424
Mill Site #2	425
La Boca	19479

Claim	Survey No.
Hermosa Lode	19974
San Juan)	
Piedmont)	
River)	15112
New York)	
Washington)	

Together with any and all water and other rights appurtenant thereto.

2. Iowa Mill Operation, 1928-29; 3. Current Operation, 1930-52;

SINKING				STOPING		TOTAL ORE	TOTAL WASTE Excavated	WORK ROOMS	DRILL HOLE EXPLORATION
Total	Productive								
Lin. ft.	Lin. ft.	Sq. ft.	Tons	Sq. ft.	Tons	Tons	Tons	Cu. ft.	Lin. ft.
									309
				59,349	45,071	62,341	15,571	46,418	329
				111,415	98,484	118,376	5,459	15,300	426
				156,402	141,357	180,746	11,269	11,460	406
				167,868	161,720	183,315	5,935	4,564	
				235,545	167,044	184,500	18,259	15,795	1,610
36	36	372	204	251,808	181,529	201,786	19,886		2,745
194	194	4,629	2,785	127,295	79,163	111,313	3,261	47,788	844
119	89	1,734	2,130	275,540	174,548	201,511	11,429	19,173	1,170
331	96	1,369	745	239,360	171,393	190,500	8,524	21,151	867
87	87	1,336	862	239,623	191,248	208,328	6,809	3,958	2,014
162	85	1,468	982	157,536	129,120	141,532	9,557	41,550	1,126
12				284,126	179,002	196,000	6,961	9,714	1,813
				343,220	208,769	228,765	1,210		1,507
				225,435	123,833	136,564	698	1,993	113
				290,300	167,888	182,711	687	8,658	286
				212,704	135,259	152,789	272		678
				228,827	136,583	146,363	1,889		882
				230,168	140,902	150,735	9,027	13,877	741
				214,217	134,016	143,406	14,210		1,212
				180,916	114,066	134,428	2,055		663
				228,518	138,077	157,771	3,819		1,673
				320,073	197,441	206,003			342
				224,661	144,204	155,388	472		705
				194,915	102,495	114,520	1,540		389
941	587	10,908	7,708	5,170,472	3,418,071	3,827,350	143,228	214,981	22,212
941	587	10,908	7,708	5,229,821	3,463,142	3,889,691	158,799	261,399	22,850

RECONCILEMENT, MINE AND MILL TONNAGES:

			Tons
Ore from Mine, not excavated by Company	(Dumps, 117,238 Tons) (Fills, 80,158 ") (Other, 29,597 ")	-	226,993

Mined, as shown above,	3,889,691	
Mined, above 1900 level, omitted from the above record,	5,193	3,894,884
Total,		4,121,877
Milled, as shown,		4,184,601
Balance called for at Mine,		-62,724
Excavated reserve reported at Mine,		99,491
Not accounted for, partly dilution,		162,215

Exhibit 1

THE MINE RECORD, PRESENTED IN THREE PERIODS: 1. Prior to Production, 1926-27;

YEAR	DRIFTING Total Lin. ft.	DRIFTING Productive Lin. ft.	DRIFTING Productive Sq. ft.	DRIFTING Productive Tons	CROSSCUTTING Total Lin. ft.	CROSSCUTTING Productive Lin. ft.	CROSSCUTTING Productive Sq. ft.	CROSSCUTTING Productive Tons	RAISING Total Lin. ft.	RAISING Productive Lin. ft.	RAISING Productive Sq. ft.	RAISING Productive Tons
1926-27	3,584				505				555			
1928-29	2,860	2,314	15,459	8,928	224		210	928	1,363	863	13,349	7,414
1930	3,123	2,456	21,042	13,291	140	98	959	548	700	529	10,341	6,053
1931	4,615	4,348	34,560	23,206	899	143	346	502	1,881	1,599	26,204	15,681
1932	1,999	1,791	14,279	9,281	404	55	170	212	1,092	1,092	19,256	12,102
1933	2,532	1,687	13,333	7,443	208	66	197	214	2,004	1,182	19,249	9,799
1934	2,076	1,267	13,707	7,139	519	24	434	293	2,299	1,440	22,085	12,611
1935	3,412	3,070	37,462	20,139	27	27	217	114	994	951	17,918	9,112
1936	3,627	3,203	24,952	17,402	776	213	1,471	750	1,132	754	12,165	6,681
1937	2,422	2,329	23,285	13,675	131	49	122	156	749	521	8,507	4,531
1938	2,071	1,819	18,203	10,542	83	40	46	143	571	468	9,056	5,533
1939	1,500	1,203	11,193	6,299	153	28	201	94	666	257	9,504	5,037
1940	3,142	2,854	28,841	13,825					937	416	5,960	3,173
1941	2,872	2,695	31,360	13,282	20	20	28	44	803	803	13,448	6,650
1942	1,588	1,485	16,121	7,868	232	144	549	1,021	470	470	8,762	3,842
1943	2,497	2,438	26,179	12,291	202	159	1,047	1,129	191	191	2,954	1,403
1944	3,339	3,339	32,543	17,530								
1945	1,935	1,617	16,382	9,083					71	71	1,152	697
1946	2,681	1,725	14,419	8,419	19	19	64	100	229	152	2,644	1,414
1947	2,915	1,462	14,062	8,017	47	17	291	168	645	105	2,305	1,205
1948	1,732	1,732	17,696	10,227	1,037	1,037	9,061	5,486	859	516	9,248	4,649
1949	3,248	2,803	26,367	15,506	158	158	1,343	830	642	364	6,660	3,358
1950	1,383	1,383	12,335	8,321					24	24	423	241
1951	1,351	1,321	11,636	8,365	81	35	280	230	231	231	3,690	2,589
1952	1,597	1,335	11,261	7,753	255	255	1,808	2,118	215	215	3,487	2,154
1930-52	57,657	49,362	471,218	268,904	5,391	2,587	18,634	14,152	17,405	12,351	215,018	118,515
TOTALS	64,101	51,676	486,677	277,832	6,120	2,587	18,844	15,080	19,323	13,214	228,367	125,929

TOTAL DEVELOPMENT & EXPLORATION

Major Openings:	Feet
Drifting,	64,100
Crosscutting,	6,120
Raising,	19,323
Sinking,	941
Totals,	90,484
Drill-Hole Explor.	22,850
All Development and Exploration,	113,334

CONTRIBUTIONS OF ORE

	1928-9	1930-52	1952
Development,	27.7 %	10.7 %	10.5 %
Stoping,	72.3 %	89.3 %	89.5 %
WIDTHS OF ORE:			
Development,	6.9 ft.	7.3 ft.	9.3 ft.
Stoping,	9.1 "	8.5 ft.	6.7 "
Totals,	8.5 "	8.3 "	6.9 "

NET RETURNS Total	FROM SMELTER Per Ton	Per Cent
$ 386,330.32	$ 8.08	59.0
6,767,509.20	3.71	62.8
824,138.70	3.87	53.9
854,145.96	3.69	58.3
806,133.19	4.78	63.4
843,511.38	5.38	68.4
1,031,359.26	7.23	64.5
826,524.18	5.43	60.2
867,015.24	4.95	70.3
979,498.57	5.69	63.4
1,044,812.82	6.32	65.1
1,011,397.92	5.44	63.5
1,142,898.11	5.63	61.3
1,448,120.82	7.38	63.3
1,108,441.17	7.40	60.2
$ 19,941,836.84	$ 4.77	62.6

COPPER Pounds	Price	Value	ZINC Pounds	Price	Value	TOTAL VALUE
991,376	$ .167	$ 165,702.51				$ 570,599.90
12,410,167	.089	1,110,065.00	2,312,833 (3 yrs.)	$	120,497.11 (3 yrs.)	9,104,343.63
795,861	.115	91,683.78	3,751,008	.063	235,019.08	1,242,414.30
911,041	.120	109,538.47	2,104,234	.075	157,351.64	1,208,965.80
569,821	.120	68,378.52	851,042	.0825	70,210.97	983,280.91
429,837	.120	51,580.44	801,729	.0825	66,142.62	968,068.48
326,270	.120	39,152.40	1,052,487	.0825	86,830.18	1,216,136.34
404,047	.120	48,485.64	1,602,004	.0825	132,165.32	1,032,479.96
406,885	.150	60,984.48	1,666,754	.0881	146,846.18	952,088.02
274,864	.213	58,410.23	1,327,400	.1050	139,377.12	1,169,256.74
336,966	.225	75,694.58	829,017	.1430	118,567.09	1,262,914.97
415,345	.187	77,832.34	1,152,109	.1171	134,942.10	1,326,975.39
658,476	.219	144,592.21	1,731,943	.1384	239,752.16	1,558,890.98
1,046,216	.245	256,322.57	1,838,877	.1799	330,722.10	2,029,599.84
1,062,855	.245	260,399.44	1,523,520	.1608	244,871.03	1,655,434.09
21,040,027		$ 2,618,822.61	22,544,957		$2,223,294.70	$ 26,281,449.35

Shenandoah-Dives Mining Company,
Silverton, Colorado

Exhibit #2 Page 3

A SUMMARY OF PRODUCTION

YEAR	TONS ORE	GROSS VALUE Total	GROSS VALUE Per Ton	CONCENTRATE MADE Total	CONCENTRATE MADE Per Ton	PREMIUMS Total (Included in Net Return)	PREMIUMS Per Ton
1928-29 (Iowa Mill)	47,810	$ 654,327.86	$ 13.69	$ 570,599.90	$ 11.93		
1930-39	1,824,678	10,775,614.16	5.91	9,104,343.63	4.99		
1940	212,891	1,528,736.16	7.18	1,242,414.30	5.83		
1941	231,519	1,465,394.43	6.33	1,208,965.80	5.22		
1942	168,772	1,270,491.57	7.53	983,280.91	5.83	53,180.50	.32
1943	156,763	1,232,750.65	7.86	968,068.48	6.17	79,619.39	.51
1944	142,635	1,598,838.08	11.21	1,216,136.34	8.53	56,606.93	.40
1945	152,084	1,372,708.76	9.03	1,032,479.96	6.79	55,477.00	.36
1946	175,121	1,232,831.40	7.04	952,088.02	5.44	176,441.27	1.01
1947	172,125	1,544,970.95	8.97	1,169,256.74	6.79	69,193.20	.40
1948	165,283	1,604,822.08	9.71	1,262,914.97	7.64		
1949	186,072	1,591,308.39	8.55	1,326,975.39	7.13		
1950	202,947	1,864,765.23	9.18	1,558,890.98	7.68		
1951	196,097	2,286,446.57	11.66	2,029,599.84	10.35		
1952	149,804	1,841,771.91	12.29	1,655,434.09	11.05		
TOTALS	4,184,601	$ 31,865,778.20	$ 7.62	$ 26,281,449.35	$ 6.28	$ 490,518.29	

METALS IN CONCENTRATES

YEAR	GOLD Ounces	GOLD Price	GOLD Value	SILVER Ounces	SILVER Price	SILVER Value	LEAD Pounds	LEAD Price	LEAD Value
1928-29 (Iowa Mill)	11,585.770	$ 20.58	$ 238,456.18	191,274.43	$ .544	$ 104,108.98	952,624	$ .065	$ 62,332.23
1930-39	199,056.106	28.49	5,670,306.97	3,084,109.91	.517	1,595,453.40	13,436,627	.045	608,021.15
1940	14,544.448	35.00	509,055.63	248,160.53	.711	176,466.92	4,431,878	.052	230,188.89
1941	14,973.950	"	524,088.22	315,746.67	.711	224,527.44	3,333,159	.058	193,460.03
1942	14,850.009	"	519,750.26	256,596.15	.711	182,465.51	2,191,933	.065	142,475.65
1943	17,526.008	"	613,410.25	164,250.88	.711	116,798.77	1,848,251	.065	120,136.40
1944	24,469.580	"	856,435.21	127,980.27	.711	91,006.74	2,195,567	.065	142,711.81
1945	17,238.189	"	603,336.59	142,967.86	.711	101,664.39	2,258,893	.065	146,828.02
1946	11,940.788	"	417,927.56	131,095.12	.886	116,204.44	2,234,240	.094	210,125.36
1947	15,534.645	"	543,711.90	167,233.18	.900	150,509.85	1,880,507	.147	277,247.64
1948	11,241.154	"	393,440.31	302,685.57	.900	272,416.98	2,198,225	.183	402,796.01
1949	8,820.227	"	308,707.95	417,087.78	.900	375,378.98	2,866,742	.150	430,114.02
1950	10,424.341	"	364,851.95	408,819.86	.900	367,937.84	3,284,666	.134	441,756.82
1951	8,232.101	"	288,123.53	325,522.37	.901	293,343.47	4,920,379	.175	861,088.17
1952	6,390.212	"	223,657.37	224,621.68	.900	202,159.49	4,453,476	.163	724,346.76
TOTALS	389,019.768		$12,075,259.88	6,508,152.26		$4,370,443.20	52,487,167		$4,993,628.96

Letter to J. W. O.

Shenandoah-Dives Mining Company,
Silverton, Colorado

SHENANDOAH-DIVES MINING COMPANY

GRADE & TONNAGE OF ORE EXCAVATED, 1942 thru 1952
FROM SHENANDOAH-DIVES, 3220, 3490 & 4177 VEINS

MINE ASSAY RECORD OF ORE EXCAVATED

(NOTE: $ Value is 60% of the gross market price)

Shenandoah-Dives

Year	Tons	Au	Ag	Pb	Cu	Zn	$ Value $/Ton	$ Value Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	86,441	.127	1.75	1.15	.16	--	4.63	400,107	11,109.711	153,275.79	1,008.7735	138.0445	--
1943	110,528	.170	2.17	2.64	.18	--	6.82	753,691	18,850.654	240,104.68	2,915.6922	195.6629	--
1944	116,887	.134	1.30	1.60	.09	--	4.85	566,666	15,715.371	151,628.52	1,870.5335	108.9620	--
1945	109,439	.100	1.10	1.81	.09	--	4.11	449,806	10,971.210	120,291.26	1,976.7005	95.1850	--
1946	126,365	.109	1.06	1.12	.06	.97	3.71	462,571	13,810.375	133,420.03	1,417.9135	79.0345	1,228.7776
1947	145,850	.111	1.86	1.26	.07	.57	5.40	787,990	16,221.023	271,306.12	1,843.4997	99.1970	828.0015
1948	152,750	.063	2.45	1.38	.10	.59	5.02	766,913	9,557.391	374,111.16	2,113.0955	159.9203	901.3675
1949	147,229	.048	2.39	1.14	.12	.56	4.38	644,869	6,998.657	353,147.40	1,671.8059	179.1227	828.4659
1950	96,621	.050	2.85	1.40	.12	.42	4.66	450,724	4,881.550	275,052.53	1,357.0929	118.0390	406.6288
1951	19,099	.041	2.02	2.72	.11	.66	6.48	123,744	791.219	38,627.52	519.1183	21.7528	125.4986
(Drifting) 1952	1,732	.039	.56	1.01	.06	1.13	2.85	4,939	67.805	961.44	17.4696	1.1149	19.6022
	1,112,941	.098	1.90	1.50	.11	.63	4.86	5,412,020	108,974.966	2,111,926.45	16,711.7151	1,196.0861	4,338.3421

1946 - 1952 689.646 Tn This Tonnage Assay For Zn.

3220 Vein - Silver Lake

Year	Tons	Au	Ag	Pb	Cu	Zn	$/Ton	Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	15,387	.087	1.93	.76	.52	--	4.07	62,611	1,344.588	29,769.21	112.2090	79.6910	--
1943	22,645	.092	2.24	1.51	.67	--	5.03	113,993	2,088.700	50,802.50	340.9852	151.3959	--
1944													
1945													
1946													
1947	4,892	.058	1.06	.47	.41	.99	3.46	16,910	285.167	5,207.64	22.9090	19.9129	48.5472
1948	12,988	.104	2.72	1.63	.45	1.19	7.19	93,363	1,356.460	35,367.80	212.2870	59.1236	154.4236
1949	30,369	.048	1.96	1.48	.39	.98	5.14	156,183	1,457.044	59,569.07	450.3346	119.3374	298.1481
1950	59,088	.064	1.66	1.68	.43	1.18	5.27	311,285	3,757.757	98,198.79	994.0463	251.8937	699.6772
1951	70,871	.055	1.33	1.91	.36	.77	5.74	406.913	3,928.788	94,410.53	1,350.7880	256.8213	544.7406
1952	58,447	.055	1.14	1.82	.30	.86	5.31	310.458	3,206.880	66,404.79	1,066.4660	172.5952	504.9253
	274,687	.063	1.60	1.65	.40	.82	5.36	1,471,716	17,425.384	439,730.33	4,555.0251	1,110.7710	2,250.4620

1947 - 1952 236,655 Tn This Tonnage Assayed for Zn

3490 Vein

Year	Tons	Au	Ag	Pb	Cu	Zn	$/Ton	Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	26,473	.092	1.71	.90	.38	--	3.99	105,534	2,441.550	45,373.84	238.4640	102.0895	--
1943	16,942	.097	1.86	.60	.40	--	3.88	65,693	1,637.006	31,504.61	101.8450	67.9189	--
(Raising) 1952	867	.014	.13	.04	.02	.11	0.50	432	11.809	116.62	.3229	.2113	.9549
	44,282	.092	1.74	.77	.38	.11	3.88	171,659	4,090.364	76,995.07	340.6319	170.2197	0.9549

1952 867 Tn Assayed For Zn

MINE ASSAY RECORD OF ORE EXCAVATED

4177 Vein

Year	Tons	Au	Ag	Pb	Cu	Zn	$ Value $/Ton	$ Value Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	8,263	.091	1.94	.40	.41	--	3.71	30,671	753.466	16,028.17	33.2800	33.8295	--
1943	33,936	.055	1.87	.57	.45	--	3.05	103,496	1,871.334	63,549.64	193.1546	152.0167	--
1944	35,902	.103	3.16	1.16	.83	--	5.74	205,968	3,705.772	113,356.04	417.4910	298.0995	--
1945	36,924	.084	2.40	1.66	.88	--	5.34	197,218	3,087.600	88,736.53	613.4200	326.6645	--
1946	30,111	.081	2.71	1.37	.81	.61	5.08	151,510	2,436.631	81,735.04	413.2900	242.8465	183.2083
1947	17,015	.079	2.35	.51	.71	.29	5.36	91,194	1,345.719	40,036.45	87.4882	120.2534	49.6411
1948	2,150	.058	2.04	1.03	.27	.64	4.48	9,639	125.116	4,391.12	22.0662	5.8500	13.6666
1949	7,663	.044	1.48	1.90	.50	.87	5.46	41,829	338.416	11,307.69	145.9520	38.0794	66.9309
1950	61,519	.055	1.92	2.40	.56	.68	6.36	391,423	3,409.968	118,394.72	1,478.4895	342.2075	418.0311
1951	65,418	.048	1.76	1.90	.48	.56	6.08	397,806	3,149.995	114,941.29	1,245.7959	312.6235	367.9586
1952	53,474	.047	1.58	0.90	.41	.45	4.23	226,224	2,538.436	84,447.52	483.3284	216.9239	240.0968
	352,375	.065	2.09	1.46	.59	.56	5.24	1,846,978	22,762.453	736,924.21	5,133.7558	2,089.3944	1,339.5334

*1946 - 1952 237,350 Ton. Tonnage Assayed for Zinc

TOTAL ALL MINED

Year													
1942	136,564	.114	1.79	1.02	.26	--	4.35	598,923	15,649.315	244,447.01	1,397.7265	353.6545	--
1943	184,051	.133	2.10	1.93	.31	--	5.63	1,036,873	24,447.694	385,961.43	3,551.6770	566.9944	--
1944	152,789	.127	1.73	1.50	.21	--	5.06	772,634	19,421.143	264,984.56	2,288.0245	407.0615	--
1945	146,363	.096	1.43	1.77	.29	--	4.42	647,024	14,058.810	209,027.79	2,590.1205	421.8495	--
1946	156,476	.104	1.38	1.17	.21	.90	3.97	614,081	16,247.006	215,155.07	1,831.2035	321.8810	1,411.9859
1947	167,757	.106	1.89	1.16	.14	.55	5.34	896,094	17,851.909	316,550.21	1,953.8969	239.3633	926.1898
1948	167,888	.066	2.46	1.40	.13	.64	5.18	869,915	11,038.967	413,870.08	2,347.4487	224.8944	1,069.4577
1949	185,261	.048	2.29	1.22	.18	.64	4.55	842,881	8,794.117	424,024.16	2,268.0925	336.5395	1,193.5449
1950	217,228	.056	2.26	1.76	.33	.76	5.31	1,153,432	12,049.275	491,646.04	3,829.6287	712.1902	1,524.3371
1951	155,388	.051	1.60	2.00	.38	.67	5.98	928,463	7,920.002	247,979.34	3,115.7022	591.6726	1,038.1978
1952	114,520	.051	1.33	1.37	.34	.67	4.73	542,053	5,824.930	151,930.37	1,567.6069	390.8453	765.5792
	1,784,285	.086	1.89	1.50	.26	.68	4.99	8,902.373	153,303.168	3,365,576.06	26,741.1279	4,566.9462	7,929.2924

*1946 - 1952 1,164,515 Ton Assayed for Zinc

Metal Prices

Year	Au	Ag	Pb	Cu
1942 - 1946	$ 35	.7111	.065	.12
1947 - 1948	35	.90	.1255	.195
1949	35	.90	.131	.173
1950	35	.90	.105	.17
1951 - 1952	35	.90	.13	.20

	Tons	Au	Ag	Pb	Cu	Zn	$/ton	$	Au Oz.	Ag Oz.	Pb Ton	Cu Ton	Zn Ton
Melville Fills 1952	4,941	0.053	1.33	2.00	- 0.31	0.68	5.70	28,149	264.330	6,593.63	98.6070	15.2735	33.3890

4-C

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

LETTER "G" VEIN

Chip samples from back of drift on the Silver Lake Main level (Adit level)

NOTE—Copy to Be Forwarded Daily to the Home Office

DATE 23 August 1951

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
5772	S. L. Main Level 270W Unity Shaft 7' ~~0 to 4.3' from HW (Robison)~~ Altered rock & gouge	4.3'	—	0.8	0.7	0.1	0.3	$ 2.54	$ 1.52
5775	S. L. Main Level 100W Unity Shaft 7' ~~0 to 5.0' from HW (Anderson)~~ altered rock & gouge	5.0'	—	0.2	0.7	—	0.5	$ 2.00	$ 1.20
5776	S. L. Main Level 55W Unity Shaft 7' ~~0 to 5.5' from HW (Robison)~~ Altered rock, qtz, gouge & few sulfides	5.5'	0.03	2.4	1.0	1.0	1.0	$ 9.81	$ 5.89
5777	S. L. Main Level 10W Unity Shaft 7' ~~0 to 11.0' from HW (Holmgren)~~ Altered rock, qtz, gouge & few sulfides	11.0'	0.03	1.6	3.4	0.7	6.7	$14.17	$ 8.50
5778	S. L. Main Level 300E Unity Shaft 7' ~~0 to 6.0' from HW (Anderson)~~ Altered rock with gouge & sulfides	6.0'	0.02	3.0	2.1	0.8	2.1	$12.06	$ 7.24
5779	S. L. Main Level 10E New York X-Cut 7' ~~0 to 5.0' from HW (Holmgren)~~ Altered rock, qtz, gouge & few sulfides	5.0'	0.02	1.4	2.4	0.8	1.2	$11.44	$ 6.86
5780	S. L. Main Level 75E New York X-Cut 7' ~~0 to 6.5' from HW (Robison)~~ Altered rock, qtz, gouge & sulfides	6.5'	0.03	1.2	3.8	—	0.4	$12.01	$ 7.21
5781	S. L. Main Level 185E New York X-Cut 10' ~~0 to 4.3' from HW (Holmgren)~~ Altered rock, qtz, gouge & sulfides	4.3'	0.03	1.8	4.6	011	0.5	$14.63	$ 8.78
5782	S. L. Main L. HW X-Cut by Access Rse 7' ~~0 to 8.5' from HW (Holmgren & Anderson)~~ Altered rock & CR	8.5'	—	0.1	0.3	—	0.3	$ 0.87	$ 0.52

Nothing Follows

SAMPLER

ASSAYER S — J. W. Cole

4 - C

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

NOTE—Copy to Be Forwarded Daily to the Home Office

Buckeye Dump

DATE 15 August 1950

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
847	Buckeye Dump sample #1 ~~0 to 25.0' from NE side (Holmgren, Turner & Robison)~~ Top of Dump	25.0'	0.12	12.5	10.5	2.0	3.4	$42.85	$25.71
848	Buckeye Dump sample #2 ~~25.0 to 55.0' from NE side~~ Top of Dump	3010'	0.58	1.2	1.0	0.5	1.0	$24.98	$14.99
849	Buckeye Dump sample #3 ~~55.0 to 90.0' from NE side~~ Top of Dump	35.0'	----	0.1	2.8	---	0.9	$ 5.69	$ 3.41
850	Buckeye Dump sample #4 (height- ~~37.0' height~~ Face of small North Dump	37.0'	0.02	3.0	2.1	0.5	1.0	$ 9.20	$ 5.52
851	Buckeye Dump sample #5 (height- ~~65.0' height~~ Face from toe of larger Dump (Center)	65.0'	----	0.1	0.3	---	0.9	$ 0.69	$ 0.41
852	Buckeye Dump sample #6 (height- ~~27.0' height~~ Face from toe of small South Dump	27.0'	----	0.1	0.2	---	0.4	$ 0.49	$ 0.29
853	Dandy Drift (face 32' in) 4' ~~0 to 3.5' from HW~~ CR & qtz.	3.5'	----	0.2	0.2	---	0.3	$ 0.58	$ 0.35
854	Vein (Disc. Cut) Stephen's Report on ~~SE of the Lake~~ 0 to 8.5' from HW CR with qtz & few sulfides	8.5'	----	0.2	0.3	---	0.1	$ 1.53	$ 0.92

----------Nothing Follows----------

SAMPLER.....

ASSAYER S --- J. W. Cole

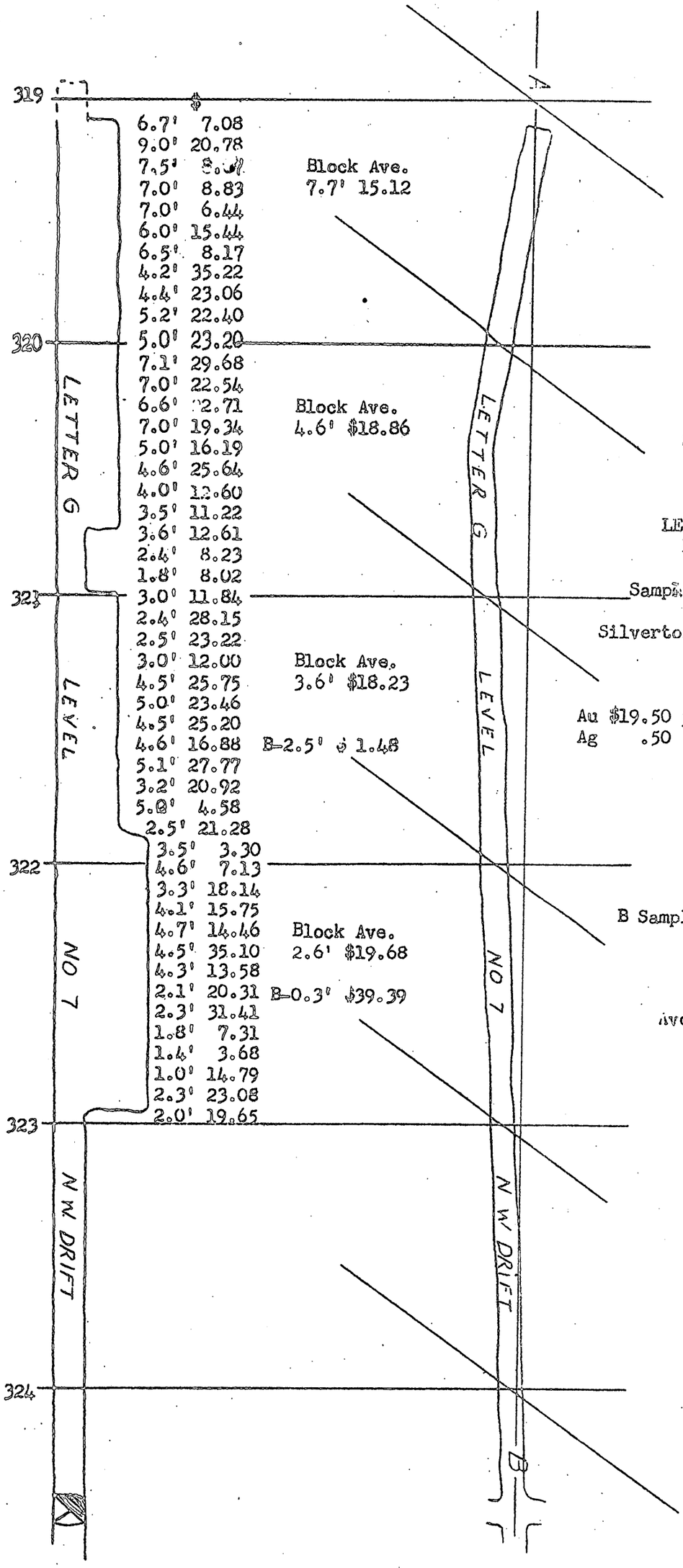
Shenandoah-Dives Mining Company,
Silverton, Colorado

4-C-1

SILVER LAKE MINES

ASSAY PLAN MAPS
of
LEDGER "G" VEIN

No.	Level	Coordinates	Scale	Date
76	No.7	319 - 325	1"=30'	Oct. 1903
77	"	317 - 324	"	Dec. 1903
78	"	316 - 318	"	Jan. 1904
79	No. 6	322 - 323	"	Feb. 1904
95	No. 4	289 - 294	"	July 1903
180	No. 7	293 - 301	"	Feb. 1905
181	"	301 - 309	"	Feb. 1905
182	No. 8	316 - 321	"	Jan. 1905
186	No. 6	318 - 323	"	June 1905
187	No. 7	285 - 290	"	June 1905
189	No. 8	309 - 315	"	June 1905



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 319-325

Samples Taken Oct. 1903

Silverton, Colo. Scale: 1" = 30'

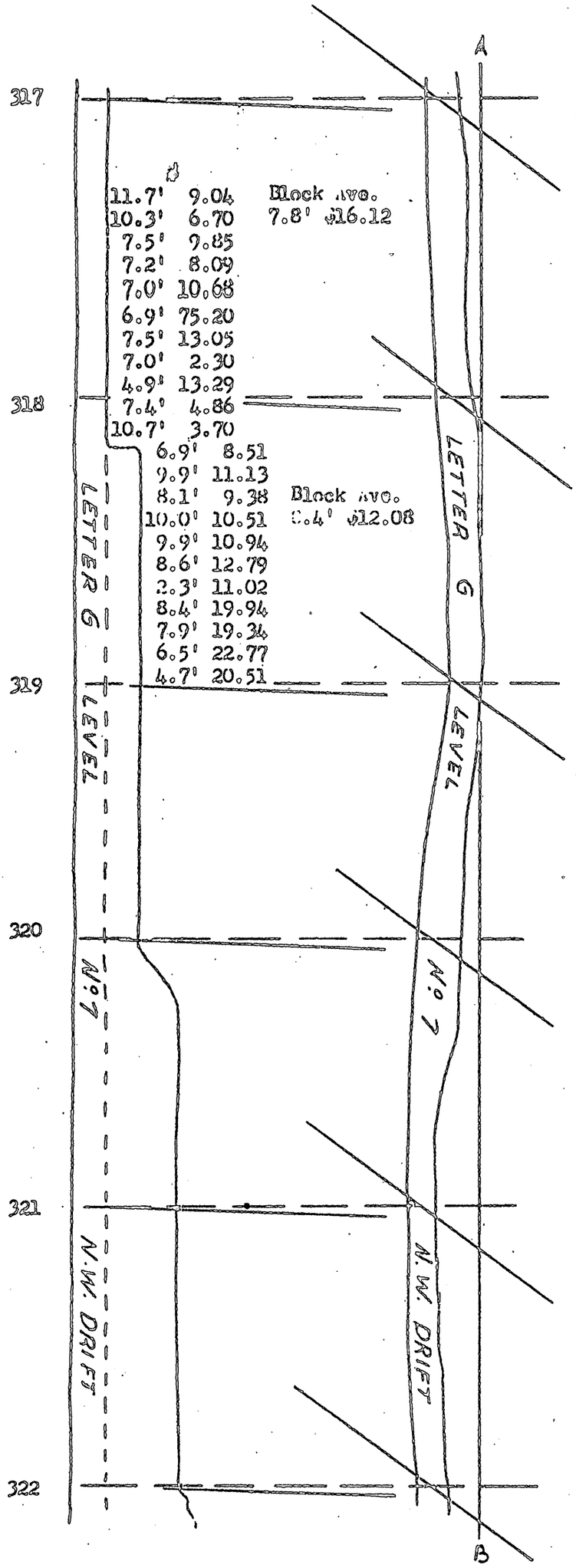
-Quotations-

Au $19.50 per oz. Pb $ .40 per unit
Ag .50 " " Cu 1.50 " "

B Samples From HW streak

Average - All Samples

4.7' - $16.17



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 317-322

Samples Taken Dec. 1903

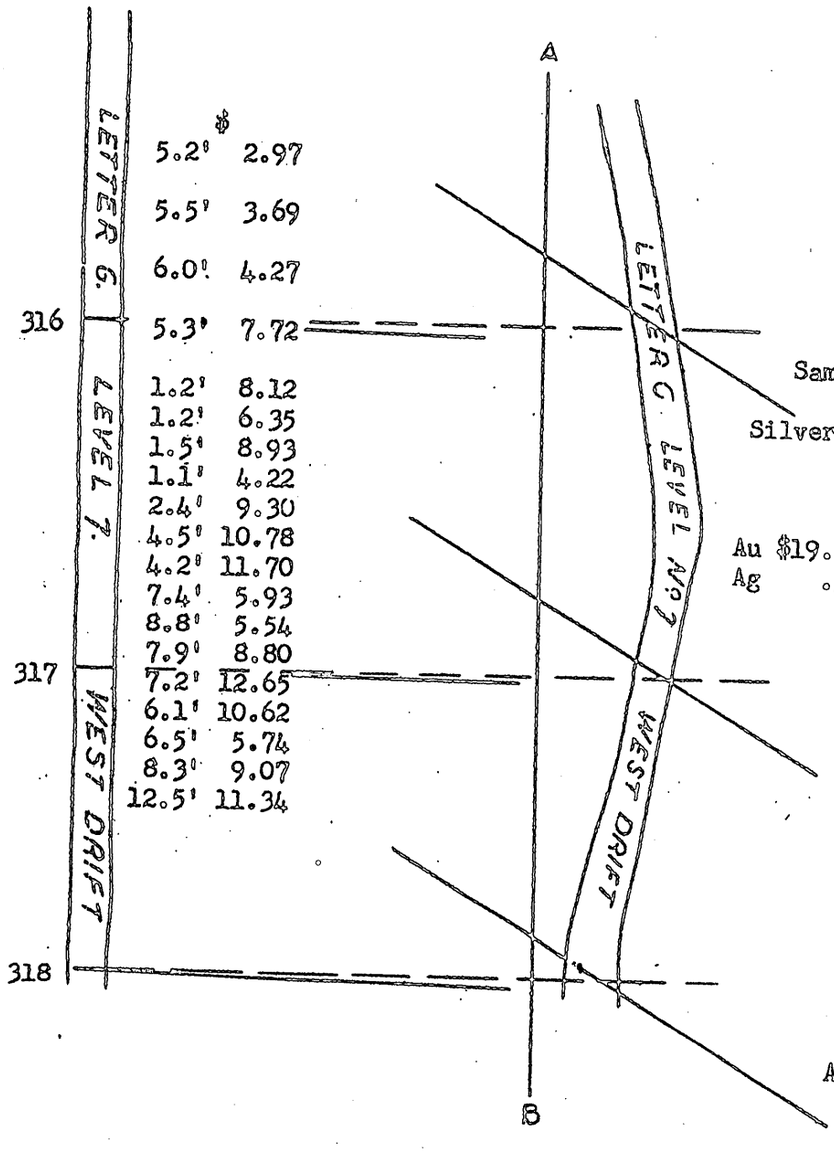
Silverton, Colo. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.30 per unit

Average - All Samples

8.2' - $13.66



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 316-318

Samples Taken Jan. 1904

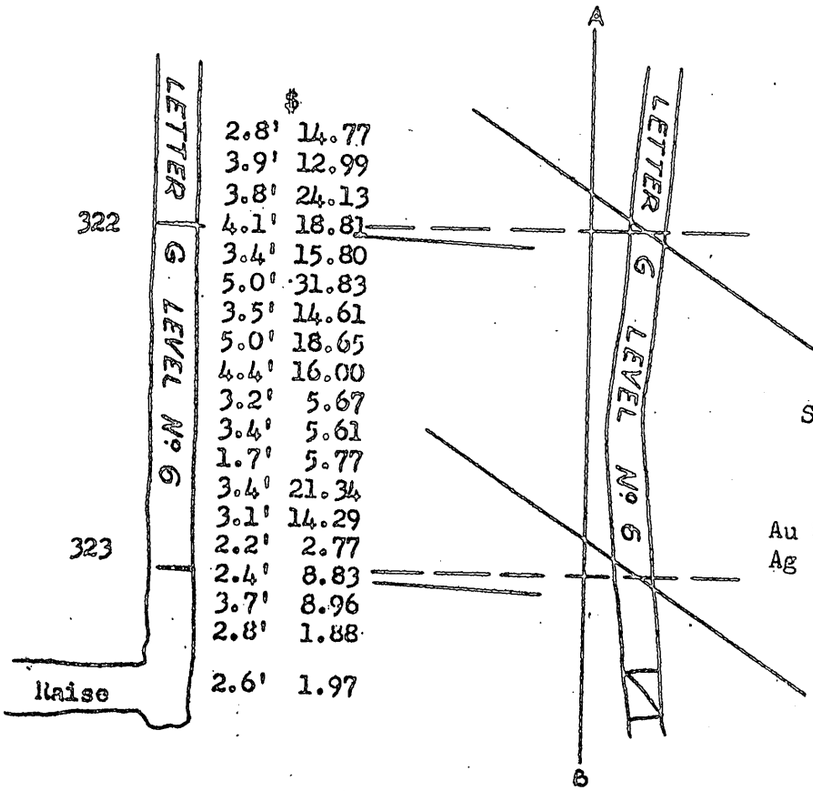
Silverton, Colo. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.30 per unit

Average - All Samples

5.4' - $ 8.07



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 6
PARALLELS 322-323

Samples Taken Feb. 1904

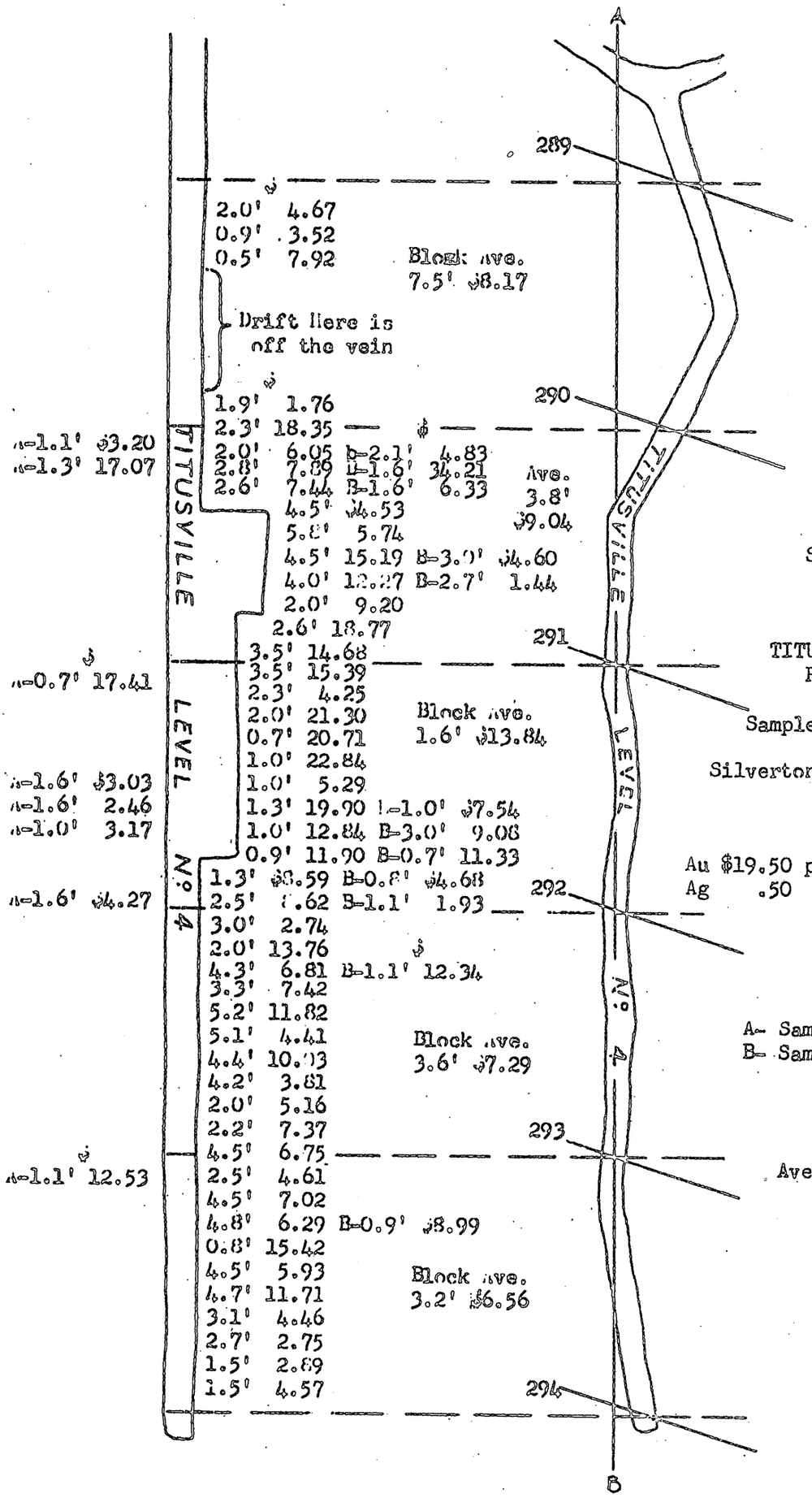
Silverton, Colo. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.40 " "

Average - All Samples

3.4' - $13.10



SILVER LAKE MINES

ASSAY PLAN

TITUSVILLE LEVEL NO. 4
PARALLELS 289-294

Samples Taken July, 1903

Silverton, Colo. Scale: 1" = 30'

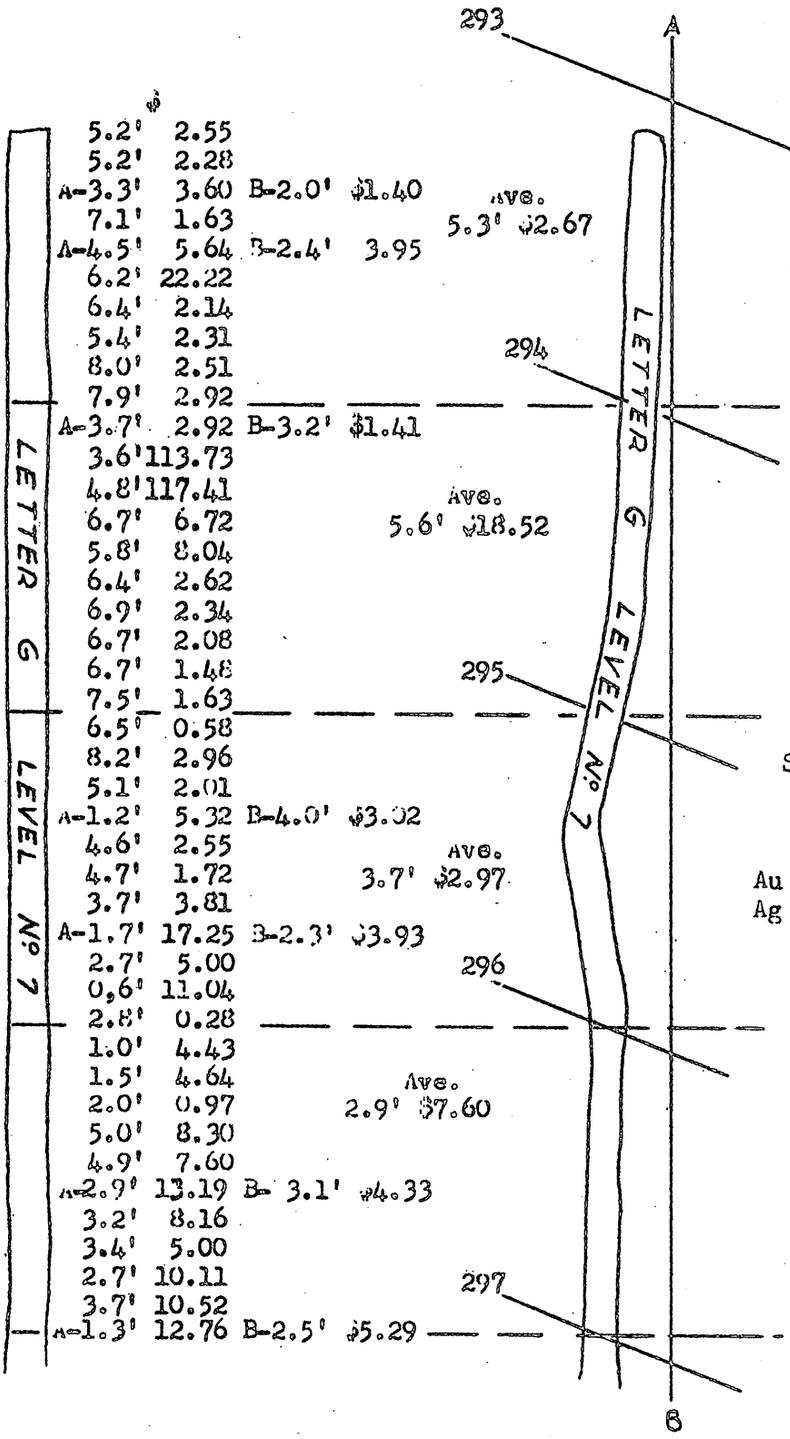
-Quotations-

Au $19.50 per oz. Pb $ .40 per unit
Ag .50 " " Cu 1.50 " "

A- Samples from FW streak
B- Samples from HW streak

Average - All Samples except A & B

2.8' - $8.48



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 293-297

Samples Taken Jan-Feb. 1905

Silverton, Colo. Scale: 1" = 30'

-Quotations-

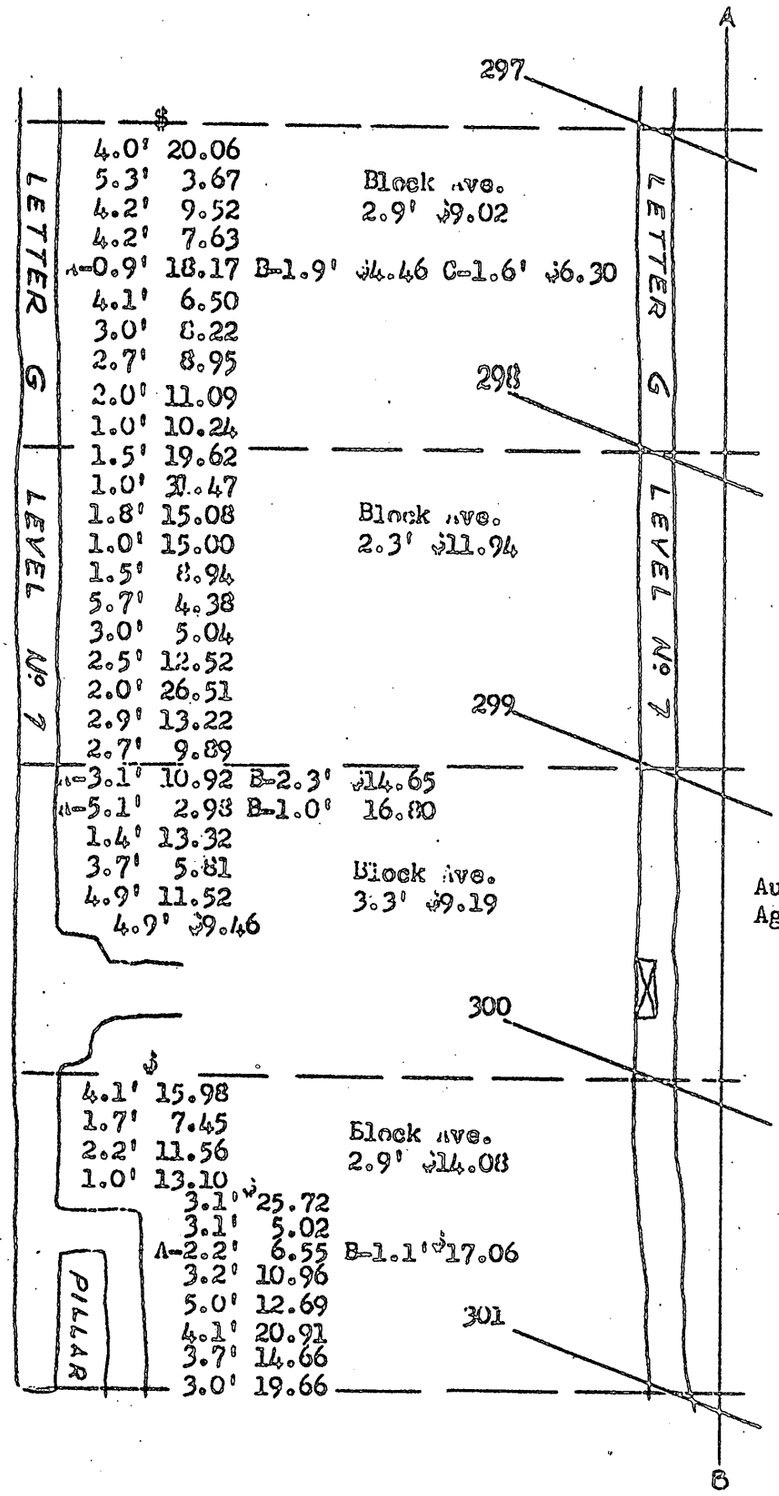
Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.45 " "

A - Samples from FW streak
B - Samples from HW streak

Average - All Samples

4.3' - $8.27

P. 180-A



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 297-301

Samples Taken Jan-Feb. 1905

Silverton, Colo. Scale: 1" = 30'

-Quotations-

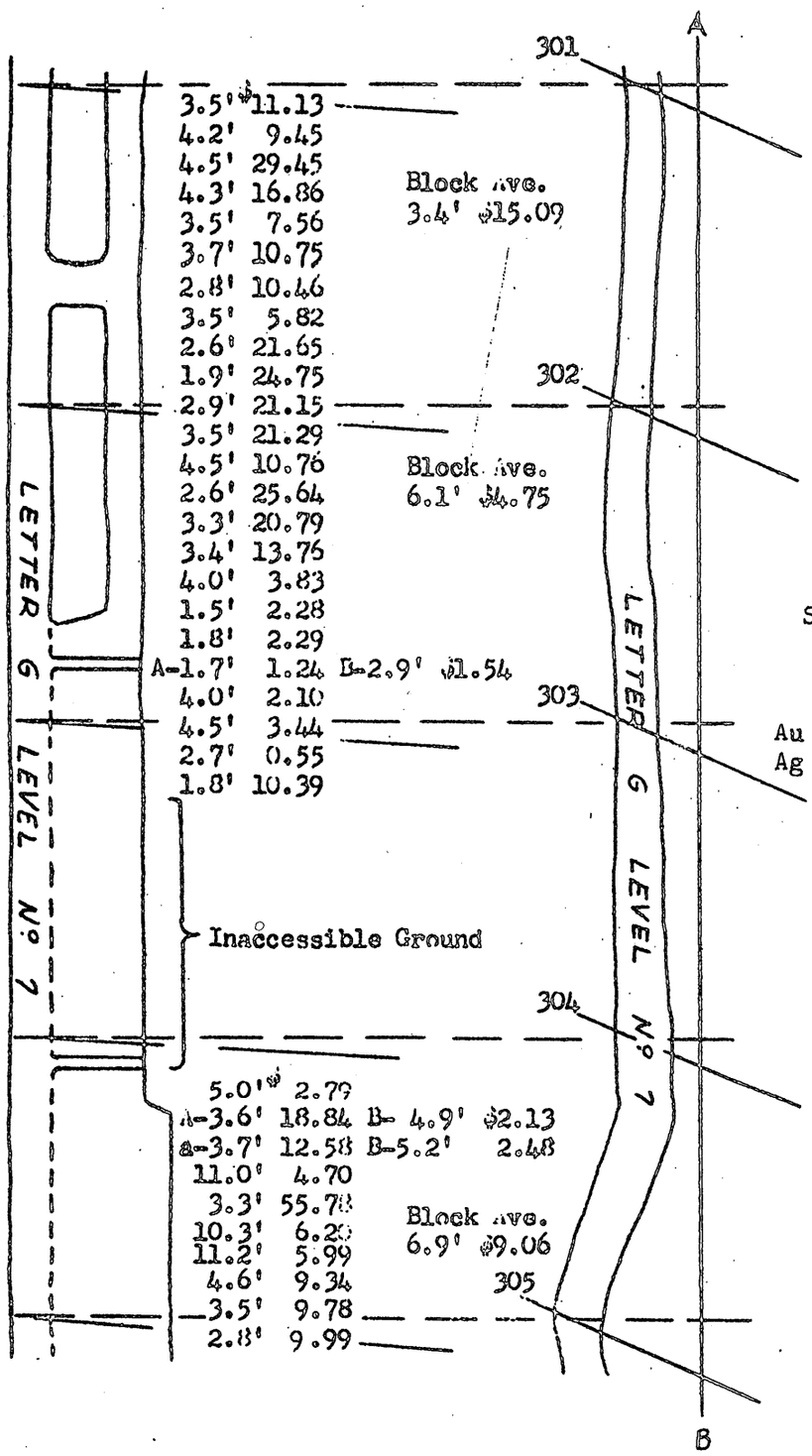
Au	$19.50 per oz.	Pb	$ .35 per unit
Ag	.55 " "	Cu	1.45 " "

A - Samples from FW streak
B - Samples from HW streak
C - Samples from Center streak

Average - All Samples

2.8' - $11.18

P. 180-B



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 301-305

Samples Taken Jan-Feb. 1905

Silverton, Colo. Scale: 1" = 30'

-Quotations-

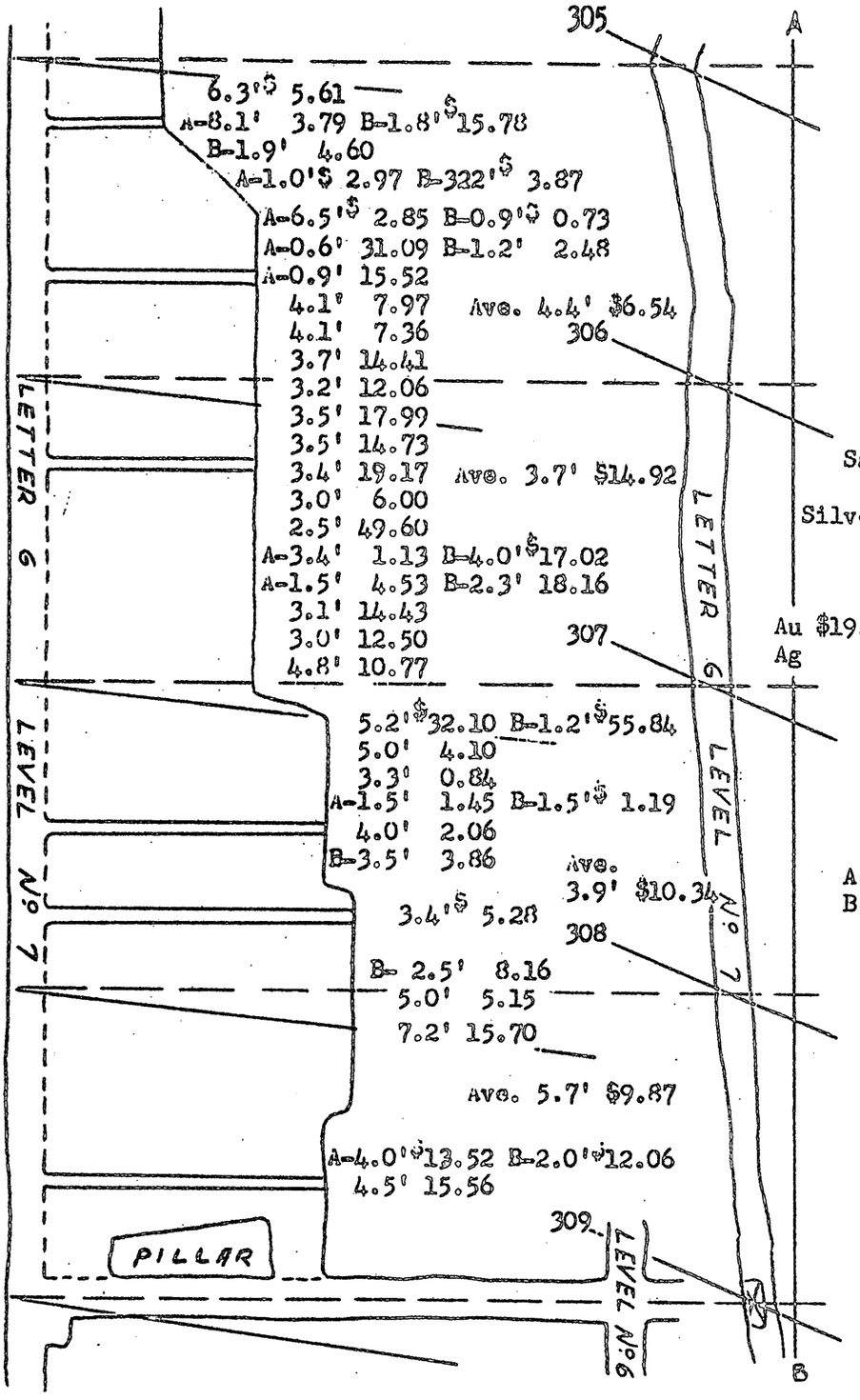
Au	$19.50 per oz.	Pb	$ .35 per unit
Ag	.55 " "	Cu	1.45 " "

A - Samples from FW streak
B - Samples from HW streak

Average - All Samples

5.5' - $8.43

P. 181-A



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 305-309

Samples Taken Jan-Feb. 1905

Silverton, Colo. Scale: 1" =30'

-Quotations-

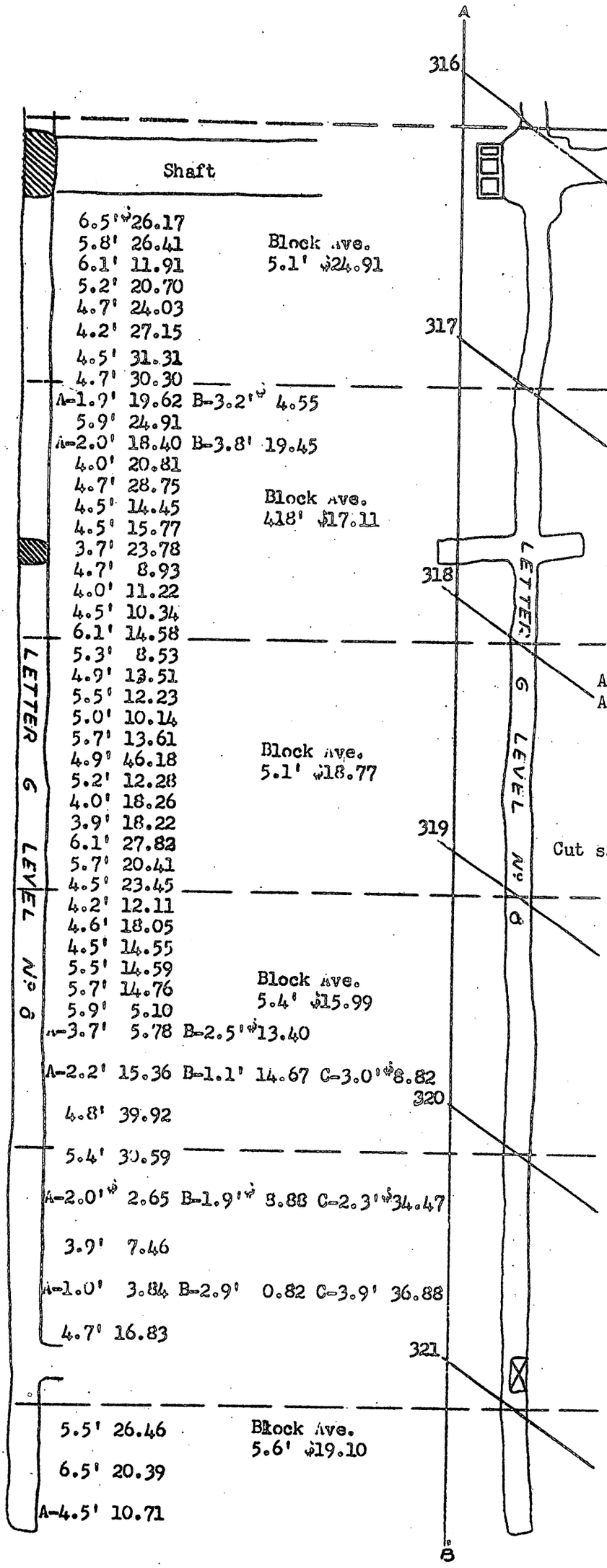
Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.45 " "

A - Samples from FW streak
B - Samples from HW streak

Average - All Samples

4.2' - $10.41

P. 181-B



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 8
PARALLELS 316-321

Samples taken Jan. 1905

Silverton, Colo. Scale: 1" = 30'

-Quotations-

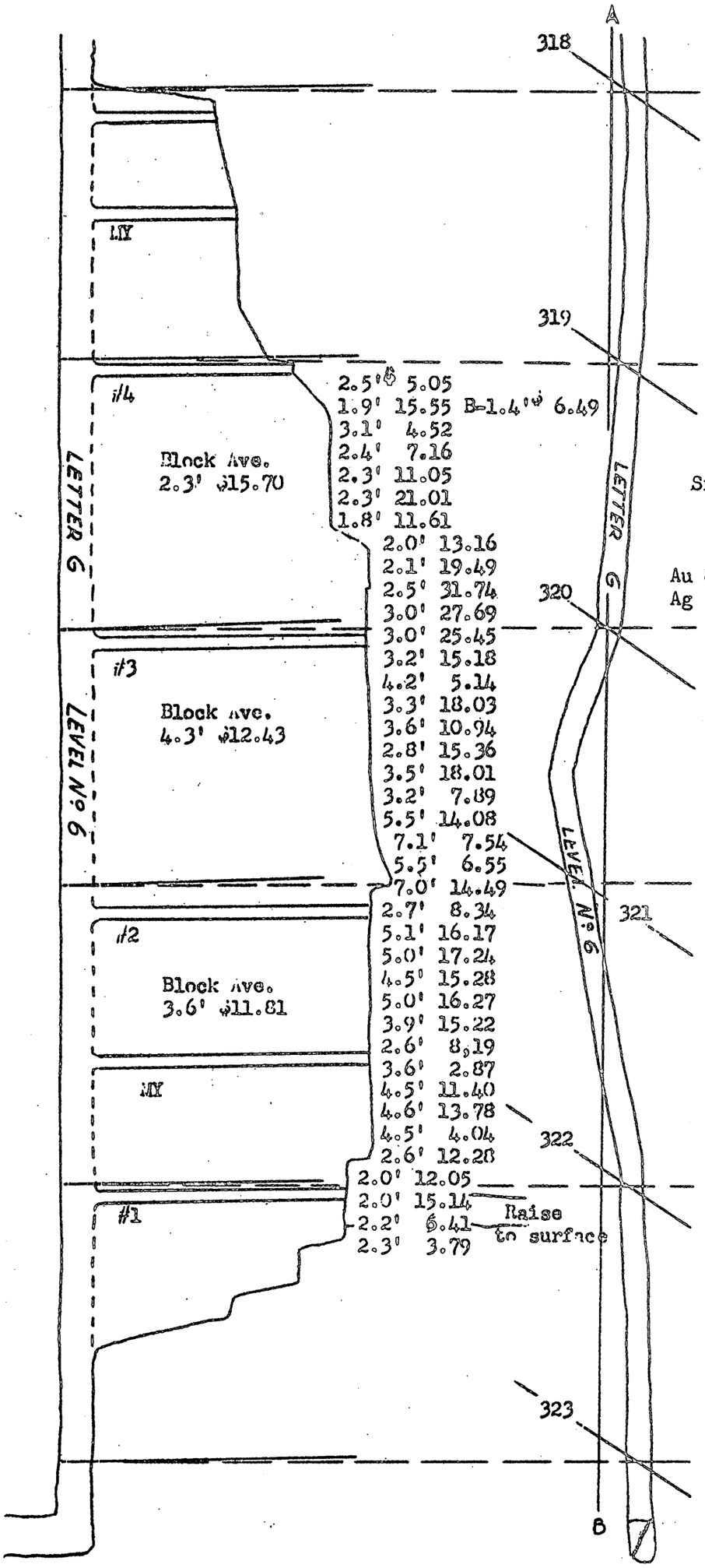
Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.45 " "

NOTE
Cut samples of ore streak taken with a moil.

A - Samples from FW streak
B - Samples from HW streak
C - Samples from Center streak

Average- All Samples

5.2' - $18.73



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 6
PARALLELS 318-323

Samples Taken May-June 1905

Silverton, Colo. Scale: 1" = 30'

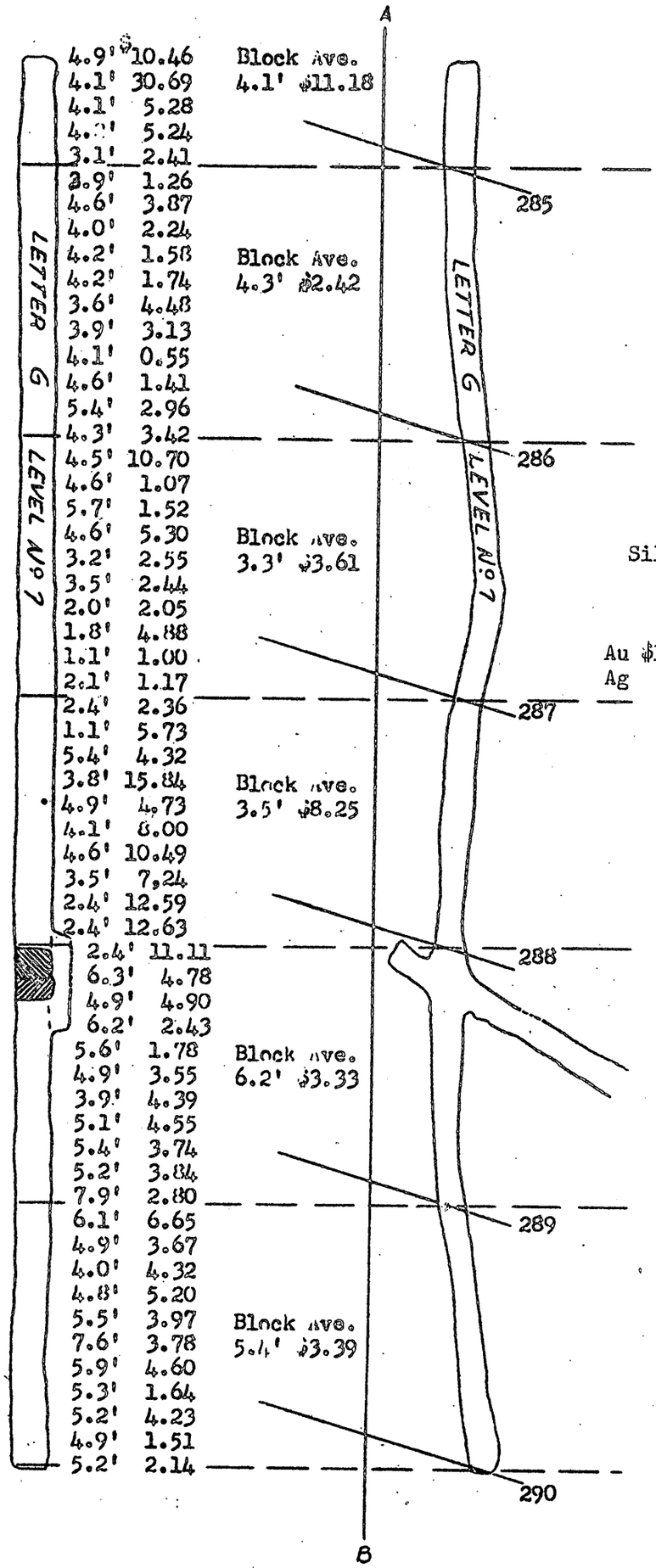
-Quotations-

Au	$19.50 per oz.	Pb	$ .35 per unit
Ag	.53 " "	Cu	1.55 " "

B - Samples from HW streak

Average - All Samples

3.5' - $12.80



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 285-290

Samples Taken June 1905

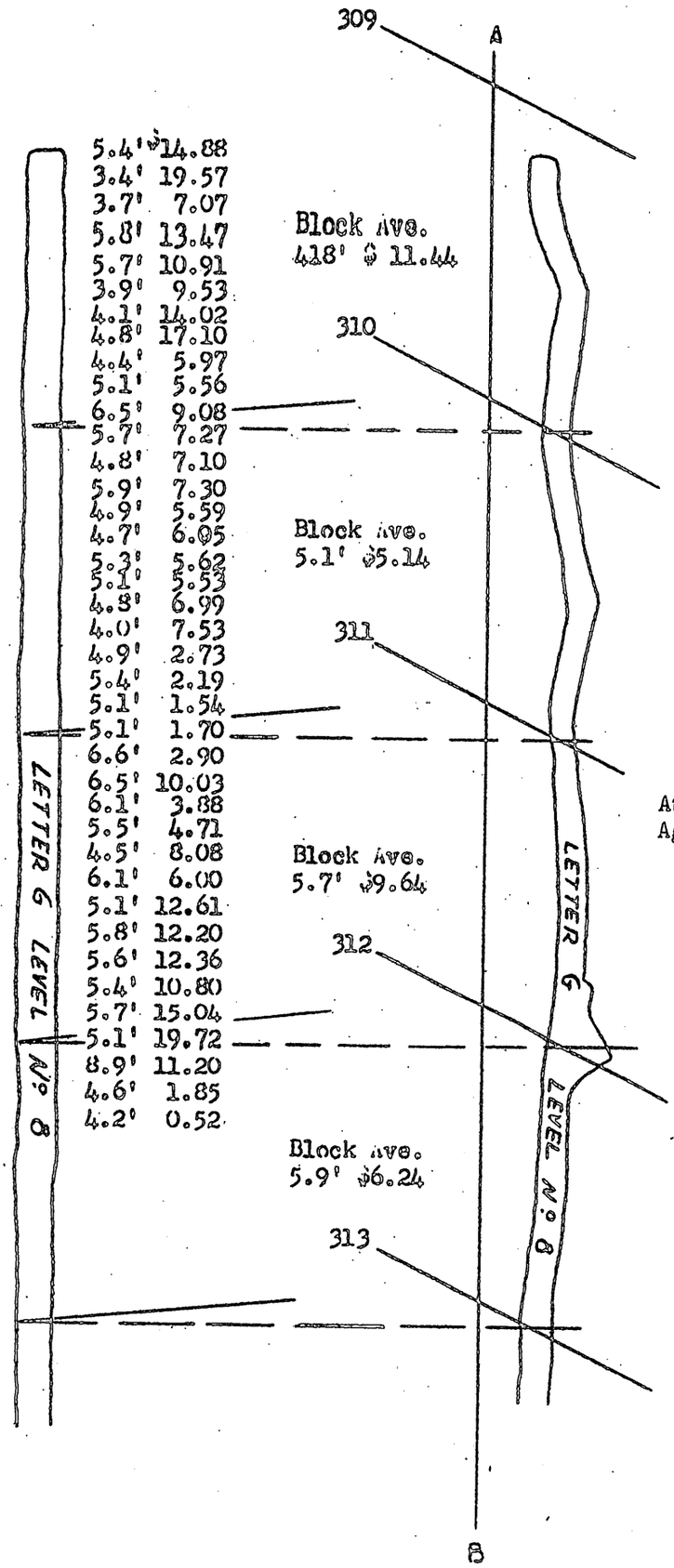
Silverton, Colo. Scale: 1" = 30'

-Quotations-

Au	$19.50 per oz.	Pb	$ .35 per unit
Ag	.55 " "	Cu	1.50 " "

Average - All Samples

4.5' - $4.48



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 8
PARALLELS 309-313

Samples taken June 1905

SILVERTON, COLO. Scale: 1" = 30'

-Quotations-

Au	$19.50 per oz.	Pb	$ .35 per unit
Ag	155 " "	Cu	1.50 " "

Average - All Samples

5.2' - $8.36

Shenandoah-Dives Mining Company,
Silverton, Colorado

DRIFT SAMPLE ASSAYS

-MELVILLE VEIN-

SHENANDOAH-DIVES MINING CO.

4177 - 370 level Coordinates 2300 - 3207

4177 - main level Coordinates 2202 - 2425

Net smelter $ values are 60% of following quotations:

Au-	$35.00 per oz.	Pb-	$0.13 per lb.
Ag-	0.90 " "	Cu-	0.20 " "

(zinc not included in $ value)

4177 - 370 level 23 block (Block Average - 7.8', $6.89)

width	$ value	Au	Ag	Pb	Cu	Zn
8.0'	$ 0.13	---	0.2	0.1	---	0.3
8.0	3.74	0.09	0.7	0.2	0.5	0.3
8.0	2.46	---	0.6	0.6	0.5	0.1
8.0	9.02	0.18	1.8	1.2	1.0	0.4
8.0	1.88	---	0.4	0.6	0.3	0.1
8.0	0.84	---	0.4	0.4	---	0.1
6.5	33.99	0.13	5.9	12.3	3.7	0.1
8.0	9.99	0.16	2.8	1.9	0.9	0.1
8.0	3.84	0.02	1.6	0.1	1.0	0.4

24 block (Block Average - 6.9', $4.93)

width	$ value	Au	Ag	Pb	Cu	Zn
8.0'	$ 0.05	---	0.1	---	---	0.1
8.0	0.13	---	0.2	0.1	---	0.3
8.0	0.13	---	0.2	0.1	---	0.3
7.5	9.15	0.11	1.9	2.8	0.6	1.9
7.0	11.28	0.11	2.3	2.8	1.4	2.5
3.0	18.13	0.03	6.4	7.0	1.3	6.1

25 block (Block Average - 7.9', $3.95)

width	$ value	Au	Ag	Pb	Cu	Zn
7.0'	$13.44	0.04	4.0	5.0	1.1	5.3
8.0	0.32	---	0.6	---	---	0.3
8.5	7.15	0.04	1.6	1.8	1.1	1.4
8.0	0.32	0.01	0.2	---	---	0.1
8.0	10.40	0.35	5.2	---	0.1	0.3
8.0	6.16	0.04	1.4	2.0	0.6	2.0
7.5	5.66	0.03	1.4	1.2	1.0	0.7
8.0	0.22	---	0.4	---	---	0.2
8.0	0.05	---	0.1	---	---	0.1
8.0	0.38	---	0.4	0.1	---	0.1
8.0	0.42	---	0.2	0.2	---	0.1

26 block (Block Average - 8.4', $2.34)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 6.35	0.03	1.0	2.4	0.6	0.5
8.0	1.39	---	0.4	0.1	0.2	0.2
8.5	0.86	---	0.4	0.1	0.2	0.2
8.5	0.92	0.03	0.1	---	0.1	0.1
8.0	1.61	0.05	0.6	---	0.1	0.2
8.5	4.15	0.16	0.4	0.1	0.3	0.3
8.5	1.00	0.05	0.5	---	0.2	0.1
8.5	1.56	0.01	0.6	0.2	0.3	0.2

27 block (Block Average - 7.9', $2.82)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 1.62	0.02	0.6	0.1	0.3	0.2
8.5	2.42	0.01	1.0	0.3	0.5	0.7
5.0	0.35	---	0.2	---	0.1	0.1
8.5	0.21	---	0.1	0.1	---	0.2
8.5	2.02	---	0.2	0.3	0.6	0.3
8.5	9.26	0.05	2.5	2.4	1.3	0.4

28 block (Block Average - 7.7', $17.69)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$20.06	0.09	6.1	8.0	1.0	1.1
8.5	15.54	0.21	2.4	4.3	1.3	1.3
3.0	45.59	0.95	4.6	11.0	2.5	2.2
7.5	2.38	0.02	0.4	0.5	0.4	0.3
8.5	30.26	0.09	3.1	16.5	0.4	1.9
8.5	26.26	0.07	4.5	13.1	0.8	1.2
8.5	15.29	0.11	3.7	5.5	1.0	2.0
7.5	15.20	0.03	5.2	6.0	1.0	1.3
8.0	16.36	0.06	4.5	7.2	0.6	2.6
8.5	6.60	0.02	2.6	1.9	0.8	2.2

29 block (Block Average - 8.0', $10.80)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$21.92	0.08	6.5	9.8	0.6	2.3
8.0	6.70	0.02	2.6	1.9	0.8	0.2
8.5	3.23	0.01	0.6	0.5	0.8	0.8
8.5	0.42	---	0.2	0.2	---	0.6
7.5	0.52	---	0.1	0.3	---	0.1
8.5	8.86	0.14	2.3	1.0	1.3	0.5
6.0	18.03	0.34	2.7	4.2	1.2	2.5
5.0	8.70	0.04	1.0	3.0	1.1	1.7
8.0	16.99	0.07	1.5	8.2	0.8	3.4
8.5	29.58	0.02	2.2	16.7	0.8	1.1
7.5	9.15	0.08	2.1	3.6	0.3	0.6
7.5	5.77	0.04	0.6	0.8	1.4	3.8

30 block (Block Average - 8.6', $10.86)

width	$ value	Au	Ag	Pb	Cu	Zn
8.0'	$ 2.28	0.02	0.2	0.2	0.6	0.1
8.0	5.89	---	0.8	3.5	---	0.3
8.5	0.47	---	0.3	0.2	---	0.3
8.5	3.90	0.05	1.5	1.0	0.2	1.0
8.5	6.79	0.03	2.0	3.0	0.2	2.2
8.5	9.81	0.04	1.4	4.8	0.3	2.2
10.5	29.66	0.08	1.5	16.8	0.4	2.2
8.0	15.79	0.04	1.8	8.5	0.3	2.2
8.5	6.59	0.06	1.3	2.2	0.5	2.9
8.5	1.18	0.01	0.2	0.4	0.1	0.6
8.5	12.47	0.13	1.7	5.5	0.1	1.5
8.5	28.92	0.03	3.5	16.0	0.6	5.1
9.0	14.73	0.25	1.7	4.1	0.9	2.9
9.0	14.59	0.06	1.9	6.5	0.9	3.0
9.0	4.00	0.07	0.9	1.0	0.2	1.2
9.0	12.80	0.06	2.7	6.0	0.3	1.8
8.5	9.51	0.04	1.4	4.3	0.5	4.0

31 block (Block Average - 8.8', $1.54)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 0.35	---	0.2	---	0.1	0.3
9.5	0.35	---	0.1	0.2	---	0.3
8.5	0.94	0.01	0.2	0.4	---	0.3
8.5	1.71	0.03	0.4	0.4	0.1	0.4
8.5	0.27	---	0.2	0.1	---	0.5
8.5	3.43	0.01	0.6	1.4	0.3	0.5
9.5	0.05	---	0.1	---	---	0.3
9.0	0.21	---	0.1	0.1	---	0.1
8.5	0.52	---	0.1	0.3	---	0.1
9.0	5.24	0.08	0.5	1.8	0.2	0.6
9.0	3.90	0.15	0.2	0.1	0.2	1.0

32 block (Block Average - 8.0', $1.10)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 1.17	0.02	0.2	0.1	0.2	1.0
9.0	1.84	---	0.2	0.8	0.2	0.5
8.5	0.42	---	0.2	0.2	---	0.6

370 Level Average
-All Samples-

width	$ value
8.1'	$7.28

4177 - Main Level

22 block (Block Average - 9.1', $0.43)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 0.05	tr	0.1	---	---	0.1
9.0	0.05	tr	0.1	---	---	0.1
8.5	0.05	tr	0.1	---	---	0.2
8.5	0.05	tr	0.1	---	---	0.1
8.5	1.31	0.06	0.1	---	---	0.2
8.5	0.05	tr	0.1	---	---	0.6
8.5	0.21	---	0.1	0.1	---	0.2
9.5	0.72	0.01	0.2	0.1	0.1	0.6
9.0	0.75	---	0.2	0.1	0.2	0.3
10.0	0.27	---	0.2	0.1	---	0.1
10.0	0.42	0.01	0.1	0.1	---	0.1
9.5	1.05	0.02	0.6	0.2	---	0.2
10.0	0.58	---	0.2	0.3	---	0.1

23 block (Block Average - 9.0', $1.04)

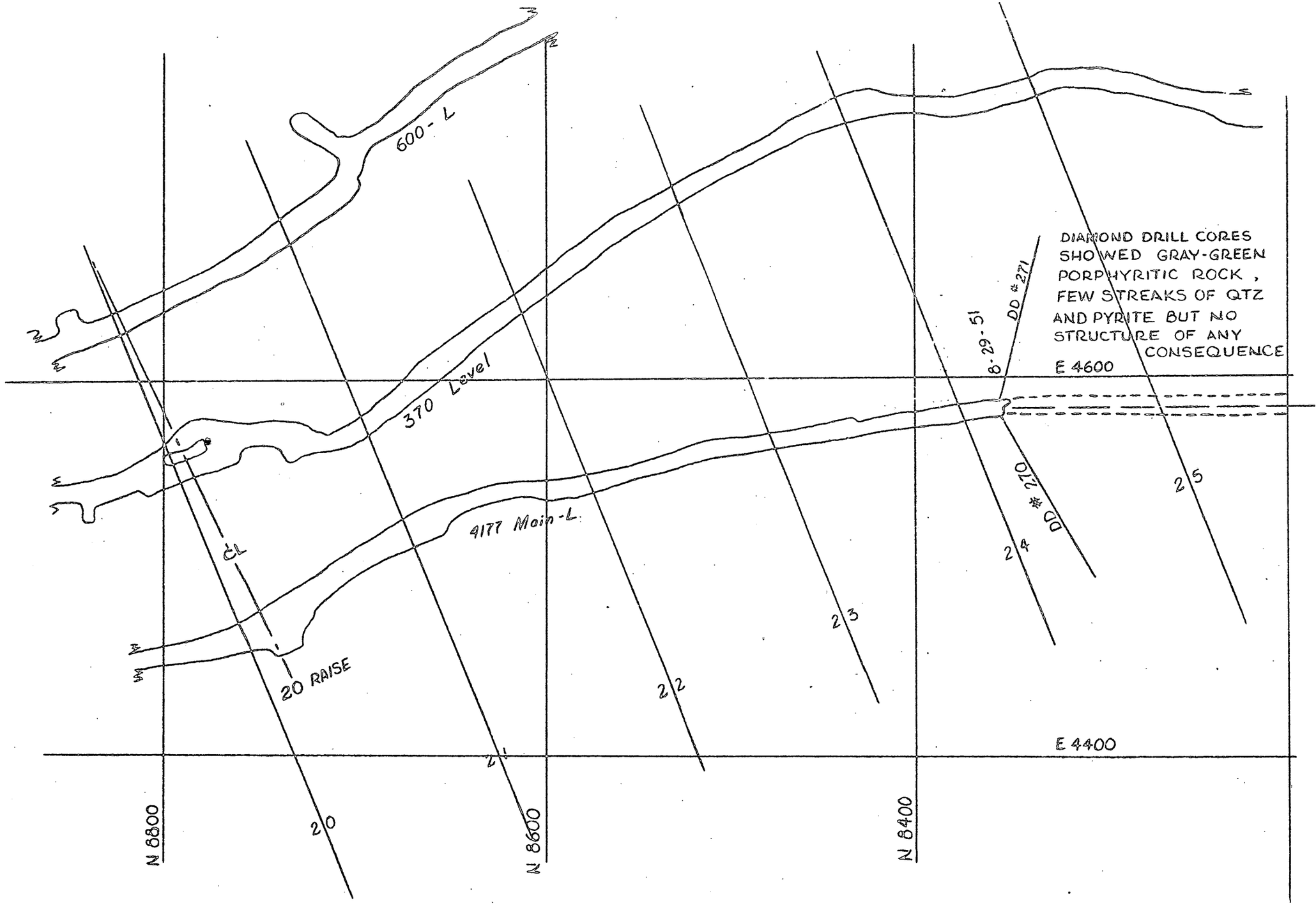
9.0'	$ 0.27	---	0.2	0.1	---	0.1
10.0	0.69	0.01	0.6	0.1	---	0.1
9.5	0.21	---	0.1	0.1	---	0.1
9.5	0.21	---	0.1	0.1	---	0.3
9.5	0.38	---	0.4	0.1	---	0.3
9.0	1.14	---	0.1	0.7	---	0.1
10.0	0.42	0.01	0.1	0.1	---	0.1
9.0	0.26	0.01	0.1	---	---	0.1
9.0	0.26	0.01	0.1	---	---	0.1
8.0	11.08	0.04	2.4	4.5	0.8	0.8
8.5	0.42	0.01	0.1	0.1	---	0.1
8.5	0.42	0.01	0.1	0.1	---	0.1
8.5	0.27	---	0.2	0.1	---	0.1
9.0	0.27	---	0.2	0.1	---	0.1
8.5	0.36	---	0.1	0.2	---	0.1
9.0	1.14	---	0.1	0.7	---	0.1

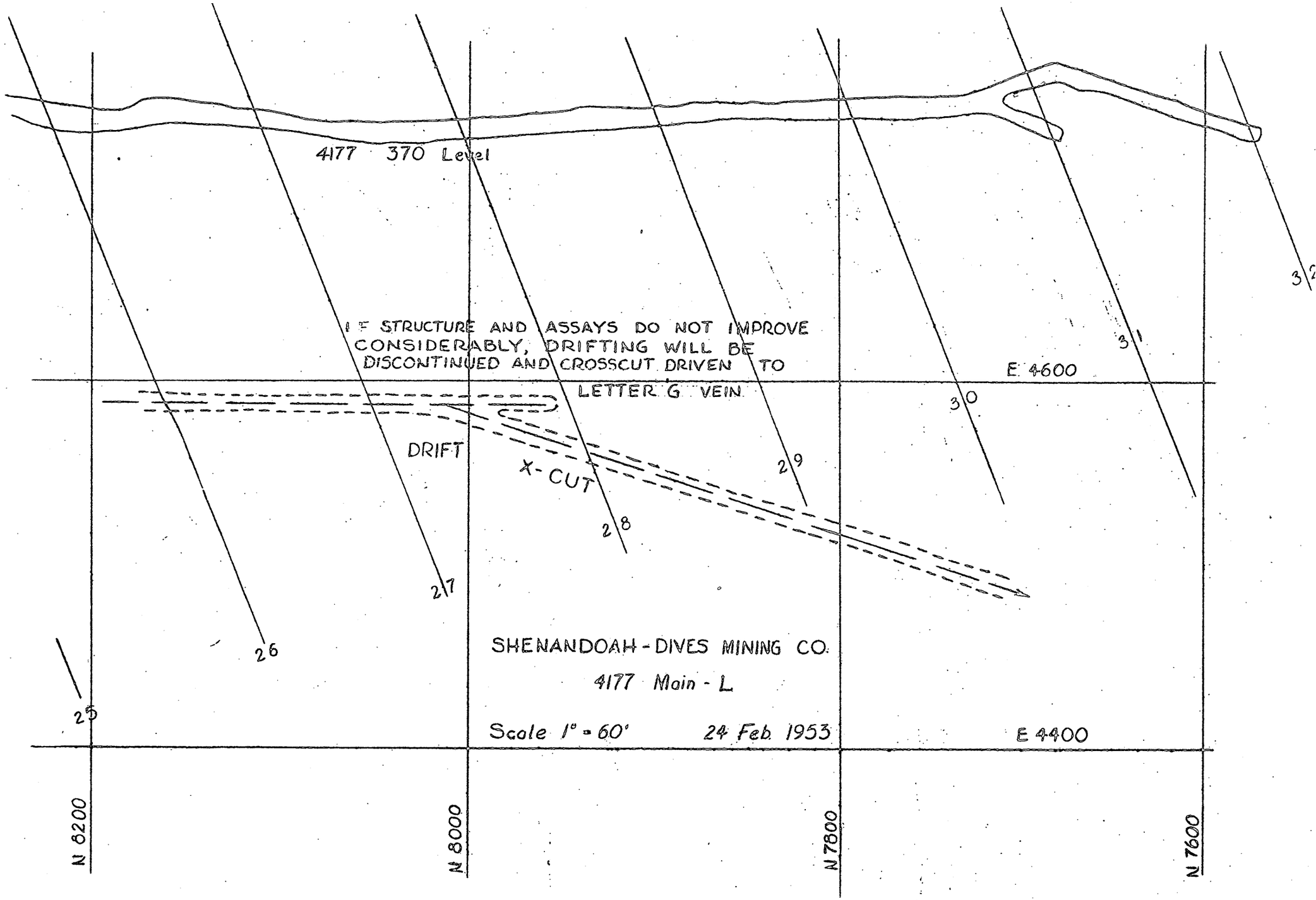
24 block (Block Average - 9.1', $0.24)

8.5'	$ 0.52	---	0.1	0.3	---	0.1
9.0	0.05	---	0.1	---	---	0.1
9.0	0.05	---	0.1	---	---	0.1
10.0	0.36	---	0.1	0.2	---	0.1

Main Level Average
-All Samples-

width	$ value
9.1'	$0.70


600 - L
370 Level
4177 Main-L
20 RAISE
℄L
N 8800
N 8600
N 8400
E 4600
E 4400
20
21
22
23
24
25
DD #271
8-29-51
DD #270
DIAMOND DRILL CORES SHOWED GRAY-GREEN PORPHYRITIC ROCK, FEW STREAKS OF QTZ AND PYRITE BUT NO STRUCTURE OF ANY CONSEQUENCE


4177 370 Level
IF STRUCTURE AND ASSAYS DO NOT IMPROVE
CONSIDERABLY, DRIFTING WILL BE
DISCONTINUED AND CROSSCUT DRIVEN TO
LETTER G VEIN
E 4600
DRIFT
X-CUT
25
26
27
28
29
30
31
32
SHENANDOAH-DIVES MINING CO.
4177 Main - L
Scale 1" = 60'
24 Feb 1953
E 4400
N 8200
N 8000
N 7800
N 7600

A FRAGMENT OF COLORADO MINING HISTORY

A first exhibit is in excerpts from an expression by Mr. Edward G. Stoiber of August 2, 1899, reciting a story of human achievement in twelve years that is astonishing as measured by extent of mineral property acquired, by miles of mine workings opened, and by completeness of plant and equipment provided to make the property productive. The altitude of the major work was above 12,000 ft, the approaches were forbidding: much of the heroic was in the work.

A second exhibit is in excerpts from a report from Mr. Clapp, of February, 1913, on the same property, 11 years after its sale by Mr. Stoiber, in which three comments arrest attention:

A "——the rate of 200 tons per day, the maximum that can be handled through Unity tunnel (the outlet)";

B "——the former company and Mr. Stoiber before them, both fought a losing battle in the attempt to keep their reserves of $9.00 or $10.00 ore in advance of their consumption."

C "Of lower grade ore there is perhaps 100,000 tons already exposed and the prospective tonnage is almost unlimited,——."

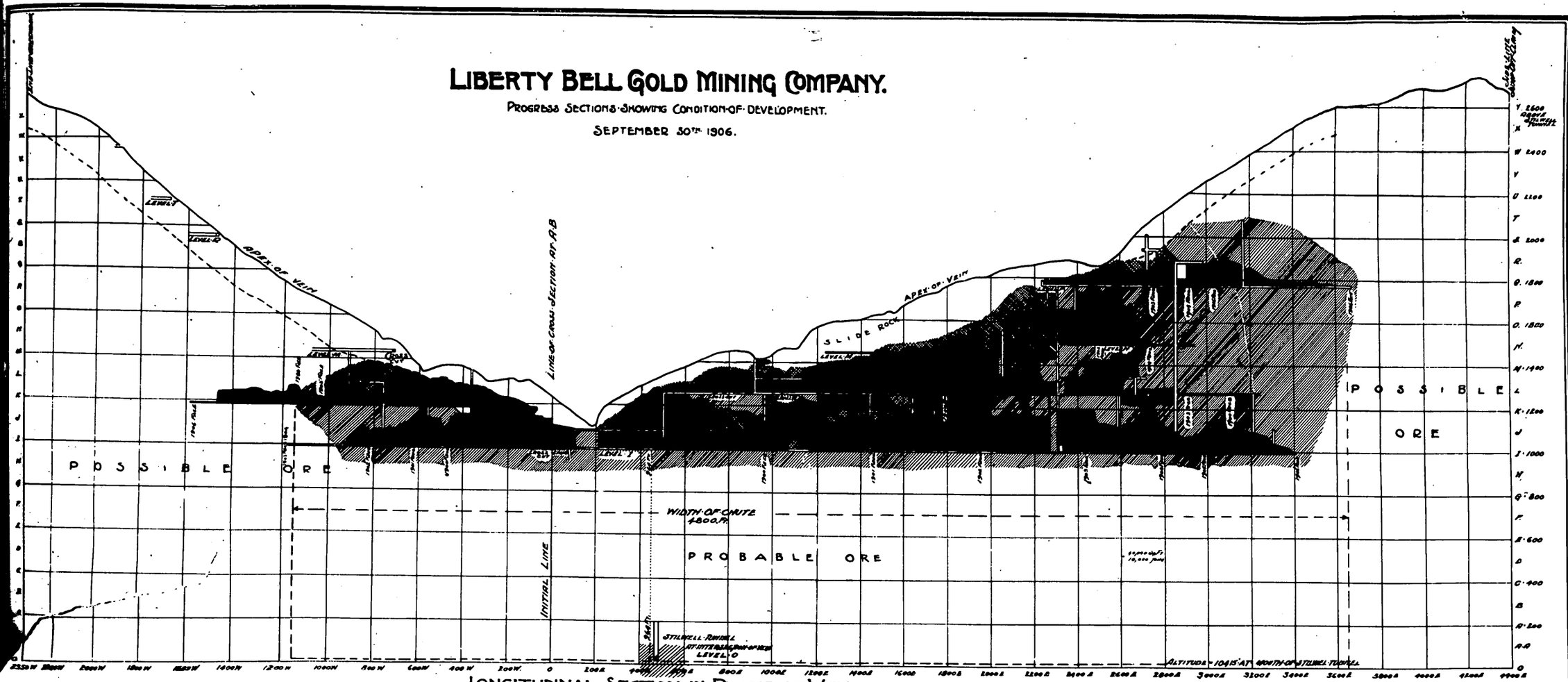
A third exhibit lists the production of the mine 1902-1918 inclusive. (The record of large production 1890-1901 is not available.) In parallel is shown the contemporary production of Liberty Bell mine at Telluride.

I present the material because it confirms so strikingly my conviction of the ruling importance of human temperaments in the industry. Mr. Stoiber presented for sale in 1899 an organized property producing some 200 tons daily, with miles of access workings and great reserves. Liberty Bell mine was then in its first few months of production, with 2800 ft of drifting on ore, and minimum plant and equipment; it approached production of 100 tons daily.

LIBERTY BELL GOLD MINING COMPANY.

PROGRESS SECTIONS SHOWING CONDITION OF DEVELOPMENT.

SEPTEMBER 30TH 1906.



LONGITUDINAL SECTION IN PLANE OF VEIN.

HORIZONTAL AND VERTICAL SCALE 1" : 400'

Vertical Distances measured on Slope of vein.

Ore Stoped 408,282 Dry Tons from - -	1,259,000 Sq. Ft.
Pinched and Unworkable Vein - - -	250,000 " "
Ore "in Sight" - - - - - - -	316,000 Tons, Dry.
Width of Chute 4,800 ft.	
Probable Ore in Chute above Stilwell Tunnel - - -	1,150,000 " "
Total Ore in Sight and Probable - -	1,466,000 Tons, Dry.
Estimated Ore beyond Chute within Property, and above Stilwell Tunnel (½ of Possible) -	300,000 " "
Total in Sight Prob. and Estim. - -	1,766,000 Tons, Dry.
Possible Ore within Property above Stilwell Tunnel, and in addition to the last Total - - -	900,000 " "
Total Possible above Stilwell Tunnel -	2,666,000 Tons, Dry.
Probable and Possible Ore below Stilwell Tunnel - -	Not Estimated.

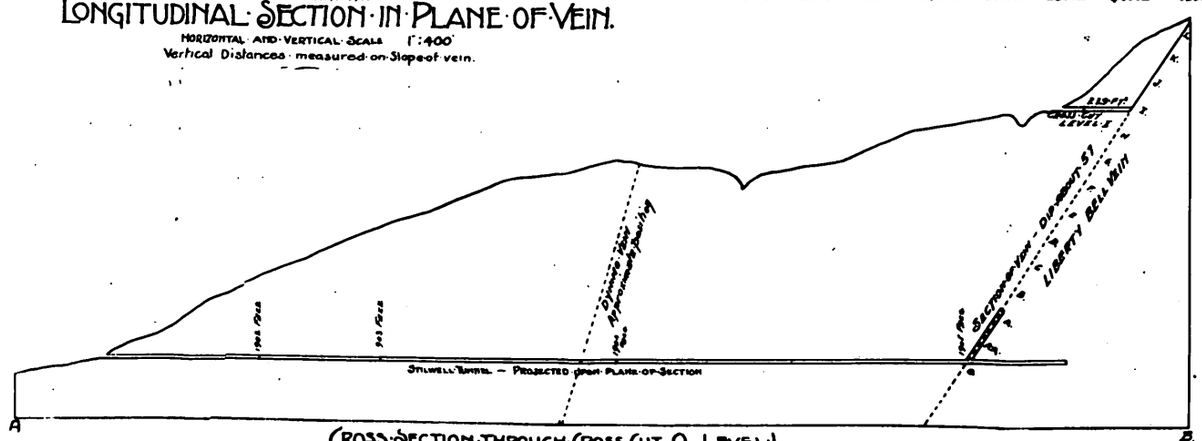
Progress of Development for Year Ending September 30th, 1906.

Ore Mined, 92,221 Tons, dry.—Tunnelling, 292 ft.
Drifting, 2,206 ft. Crosscutting, 40 ft. Upr. 1,312 ft. Total deadwork 3,850 ft.

NOTE.—The above results are calculated on the following assumptions

Average width of Vein,=3.52 ft.(Actual average of eight years.)
One ton in solid (dry) 18 cub. ft.
Distance between Stilwell Tunnel and 1 Level,=964 ft.

In calculating the average width of vein, upon which the Ore in sight and other tonnage results are based, the area of pinched and unworkable vein so far developed is included within the stoped area.



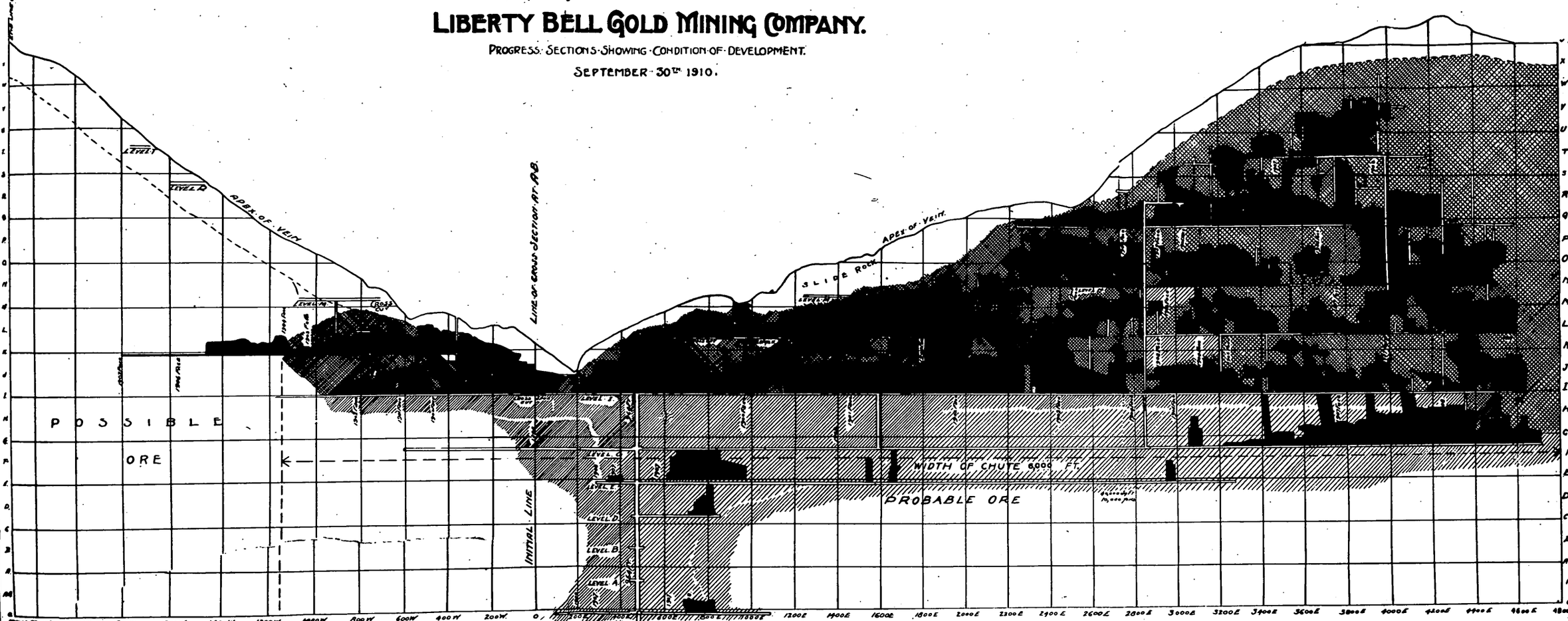
CROSS SECTION THROUGH CROSS CUT O LEVEL 1.

HORIZONTAL AND VERTICAL SCALE 1" : 400

LIBERTY BELL GOLD MINING COMPANY.

PROGRESS SECTIONS SHOWING CONDITION OF DEVELOPMENT.

SEPTEMBER 30TH 1910.



LONGITUDINAL SECTION IN PLANE OF VEIN.

HORIZONTAL AND VERTICAL SCALE 1" : 400'

Vertical distances measured on slope of vein.

Ore stoped 2,680,000 sq. ft. yielding . . . 887,606 Tons, dry.

Pinched and unworkable vein 2,150,000 sq. ft.

Ore "in sight" . . . . . 676,000 Tons, dry.

Width of shoot 6,000 ft.		
Probable ore in shoot above Stilwell tunnel . . .	630,000	" "
Total ore in sight and probable .	1,308,000	Tons, dry.
Estimated ore beyond shoot within property, and above Stilwell tunnel (½ of possible) . . .	130,000	" "
Total in sight prob. and estim. .	1,438,000	" "
Possible ore within property above Stilwell tunnel and in addition to the last total . . .	400,000	" "
Total possible above Stilwell tunnel	1,838,000	Tons, dry.

Probable and possible ore below Stilwell tunnel . . Not estimated

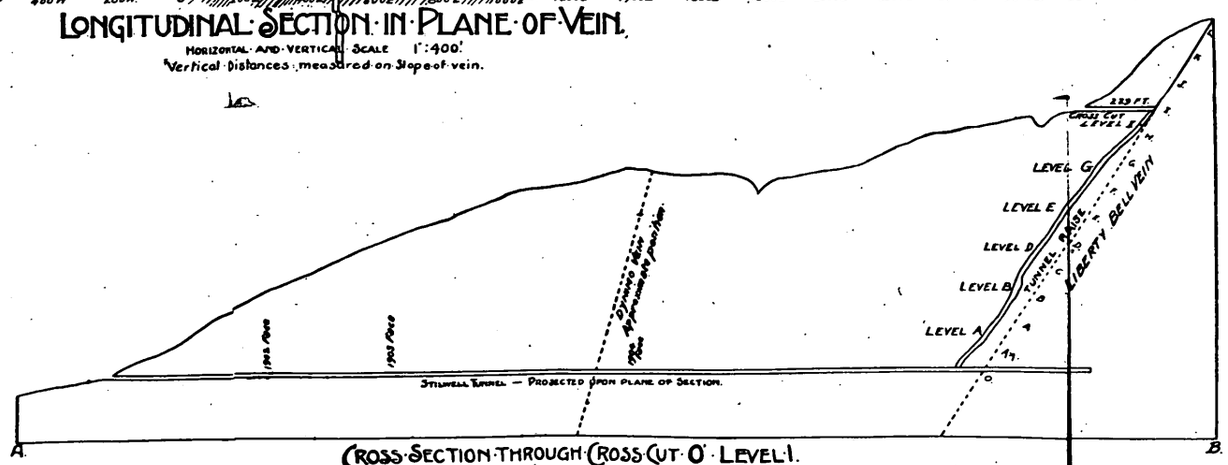
Progress of development for year ending September 30, 1910.

Ore mined 134,321 Tons, dry.
Drifting 3,951 ft. Upraising 1,423 ft.
Total deadwork 5,374 ft.

NOTE.—The above results are calculated on the following assumptions:

Average width of vein—3 ft. (Actual average of 11 years.)
One ton in solid (dry) 13 cub. ft.
Distance between Stilwell tunnel and I level 964 ft.

In calculating the average width of vein, upon which the ore in sight and other tonnage results are based, the area of pinched and unworkable vein so far developed within the limits of operations is included as if it were a part of the stoped area.



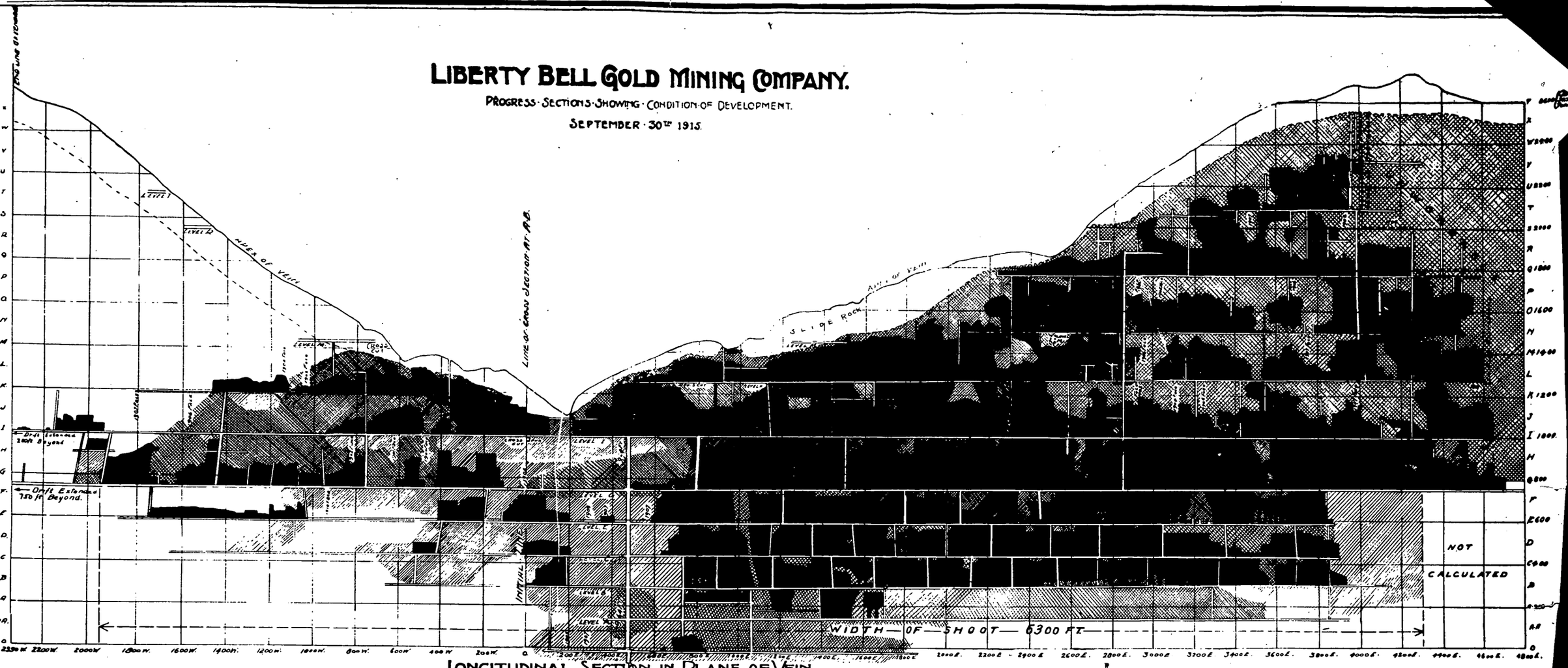
CROSS SECTION THROUGH CROSS CUT O LEVEL I.

HORIZONTAL AND VERTICAL SCALE 1" : 400'

LIBERTY BELL GOLD MINING COMPANY.

PROGRESS · SECTIONS · SHOWING · CONDITION · OF DEVELOPMENT.

SEPTEMBER · 30TH 1915.



LONGITUDINAL SECTION IN PLANE OF VEIN.

HORIZONTAL AND VERTICAL SCALE 1" : 400'

Vertical Distances measured on Slope of vein

Ore Stoped 4,980,000 sq. ft. yielding. 1,746,000 Tons, dry.

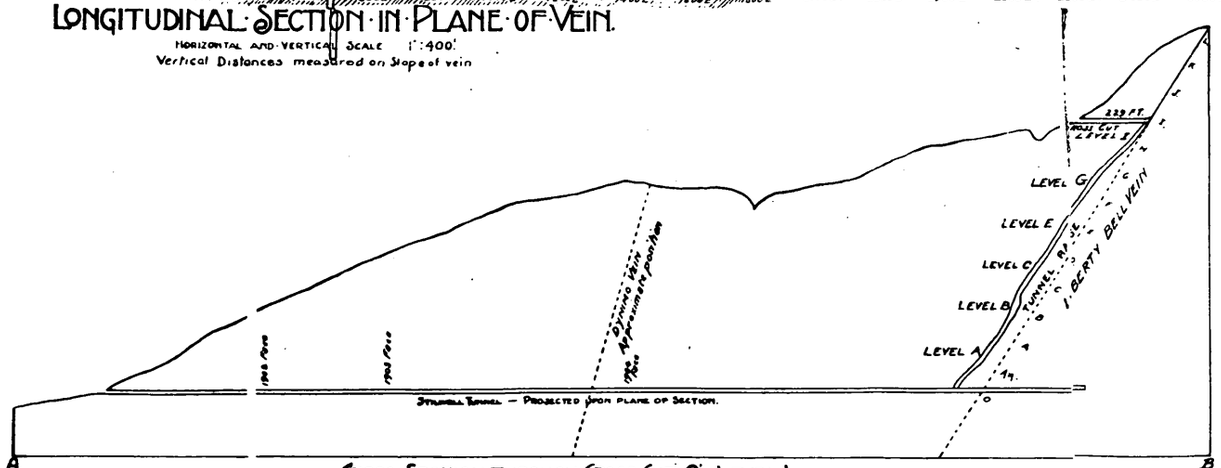
Pinched and Unworkable Vein.

Ore in Sight and Probable 648,000 sq. ft. . . . . 218,000 Tons, dry

A comparison of this section with that of the preceding year will show that large areas of what was considered probable and possible ore have now been thrown into pinched and unworkable vein. This is the result of further development and of a study and revision of the assay results and conditions of previous development; in many cases the results obtained in the driving of drifts and raises have not maintained when stoping was begun. The ore now considered in sight and probable is confined to scattered patches on the west side, to the ground in pillars and in close proximity to the main upraise, and to the extreme eastern end of the lower levels. Possible ore may be looked for below the Stilwell Tunnel and to the extreme east in the foot wall split of the vein which is not being explored.

PROGRESS OF DEVELOPMENT FOR THE YEAR ENDING SEPT. 30, 1915.

Ore Mined 173,300 tons, dry, from 442,000 sq. ft. stoped
Drifting 4,300 ft. Upraising 811 ft. Total 5,139 ft.



CROSS SECTION THROUGH CROSS CUT O · LEVEL 1.

HORIZONTAL AND VERTICAL SCALE 1" : 400'

Silver Lake ore was better. Fourteen years later Mr. Clapp reviewed an unhappy history, saw that production in larger volume could change the picture for the future, and reported great reserves of ore in range of $6 that might be profitable. He gave 200 tons daily as the capacity of the outlet of the mine. At that time Liberty Bell was reaching 500 tons daily, and was organized to live on ore yielding less than $5 per ton; in the end the average yield from ore sales was $6.55 and dividends approached $5 million. Volume was critical (Incidentally, I never thought of any low limit of capacity of a mine level of normal size.), but, back of volume at Liberty Bell, were timely completions of two strategic developments, one in the upper area in 1906, and one in the lower area in 1910. They were key projects, for ready access for men and supplies, and efficient outlets for ore, that were never paralleled in the other mine despite crying needs; they meant so much in the final result as to dwarf the penalties of normal human error through the twenty years.

The Liberty Bell was founded, and given character, by Arthur Winslow, but the organization of its production was mine in large part.

G. A. C.

Silverton, Colorado
22 February, 1949

EXHIBIT 1

E X C E R P T S

GENERAL REPORT UPON THE SILVER LAKE MINES

By

Edward G. Stoiber
1899

1. Location, Ownership and History of the Property:

This Property, known as The Silver Lake Mines and owned by Edward G. and Lena Allen Stoiber, is situated near Silverton, in the Animas Mining District, San Juan County, Colorado, it has been under the management of Edward G. Stoiber, since February 1887, to date.

At the time of the purchase of the property in 1887, probably not over 500 feet of work had been done on same, and there were but two claims in the group; to-day the underground workings may reach a total length of 35000 feet, and the group embraces about 100 claims.

3. Purpose of Owners in the acquisition of large acreage:

It has been the special aim of the Owners, to get together a grouping of Mineral Claims, capable of being worked advantageously as one large mining enterprise, and whose life would unquestionably be a very long one; by the judicious location of protecting claims, possible litigation has been carefully guarded against.

It is claimed for this property that it is a low grade Concentrating proposition, with the premises of practically unlimited vein area to draw from.

4. Estimated length of Vein Croppings, covered by this Property:

The Property covers about 20000 running feet of the Silver Lake Vein croppings; about 5300 running feet of the Titusville-Buckeye vein and probably a further 5000 feet of "Royal", "Professor Stelzner"

and "Whale Rochester" veins; other vein croppings known to exist, but less explored, are ignored in this estimate.

5. Vein Systems:

There are upon this property, two mineralized vein systems: The "Silver Lake" and the "Titusville-Buckeye" veins belonging to the North-West and South-East system, and the "Royal", "Stelzner" and "Whale-Rochester" veins belonging to the North and South system, and running between the "Silver Lake" vein on the North, to the "Titusville-Buckeye" vein on the South, thus making it possible to connect these vein systems by underground workings upon the veins themselves.

9. The Mine Workings and Ore Reserves:

A glance at the maps will be sufficient to show a present large underground development, representing probably in the neighborhood of seven miles of Drifting and Crosscutting, without including the Unity or Blair Mountain Tunnel workings.

Regarding ore reserves, it may be stated that a conservative measurement and estimate recently made by Mr. R. W. Hollis, places same at about 510000 Tons, equivalent to about seven years of running of the present Concentrator, which annually handles about 70000 Tons of mill ore. Mr. Hollis, having been connected with this enterprise for some 8 years or more past, as Engineer and lately as Assistant Manager, is perhaps the best possible person to pass upon this matter of ore reserves.

20. Concluding Remarks:

The "Titusville-Buckeye" vein, although showing excellent croppings, and some underground workings with ore reserves on the "Buckeye" claim, has barely been referred to; The "Nevada" claim has been mentioned only; and the territory N.W. of same on the "Silver Lake" vein, has not been referred to except by the expressed expectation of having the Blair Mountain Tunnel strike and develope it near the Animas River.

Just so the territory on the "Silver Lake" vein to the South East of Arastra Lake, i.e., the "Royal Tiger" #1, the "Homestake" and "Emma" claims, which should have an excellent future.

EXHIBIT 2

EXCERPTS

REPORT ON SILVER LAKE MINES
BY
LAWRENCE R. CLAPP, SUPERINTENDENT

FEBRUARY 12, 1913

In order to continue beyond this preliminary period other ore bodies on the Unity level must have been opened up in that time. Assuming then that the entire program of prospecting is carried out, and, that after an expenditure of $20,000.00 we have available 117,000 tons of $9.40 ore which we will assume, will be worked out at the rate of 200 tons per day, the maximum which can be handled through the Unity tunnel, we will have

	Daily tons.	Life Mo's.	Cost	Profit
13000 tons @ $9.30	50	8.5)	$4.35	$.90
117000 " @ 9.40	200	29.5)		

Total Profit $117,000.00

The above outlook is decidedly discouraging, particularly as from present knowledge this evidently constitutes the entire amount of pay ore in the Silver Lake Mines above the Unity Tunnel. Of lower grade ore, of say, $6.00 value, there is perhaps 100,000 tons already exposed and the prospective tonnage available is almost unlimited, probably the entire Letter "C" vein from the Scranton City to the Buckeye, a distance of nearly two miles, averaging at least that value.

The future of the Silver Lake Mines in my opinion, lies wholly in the solution of the problem of making this material profitable and not in the search of better grade ore; the former company and Mr. Stoiber before them, both fought a losing battle in the attempt to keep their reserves of $9.00 or $10.00 ore in advance of their consumption. In so doing they exposed a very large tonnage of lower grade material and indicated where a still larger tonnage was probable. If this can be made available, the property has a big future still ahead of it.

To make $6.00 ore profitable, will require a total cost of not more than $4.75 per ton and a mill extraction of at least 80%. Neither of these are beyond possibility. A $4.75 cost would mean a big tonnage, the avoidance of an expensive tram, an adequate modern equipment and a high concentration ratio. An 80% mill extraction on ore of only $6.00 gross value means considerably more than our present mill is capable of. Recently, I was attracted by the remarkable success of the Minerals Separation Co's froth flotation process at the Braden Copper Company and at the Butte & Superior. I made some tests in a very crude way with a home-made laboratory size flotation apparatus. From the results obtained, it is apparent that an 80% extraction combined with a high ratio of concentration is not at all an impossibility with the method. If this is possible on a commercial scale and indications apparently point that way, to judge from the results obtained at Braden, it will mean over $1.00 per ton of difference on our present prospects, and would change a probable loss into an almost certain profit, besides making available a considerable tonnage of lower grade ore. From what I can gather from other plants, the purchase and erection of the necessary apparatus for the installation of the process at this property would not exceed $3,000.00, which would be repaid within one month of operation by the expected increase in saving.

Table 3

COMPARED METHODS OF MAKE PRODUCTION OF TWO MINES. SHOWN: TONS, OUNCES AND/OR TONS OF RECOVERED METALS: FINAL, AT SMELTER

(Table 2 Data Total)

Year	Tons	Au Oz/T	Au Tot.Oz.	Ag Oz/T	Ag Tot.Oz.	Pb %	Pb Tons	Cu %	Cu Tons	$/T Gross	$/T Rec.	$/T N.S.
1899												
1900										12.10		8.72
2	83,496	.161	13,470	3.20	267,574	.922	768.822	1.068	889.548	8.30		5.83
3	97,076	.168	16,313	4.55	446,112	1.750	1,718.473	1.003	982.532	10.24	8.12	6.93
4	89,843	.152	13,612	6.18	548,608	2.215	2,025.787	1.130	1,016.586	11.38	9.34	7.94
5	69,950	.112	7,817	6.23	435,397	2.995	2,095.883	1.068	746.561	11.25	8.80	7.44
6	16,720	.102	1,674	6.81	113,800	1.770	330.763	.740	138.565	10.49	8.73	7.13
7	52,716	.117	6,161	5.80	305,406	1.870	985.075	.982	516.907			
8	58,815	.129	7,612	4.95	291,928	1.294	762.607	.885	521.106			
9	5,301	.170	900	4.71	24,973	2.922	154.927	1.140	60.544			
10	4,540	.213	967	4.92	22,354	2.160	98.216	1.200	54.563			
1	9,331	.091	858	3.88	36,418	1.146	107.635	.602	56.456			
2	20,398	.107	2,182	4.18	84,386	1.608	327.885	.558	113.841			
3	12,179	.212	2,581	4.44	54,049	7.630	928.043	.439	53.460			
4	14,133	.227	3,207	4.73	66,927	4.240	599.235	.483	68.281			
5	29,652	.147	4,371	1.72	50,907	1.130	334.863	.408	120.934			
6	29,190	.126	3,683	1.98	57,805	1.082	315.967	.558	162.677			
7	18,069	.096	1,744	1.74	31,485	2.133	385.421	.461	83.198			
8	16,066	.083	1,340	1.77	28,425	2.035	327.125	.463	74.324			
19												
20												
1												
Totals,	630,645	.142	89,892	4.52	2,868,563	1.94	12,266.727	.896	5,659.883			

All From U. S. Bureau of Mines

1901 1906	360,105	.147	54,286	5.03	1,813,501	1.92	6,939.728	1.045	3,773.592
1907 1919	270,540	.132	35,606	3.90	1,055,062	1.97	5,326.999	.697	1,886.291

These Data From Incomplete Office Records.

PATTERN HELL MINE PRODUCTION FROM MINING IN COLORADO, U.S.G.S. PROF. PAP. 136, S.M., PAGE 225

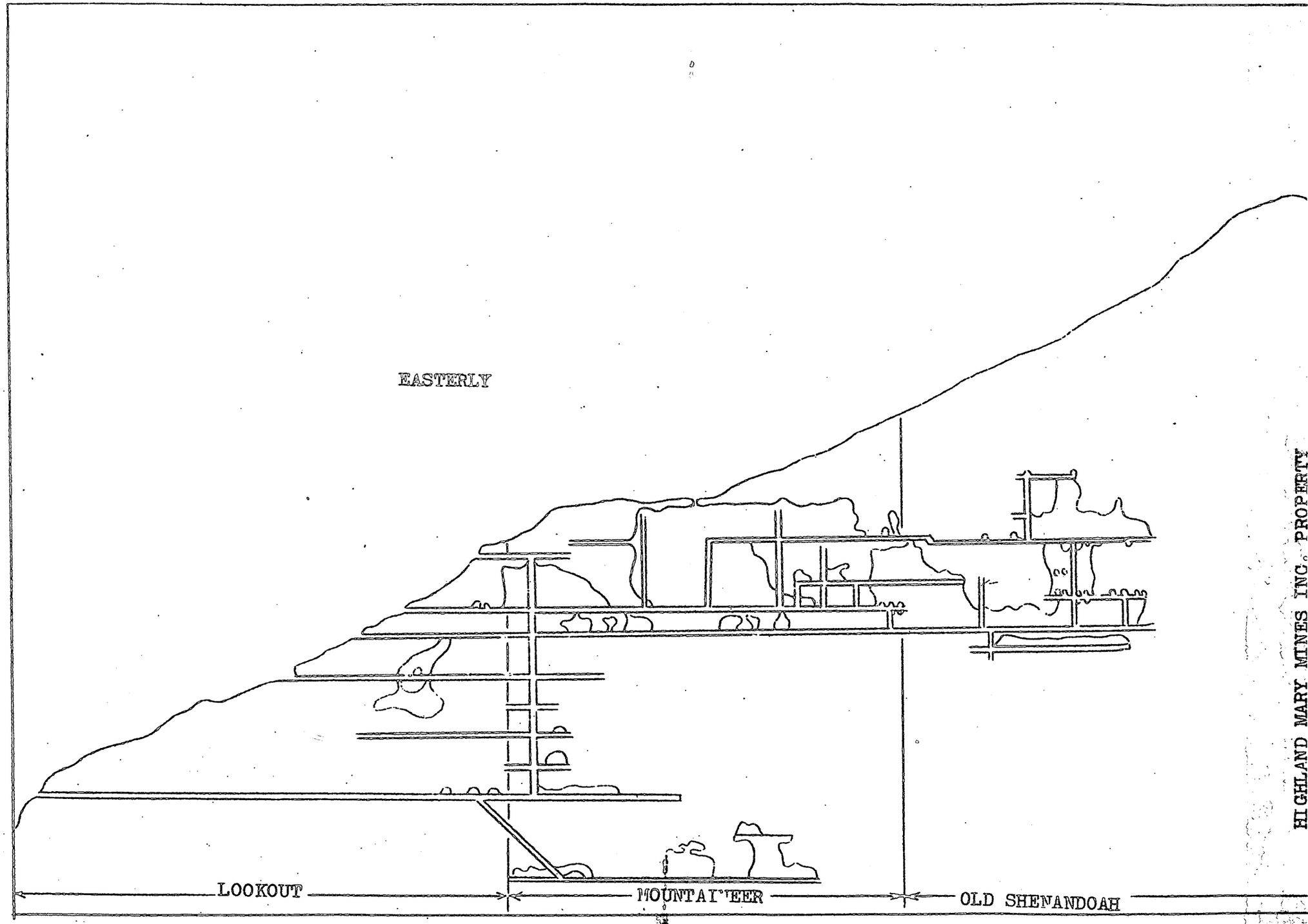
Tons	Au/T	Ag/T	$ Per Ton Recov.	$ Per Ton N.S.
37,800	.156	0.77	4.01	3.45
21,500	.239	1.23	5.31	5.02
54,397	.240	1.28	5.76	5.58
67,439	.299	1.68	7.15	6.72
83,273	.288	1.59	6.97	6.44
48,812	.395	2.35	9.52	8.93
27,379	.306	1.79	7.87	7.50
92,900	.315	2.21	7.98	7.73
102,104	.270	2.21	7.13	6.88
116,353	.285	2.43	7.26	7.02
125,681	.222	1.52	5.59	5.38
133,899	.290	2.07	7.17	6.85
155,950	.377	2.12	8.97	8.66
175,340	.279	1.79	6.87	6.59
179,216	.205	1.61	5.24	5.05
173,840	.191	1.82	4.96	4.86
174,100	.138	1.81	3.80	3.58
165,300	.185	1.55	4.79	4.59
143,100	.218	1.83	5.92	5.69
90,700	.517	2.19	12.71	12.38
110,700	.355	1.18	8.58	8.53
56,100			10.03	
55,285			9.83	
2,368,067	.267	1.91	6.80	6.55

Tonnage 1899 Corrected, and Columns 2, 3, and 5 Supplied from Company Reports.

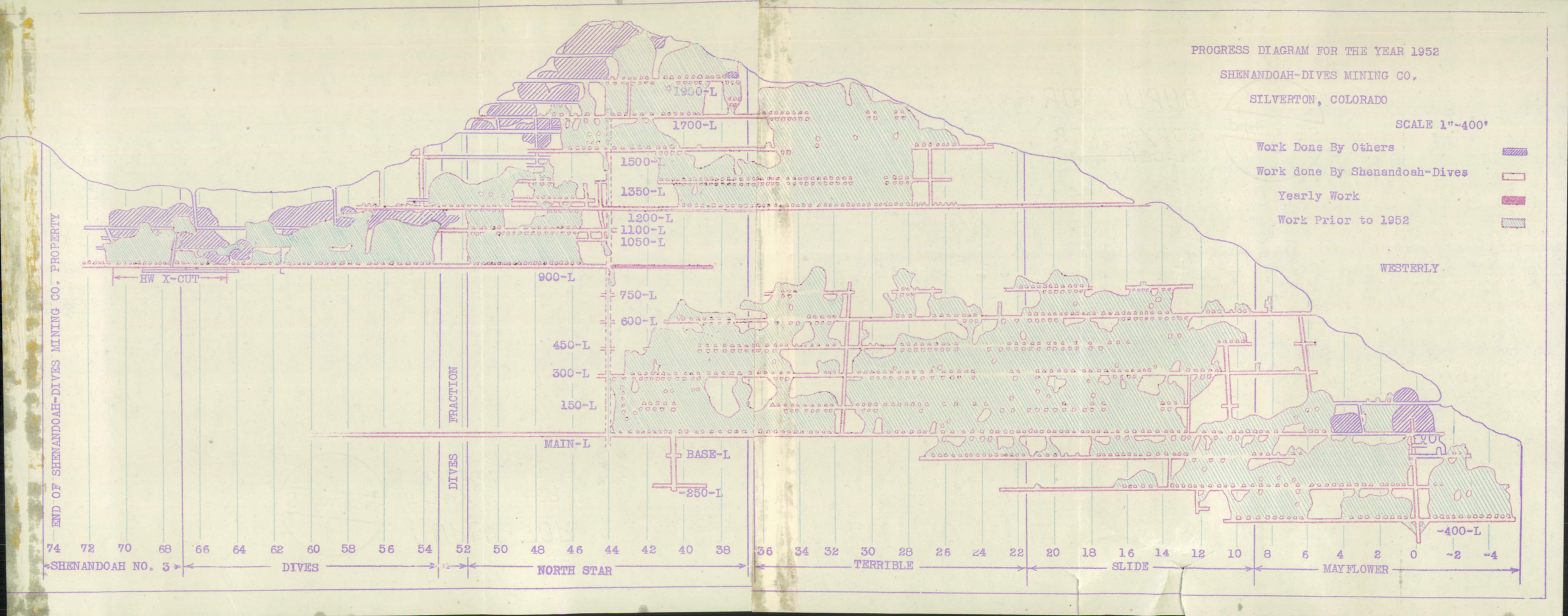
SHENANDOAH-DIVES MINING COMPANY'S RELATIVE POSITION IN THE NON-FERROUS METAL MINING INDUSTRY OF SAN JUAN COUNTY AND OF COLORADO. THE COMPANY'S PRODUCTION BEGAN IN 1928.

COLORADO. 1858 - 1927, INCLUSIVE.		PERCENTAGES OF COUNTY	PERCENTAGES OF STATE
ORE, TONS,	Not reported prior to 1924		
GOLD, OZ.,	33,922,445 (1,469,850 Placer)		
SILVER, OZ.,	645,099,437		
LEAD, TONS,	2,223,461		
COPPER, " ,	138,613		
ZINC, " ,	997,455		
MONEY VALUE,	$1,608,323,176 ($30,384,494 Placer)		
SAN JUAN COUNTY. 1873 - 1927, INCLUSIVE.			
ORE, TONS,	Not reported prior to 1924		
GOLD, OZ.,	1,159,840		3.32
SILVER, OZ.,	31,745,741		4.92
LEAD, TONS,	195,275		8.78
COPPER, "	28,119		20.28
ZINC, "	68,713		6.19
MONEY VALUE,	$86,226,436		5.36
COLORADO. 1928 - 1952, INCLUSIVE. 25 YEARS.			
ORE, TONS,	38,455,982		
GOLD, OZ.,	5,928,090		
SILVER, OZ.,	104,136,243		
LEAD, TONS,	396,456		
COPPER, " ,	128,690		
ZINC, " ,	628,085		
MONEY VALUE,	$513,461,241		
SAN JUAN COUNTY. 1928 - 1952, INCLUSIVE. 25 YEARS.			
ORE, TONS,	5,982,816		15.6
GOLD, OZ.,	496,847		8.4
SILVER, OZ.,	11,989,865		11.5
LEAD, TONS,	81,510		20.6
COPPER, " ,	13,213		10.3
ZINC, " ,	57,052		9.1
MONEY VALUE,	$49,839,933		9.7
SHENANDOAH-DIVES. 1928 - 1952, INCLUSIVE. 25 YEARS.			
ORE, TONS,	4,184,601	69.9	10.88
GOLD, OZ.,	389,020	78.3	6.56
SILVER, OZ.,	6,508,152	54.3	6.25
LEAD, TONS,	26,244	32.2	6.32
COPPER, " ,	10,520	79.6	8.17
ZINC, " , (16 Years)	11,272	19.8	1.79
MONEY VALUE,	$26,281,449	52.7	5.12

Sources: For State and County, Mr. A. J. Martin, Supervising Engineer, U. S. Bureau of Mines. All figures of "Recoverable Metals".
For Shenandoah-Dives Company, its Annual Reports of Metals Shipped.

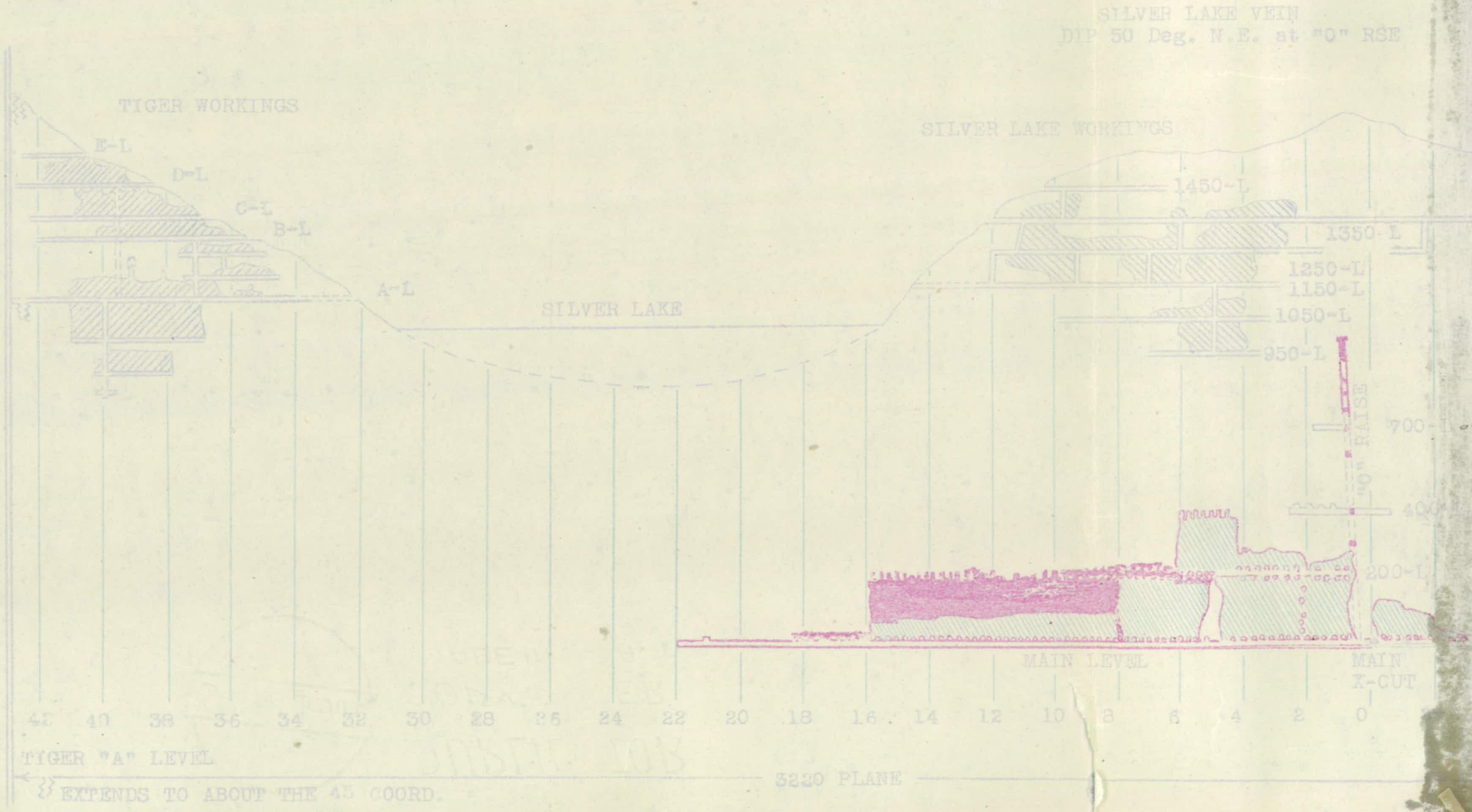


HIGHLAND MARY MINES INC. PROPERTY


PROGRESS DIAGRAM FOR THE YEAR 1952
SHENANDOAH-DIVES MINING CO.
SILVERTON, COLORADO
SCALE 1"=400'
Work Done By Others
Work done By Shenandoah-Dives
Yearly Work
Work Prior to 1952
WESTERLY
1900-L
1700-L
1500-L
1350-L
1200-L
1100-L
1050-L
900-L
750-L
600-L
450-L
300-L
150-L
MAIN-L
BASE-L
-250-L
-400-L
HW X-CUT
FRACTION
DIVES
END OF SHENANDOAH-DIVES MINING CO. PROPERTY
74 72 70 68 66 64 62 60 58 56 54 52 50 48 46 44 42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0 -2 -4
SHENANDOAH NO. 3
DIVES
NORTH STAR
TERRIBLE
SLIDE
MAYFLOWER

Shenandoah-Dives Mining Company.
Silverton, Colorado

MF 103
5b - Part 1



5 b - part 1

SHENANDOAH-DIVES MINING COMPANY
SILVERTON, COLORADO

PROGRESS DIAGRAMS THREE VEINS OF SILVER LAKE UNIT

YEAR 1952 SCALE 1" = 400'

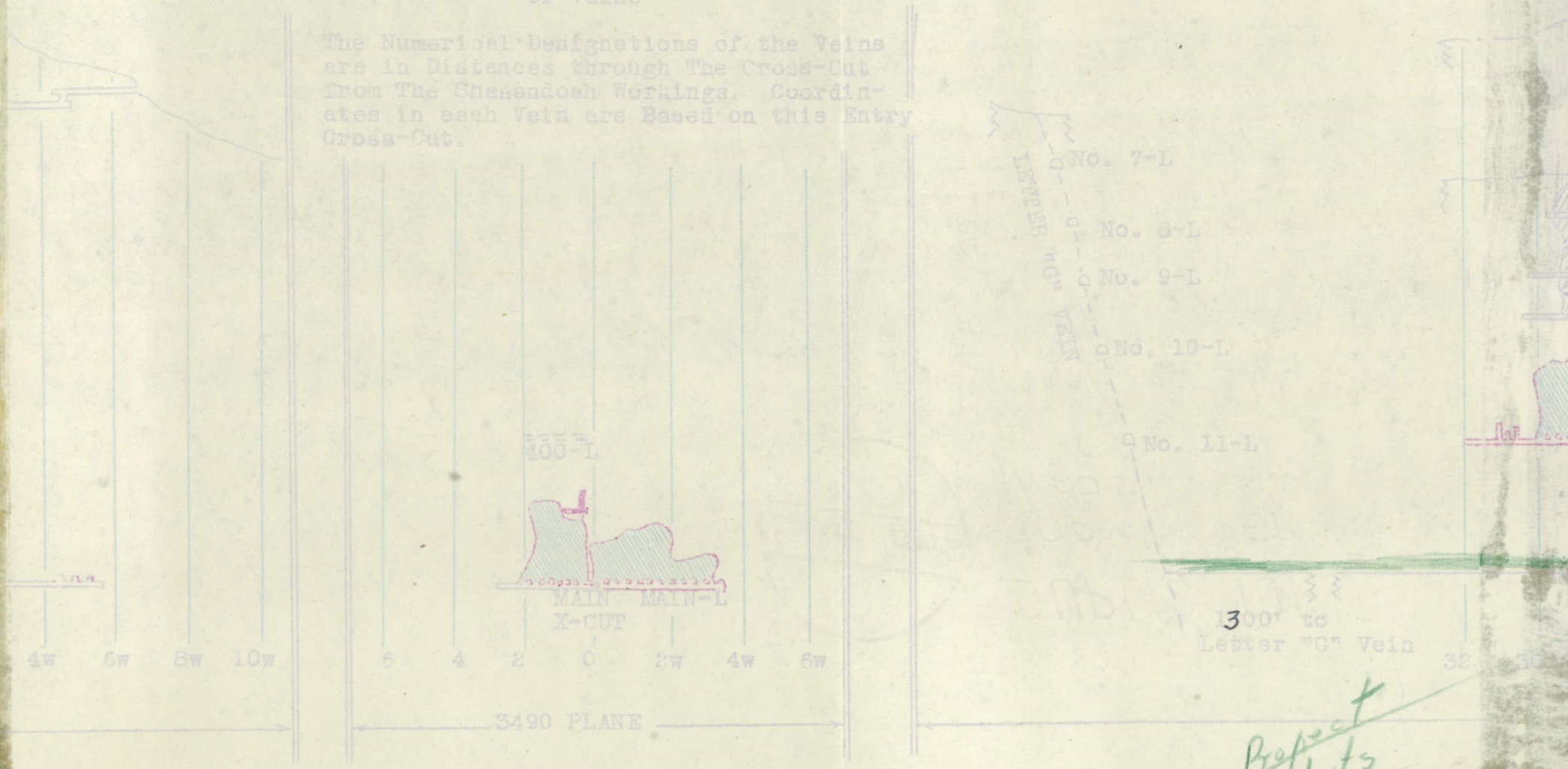
Work Done By Others
Work Done By Shenandoah-Dives

Yearly Work - 1952
Work Prior to 1952

Vertical Projections

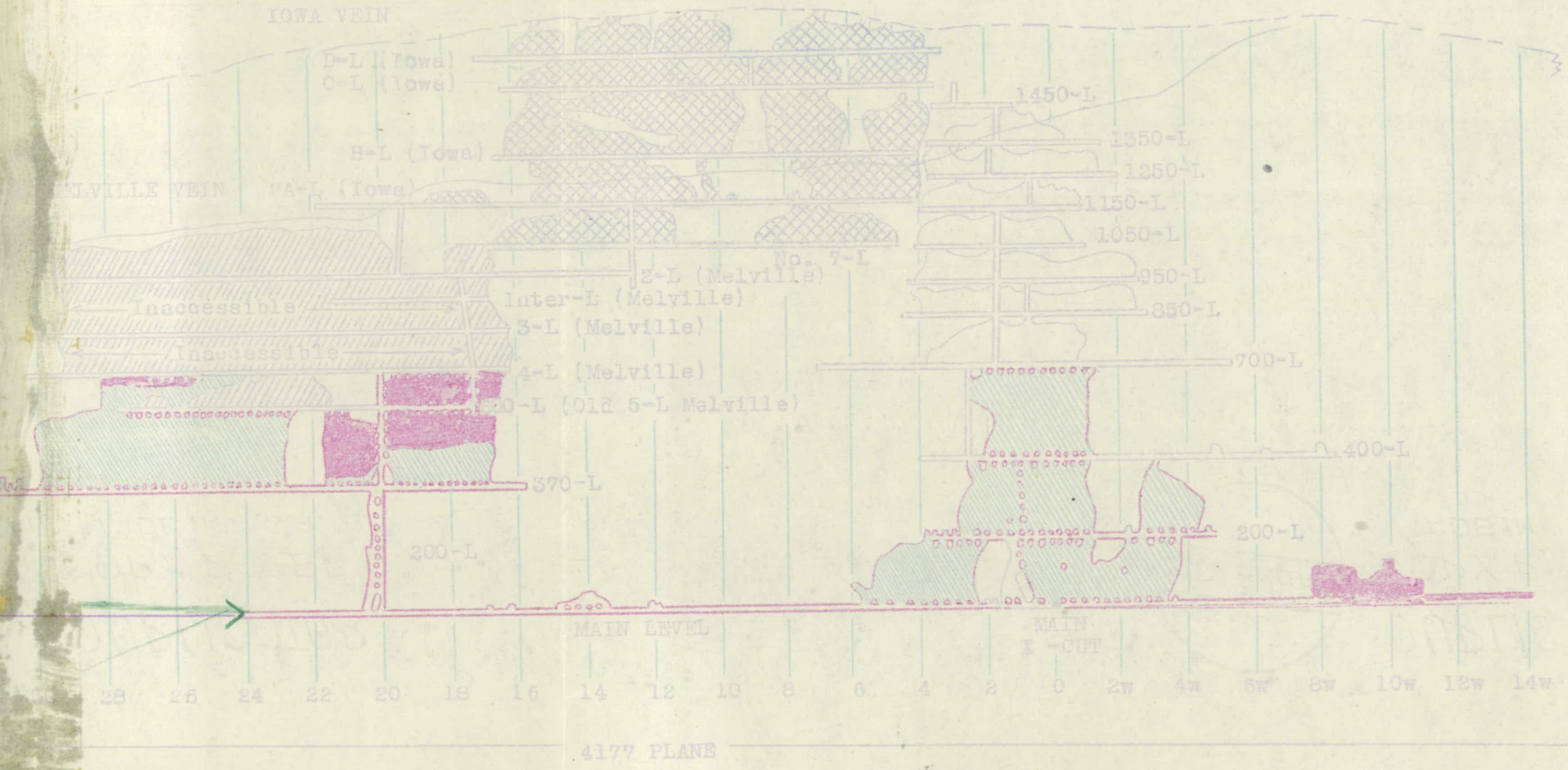
of Veins

The Numerical Designations of the Veins are in Distances through The Cross-Cut from The Shenandoah Workings. Coordinates in each Vein are Based on this Entry Cross-Cut.



3

Project Starts


IOWA VEIN
D-L (Iowa)
C-L (Iowa)
B-L (Iowa)
A-L (Iowa)
MELVILLE VEIN
1450-L
1350-L
1250-L
1150-L
1050-L
950-L
850-L
700-L
400-L
200-L
No. 7-L
2-L (Melville)
Inter-L (Melville)
3-L (Melville)
4-L (Melville)
Inaccessible
Inaccessible
370-L
200-L
MAIN LEVEL
MAIN
X-CUT
28 26 24 22 20 18 16 14 12 10 8 6 4 2 0 2W 4W 6W 8W 10W 12W 14W
4177 PLANE

Shenandoah-Dives Mining Company,
Silverton, Colorado

M F 103

6 - a - b

EXPLORATION CROSSCUT & DRIFT

3,000 feet, 12 Month Project

Labor:			
Miners & Helpers @ $16.00/ft.	$ 48,000.00		
Supervision	9,000.00		
Shift Bosses, Maint. & Repair, (2 shifts)	10,200.00		
Electrician	4,920.00		
Shop, Sharpening & Drills	4,860.00		
Engineer	5,100.00		
Tramway, transportation of men & supplies	13,680.00		
Office	4,200.00		
Payroll Tax	1,799.00		
Liability Insurance	4,268.00		
		$ 106,027.00	
Explosives		12,000.00	
Electric Power		24,000.00	
Drill Steel & Bits		6,600.00	
		148,627.00	$ 148,627.00

EXPLORATION RAISE LETTER G VEIN

500 feet Raise; 90 ft. station X-C
220 ft. x-c dog holes
7 month project-- after completion of
3000 ft project above

Labor:			
500 ft. Raise @ $35.00	$ 17,500.00		
220 ft. doghole x-cut @ $10.00	2,200.00		
90 ft. Station x-cut @ 14.00	1,260.00		
Control chutes at stations	1,000.00		
Supervision	5,250.00		
Shift Bosses, M&R (2 shifts)	5,950.00		
Electrician	2,870.00		
Shop, Sharpening & Drills	2,835.00		
Engineer	2,975.00		
Tramway, transportation of men & supplies	7,980.00		
Office	2,450.00		
Payroll Tax	941.00		
Liability Insurance	2,232.00		
		55,443.00	
Explosives		2,430.00	
Electric Power		14,000.00	
Drill Steel & Bits		972.00	
Timber, Plank & Ladders		1,933.00	
9/16" Cable, 1100 feet		225.00	
2300 Volt Cable, 3000 ft.		6,000.00	
			81,003.00

TOTAL EXPLORATION PROJECT ..... $ 229,630.00

6 - c - d

SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado

MINE EQUIPMENT
April 1, 1953

		$	$
ELECTRIC PLANT:			
	Steel Sub-station at Mill, 3 - 250 K.V.A. Transformers, Switches, Lightning Arresters, 15 ft. above ground on hillside	30,000.00	
	Power Line to Mine, 2 miles - 17000 volt	7,800.00	
	Transformers at Mine, 3 - 200's	9,000.00	
	Transformers Underground 3 - 50's	2,500.00	
	2500 volt Underground Cable, 7,320 ft. @ $2.20	16,104.00	
	Trolley Wire, Hangers, Switches, 8,037 ft. @ $ .40	3,235.00	
	200 H.P., 125 KW, 250 volt, Synchronus Motor Generator Set complete with Switches	7,500.00	
	75 H.P., 75 KW, 250 volt, Motor Generator Set	2,500.00	
1	2080 cu.ft. C. P. Compressor and 200 H.P. Motor	18,500.00	
1	80 H.P. - 9 ton Locomotive	13,000.00	
1	62 H.P. - 8 ton Locomotive	12,000.00	
	Electric Shop, Lamps, Spare Armatures & Equipment	6,500.00	
			128,639.00
MINE:			
	Phones Lines and Signals	1,000.00	
	8,157 ft. Track - 30 gauge - 45# & 52# Rail @ $1.93	15,800.00	
	(1,160 ft. 8" Airline @ $2.94 $ 3,410.00)		
	(3,990 ft. 6" Airline @ $2.32 9,250.00)		
	(2,507 ft. 4" Airline @ $1.31 3,280.00)		
	7,657 ft. Air Line	15,940.00	
	6,980 ft. 2" Waterline @ $.45	3,140.00	
	677 ft. 1" Waterline @ $.21	142.00	
7	75 cu. ft. Cars	6,000.00	
8	105 cu. ft. Cars and Dumpers	14,000.00	
1	Eimco Mucking Machine (New)	5,000.00	
1	Eimco Muching Machine (Used)	2,000.00	
1	2 - Column Jumbo	1,000.00	
	Shop Equipment	4,000.00	
	Dry Room Equipment	1,000.00	
	Engineering Equipment and Supplies	1,500.00	
	Mine Timber Shed and Tools	4,000.00	
	2/5 Value of Mine Boardinghouse, (Heating Plant, Living Quarters, Kitchen, Engineering Office)	10,000.00	
	1,800 ft. 20 H.P. Ingersoll Rand Blower and Vent Pipe	2,600.00	
	Drills, Hose, Couplings, Oilers necessary for complete Project	6,500.00	
			93,622.00
	2 miles Aerial Tramway - Steel Tower Construction 80/ton/hr.		150,000.00
	Total All,		$ 372,261.00

OPERATING MATERIAL & SUPPLIES
On Hand at Mine

3,000 ft. Track, 52# Rail & Splice Bars	$ 3,990.00	
3,270 ft. 4" Air Line & Couplings	2,975.70	
1,450 ft. 2" Water Line & Couplings	652.50	
1,125 ft. 1" Water Line & Couplings	236.25	
Drill Steel, 1" Quarter Oct. 5½ tons	2,379.96	
Drill Steel, 1-1/8" Round 4 tons	1,941.84	
Stull Timber, 3,446 lin. ft.	623.17	
Sprag Timber, 1,018 pcs.	1,092.31	
6 x 6 Ties, 8,040 bd. ft.	506.52	
Total,		$ 14,398.25

6 - (e) Rehabilitation & Repairs: None required; our Mine Plant is in good order.

(f) No new buildings, improvements, or installations are required to get the exploration project under way.

(g) Miscellaneous: Believe everything covered in 6 - a & b.

(h) Contingencies: No allowances for contingencies have been included; Only in the case of a major break-down would we have to consider the time element of the project.

7 - (a) We are prepared to furnish our share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No.1)

(b) We propose to furnish our share of the costs by:-

Rental allowance for our Mine Plant & Equipment
Materials & supplies on hand
Money for the balance, if any.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Form Approved
Budget Bureau No. 42-R1035.2.
RECEIVED
APR 20 1953

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

Not to be filled in by applicant

Docket No. DMEA-2991
Metal or Mineral
Date Received 4-20-53
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Shenandoah-Dives Mining Company,
Silverton, Colorado

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

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

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

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

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

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it

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

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

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

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

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

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

5. *The exploration project.*—(*a*) S the mineral or minerals for which you wish explore .....

.....

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated ....., 195...

Shenandoah-Dives Mining Company,
Silverton, Colorado
(Applicant)

By Charles A. Chase
Ex. Vice President

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

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

We ask for assistance in a large project. The first step is drifting, followed by crosscutting, and that followed by drifting; thereafter comes raising.

These last two items at first glance suggest "preparation for mining." They would not weigh heavily as such for two reasons:

1. Natural ventilation not being established, production of ore of grade to be expected would be unbearably penalized, so the raise is required;

2. Prior experience has demonstrated that mining from bottom up is enough more costly than mining from top down, in retreat, to spell the difference between profit and loss. For us to do all this horizontal work without getting such access to the upper areas prior to production would penalize the work unbearably, so the raise is required.

The text enclosed "A Fragment of Colorado Mining History," plus the typed comparison presented here,

CONDENSED HISTORY OF PRODUCTION FROM

LIBERTY BELL MINE, 2 PERIODS:

	TONS	MINE COST			OTHER	TOTAL	NET	
		DEV.	OTHER	TOTAL	COST	COST	SMELTER	PROFIT
1907-10	477,917	$.49	$2.43	$2.91	$2.85	$5.73	$6.98	$1.25
1911-15	858,446	.22	1.54	1.76	2.33	4.08	6.12	2.01

plus the three photostats presented, show the astonishing benefit from what we call "orderly mining, in retreat from top." In September, 1906, the L. B. Mine set out on a determined campaign which produced the financial results of the tabulation above.

MF-103

UNITED STATES DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

Application for aid in an exploration project, pursuant to DMEA order 1, under the Defense Production Act of 1950, as amended

1. Name of Applicant.

(A) Shenandoah-Dives Mining Company
Silverton, San Juan County, Colorado.

(b) Incorporated, State of Colorado

(c) Home Office; Shenandoah-Dives Mining Company,
616 Finance Building,
Kansas City, Mo.

Officers
J. W. Oldham, President, 616 Finance Bldg., Kansas City, Mo.
E. B. Kane, Secty & Treas. 616 Finance Bldg., Kansas City, Mo.
Charles A. Chase, Executive Vice Pres., Silverton, Colo.

3. (a,b,c,d)

Exploration project in the Silver Lake Group of Claims, owned by the American Smelting & Refining Company and under lease to Shenandoah-Dives Mining Company for thirty years. Copy of lease is attached and lists all mining claims of the Silver Lake Group; the project map shows the claims where exploration work will be performed.

4. (a) Shenandoah-Dives Mining Company has been in operation since 1928 and has mined in the Silver Lake Group since 1942 as shown on map 5-b, part 1.

(b) Exhibits 1 & 2 from our annual report,(The Mine Record and a Summary of Production) plux exhibit 4-b-3 Mine Assay Record of ore excavated, are attached.

(c) Assay plan maps of Letter "G" vein, attached No. 4-c-1
Also please refer to maps under 5-b, parts 1,2,3 & 4.

(d) Shenandoah-Dives Mill is situated on oiled highway 2-1/2 miles easterly from Silverton (population 1400) in San Juan County, Colorado. Served by the Denver & Rio Grande Western Railroad. A 2 mile aerial tramway from Mill to Mine is the means of transportation for men, supplies and ore.

(e) Manpower is available in Silverton by reason of our recent suspension of Mining and Milling operations; Power is purchased from the Western Colorado Power Company, delivered to our Mill sub-station at 16,500 volts; We have ample water for Mine & Mill operations.

Shenandoah-Dives Mining Company,
Silverton, Colorado

No. 5. EXPLORATION PROJECT

5 (a) To explore for Lead, Copper & Zinc

5 (b) supported by maps--Part 1, 2, 3, 4.

Proposed Letter "G" Exploration Project, from 4177 ML Drift.

Extend present 4177 ML drift (24 Coord.) to at least the 28 Coord. about 400 ft. to explore for a downward continuation of the Melville-Iowa ore shoot worked above on the 370 and 600 levels by Shenandoah-Dives Mining Company and by previous operators of the old workings above. Walls of this drift should be checked by diamond-drilling to be sure that the structure drifted on is the main and/or only one coming down to main level. (See plan map and 370-L drift assay record). Extending this drift will increase the distance to the Letter "G" vein less than 50 feet. The results of our work above main level require this exploration. We will leave 50 feet at the end of this drift for a switch; slab and turn west from drift and drive a straight crosscut bearing S 18° W. to the Letter "G" vein. This crosscutting, assuming an average dip from old workings above and from dips taken on the outcrop of the Buckeye and Last Chance claims, will approximate 850 feet. Total exploratory drifting-crosscutting to Letter "G" vein will be about 1300 feet.

Turn and drift on the vein westerly 1700 feet.

Raise from near the end of the west drift to the Unity Tunnel Level 500 feet above. The dog-hole crosscutting (220 ft., 4' x 6') and the Station crosscutting (90 ft., 8'x 8') are necessarily a part of the Raise project as shown on project map, part 4. The ore pass is not included in this project---to be driven after completion of Raise.

SUMMARY

1300 ft of Drifting & Crosscutting to Letter "G" Vein
1700 ft of Drifting on Letter "G" Vein
500 ft of Raise, including 310 ft. of crosscutting from Raise.

No. 5 (c) The work will start promptly when exploration project is approved and to be completed in 19 months.

5 (d) Shenandoah-Dives Mining Company has operated for 25 years under the supervision of Mr. Charles A. Chase, Executive Vice President; Mr. John Holmgren, Mine Supt., has been with the Company 20 years and will supervise the exploration work; Others of the present staff have been with the Company many years.

Shenandoah-D[illegible]es Mining Company,
Silver[illegible], Colorado

M F 103

6 - a - b

EXPLORATION CROSSCUT & DRIFT

3,000 feet, 12 Month Project

Labor:			
Miners & Helpers @ $16.00/ft.	$ 48,000.00		
Supervision	9,000.00		
Shift Bosses, Maint. & Repair, (2 shifts)	10,200.00		
Electrician	4,920.00		
Shop, Sharpening & Drills	4,860.00		
Engineer	5,100.00		
Tramway, transportation of men & supplies	13,680.00		
Office	4,200.00		
Payroll Tax	1,799.00		
Liability Insurance	4,268.00		
		$ 106,027.00	
Explosives		12,000.00	
Electric Power		24,000.00	
Drill Steel & Bits		6,600.00	
		148,627.00	$ 148,627.00

EXPLORATION RAISE LETTER G VEIN

500 feet Raise; 90 ft. station X-C
220 ft. x-c dog holes
7 month project-- after completion of
3000 ft project above

Labor:			
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		55,443.00	
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Electric Power		14,000.00	
Drill Steel & Bits		972.00	
Timber, Plank & Ladders		1,933.00	
9/16" Cable, 1100 feet		225.00	
230[illegible] Volt Cable, 3000 ft.		6,000.00	
			81,003.00

TOTAL EXPLORATION PROJECT ..... $ 229,630.00

5-c-d

SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado

MINE EQUIPMENT
April 1, 1953

		$	$
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	Steel Sub-station at Mill, 3 - 250 K.V.A. Transformers, Switches, Lightning Arrestors, 15 ft. above ground on hillside	30,000.00	
	Power Line to Mine, 2 miles - 17000 volt	7,800.00	
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	Transformers Underground 3 - 50's	2,500.00	
	2500 volt Underground Cable, 7,320 ft. @ $2.20	16,104.00	
	Trolley Wire, Hangers, Switches, 8,087 ft. @ $ .40	3,235.00	
	200 H.P., 125 KW, 250 volt, Synchronus Motor Generator Set complete with Switches	7,500.00	
	75 H.P., 75 KW, 250 volt, Motor Generator Set	2,500.00	
1	2030 cu.ft. C. P. Compressor and 200 H.P. Motor	18,500.00	
1	80 H.P. - 9 ton Locomotive	13,000.00	
1	62 H.P. - 8 ton Locomotive	12,000.00	
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			128,639.00
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	8,187 ft. Track - 30 gauge - 45# & 52# Rail @ $1.93	15,800.00	
	(1,160 ft. 8" Airline @ $2.94 $ 3,410.00)		
	(3,990 ft. 6" Airline @ $2.32 9,250.00)		
	(2,507 ft. 4" Airline @ $1.31 3,280.00)		
	7,657 ft. Air Line	15,940.00	
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	677 ft. 1" Waterline @ $.21	142.00	
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1	Eimco Muching Machine (Used)	2,000.00	
1	2 - Column Jumbo	1,000.00	
	Shop Equipment	4,000.00	
	Dry Room Equipment	1,000.00	
	Engineering Equipment and Supplies	1,500.00	
	Mine Timber Shed and Tools	4,000.00	
	2/5 Value of Mine Boardinghouse, (Heating Plant, Living Quarters, Kitchen, Engineering Office)	10,000.00	
	1,800 ft. 20 H.P. Ingersoll Rand Blower and Vent Pipe	2,600.00	
	Drills, Hose, Couplings, Oilers necessary for complete Project	6,500.00	
			93,622.00
	2 miles Aerial Tramway - Steel Tower Construction 80/ton/hr.		150,000.00
	Total All,		$ 372,261.00

OPERATING MATERIAL & SUPPLIES
On Hand at Mine

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	Drill Steel, 1-1/8" Round 4 tons	1,941.84
	Stull Timber, 3,446 lin. ft.	623.17
	Sprag Timber, 1,018 pcs.	1,092.31
	6 x 6 Ties, 8,040 bd. ft.	506.52
	Total,	$ 14,398.25

6 - (e) Rehabilitation & Repairs: None required; our Mine Plant is in good order.

(f) No new buildings, improvements, or installations are required to get the exploration project under way.

(g) Miscellaneous: Believe everything covered in 6 - a & b.

(h) Contingencies: No allowances for contingencies have been included; Only in the case of a major break-down would we have to consider the time element of the project.

7 - (a) We are prepared to furnish our share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No.1)

(b) We propose to furnish our share of the costs by:-

Rental allowance for our Mine Plant & Equipment
Materials & supplies on hand
Money for the balance, if any.

SHENANDOAH-DIVES MINING COMPANY'S RELATIVE POSITION IN THE NON-FERROUS METAL MINING INDUSTRY OF SAN JUAN COUNTY AND OF COLORADO. THE COMPANY'S PRODUCTION BEGAN IN 1928.

COLORADO. 1858 - 1927, INCLUSIVE. ORE, TONS, Not reported prior to 1924		PERCENTAGES OF COUNTY	PERCENTAGES OF STATE
GOLD, OZ.,	33,922,445 (1,469,850 Placer)		
SILVER, OZ.,	645,099,437		
LEAD, TONS,	2,223,461		
COPPER, " ,	138,613		
ZINC, " ,	997,455		
MONEY VALUE,	$1,608,323,176 ($30,384,494 Placer)		
SAN JUAN COUNTY. 1873 - 1927, INCLUSIVE. ORE, TONS, Not reported prior to 1924			
GOLD, OZ.,	1,159,840		3.52
SILVER, OZ.,	31,745,741		4.92
LEAD, TONS,	195,275		8.78
COPPER, "	28,119		20.38
ZINC, "	68,713		6.89
MONEY VALUE,	$86,226,436		5.36
COLORADO. 1928 - 1952, INCLUSIVE. 25 YEARS.			
ORE, TONS,	38,455,982		
GOLD, OZ.,	5,928,090		
SILVER, OZ.,	104,136,243		
LEAD, TONS,	396,456		
COPPER, " ,	128,690		
ZINC, " ,	628,085		
MONEY VALUE,	$513,461,241		
SAN JUAN COUNTY. 1928 - 1952, INCLUSIVE. 25 YEARS.			
ORE, TONS,	5,982,816		15.6
GOLD, OZ.,	496,847		8.3
SILVER, OZ.,	11,989,865		11.5
LEAD, TONS,	81,510		20.6
COPPER, " ,	13,213		10.3
ZINC, " ,	57,052		9.1
MONEY VALUE,	$49,839,933		9.7
SHENANDOAH-DIVES. 1928 - 1952, INCLUSIVE. 25 YEARS.			
ORE, TONS,	4,184,601	69.9	10.88
GOLD, OZ.,	389,020	78.3	6.56
SILVER, OZ.,	6,508,152	54.3	6.25
LEAD, TONS,	26,244	32.2	6.62
COPPER, " ,	10,520	79.6	8.27
ZINC, " , (16 Years)	11,272	19.8	1.79
MONEY VALUE,	$26,281,449	52.7	5.12

Sources: For State and County, Mr. A. J. Martin, Supervising Engineer, U. S. Bureau of Mines. All figures of "Recoverable Metals".
For Shenandoah-Dives Company, its Annual Reports of Metals Shipped.

3 - d

Lease

AGREEMENT WITH

AMERICAN SMELTING & REFINING COMPANY

Dated January 1, 1953

to

January 1, 1983

AGREEMENT

THIS AGREEMENT, entered into as of this 1st day of January, 1953, regardless of the actual times of signing and acknowledgment, between AMERICAN SMELTING AND REFINING COMPANY, a New Jersey Corporation, party of the first part, hereinafter referred to as Asarco, and SHENANDOAH-DIVES MINING COMPANY, a Colorado Corporation, party of the second part, hereinafter referred to as the Mining Company,

W I T N E S S E T H

THAT WHEREAS, under date of September 8, 1936, the parties hereto entered into an agreement, and under date of July 1, 1942, entered into a supplemental agreement, and at divers times since July 1, 1942, entered into further supplements and modifications thereof, for and among other things, carrying on the operations of mining, tramming, milling, marketing and accounting for ores from Asarco's Silver Lake Unit, and the additional mining properties known as the Iowa Mine referred to in said agreements; and

WHEREAS, under the above agreements as supplemented and modified, Asarco has expended a total sum of $47,580.34 toward the cost of the Silver Lake Main Raise and Crosscut, as of the date hereof, and the Mining Company has incurred a net loss of $183,900.79 as of December 1, 1952; and

WHEREAS, the parties desire to make provision for the reimbursement to Asarco of said expenditures and to the Mining Company of said net losses, by the further working of the property covered hereby; and

WHEREAS, title to the Iowa Mine has been acquired by Asarco and said Iowa Mine shall be included in the property covered hereby; and

WHEREAS, it is the intention of the parties hereto that the Mining Company shall mine and operate the property covered hereby in the same diligent manner as under prior agreements and for the purposes hereinafter specified; and

WHEREAS, it is the desire of the parties that the area above as well as below

"D" level be developed and mined, and that the former distinction as to costs and profits from above and below "D" level be eliminated;

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements herein set forth to be duly performed by the respective parties hereto, it is agreed as follows:

Article 1. Previous Agreements Cancelled. The agreement of September 8, 1936, the supplemental agreement of July 1, 1942, and all supplements and modifications thereof are hereby superseded and cancelled as of the date of this agreement.

Article 2. Grant of Lease and Description of the Property. Asarco hereby leases to the Mining Company the property covered hereby, which lies in San Juan County, Colorado, and is more particularly described in Exhibit "A" attached hereto and made a part hereof. Any part of said property may be dropped from this agreement by mutual consent of both parties hereto.

Article 3. Term of Agreement. The term of this agreement shall be thirty (30) years from and after the date hereof, unless sooner terminated in the manner hereinafter provided.

Article 4. Manner of Work. The Mining Company shall diligently and in approved and minerlike fashion develop, mine, tram and mill ore from the above described property, shall pay and discharge all bills, costs and expenses, and shall hold Asarco harmless from any claim, suit or demand by reason thereof. The Mining Company shall use reasonable care to avoid mixing low grade, non-profitable material with better grade of ore in shipments to the mill. Until weights are determined and samples are taken, in accordance with established practice of the mine, ores mined from the property covered hereby shall be kept separate from all other ores.

Article 5. Definition of Net Smelter Returns. Net Smelter Returns shall be

defined as the calculated net value at the mill of the concentrates produced from ore mined from the above described property. The factors entering into such calculation shall be tonnage milled, head assay of the ore, metal recoveries and ratios of concentration, metal prices, freight rates and smelter schedules. Metal recoveries and ratios of concentration shall be those shown by mill records. Metal prices to be so employed shall be the average prices for the month in question as quoted in sources referred to in the applicable smelter schedules. Smelter schedules and freight rates so employed shall be those currently applicable to the concentrates produced in the mill.

After the Mining Company has exhausted its own ores, the net smelter returns shall be the actual amounts received by the Mining Company from the smelter, after deduction for the cost of transportation from mill to smelter. Any payment made by the Smelter to the Mining Company for ores or concentrates not produced from the property covered hereby shall not be included as a part of Net Smelter Returns. The phrase "not produced from the property covered hereby" refers to the Mining Company's own ore and to custom ore purchased by Mining Company and milled with ore from the property of Asarco.

<u>Article 6.</u> <u>Definition of Costs.</u> The cost hereunder shall be computed for each month and shall be applicable to the tonnage marketed during that month. It shall include only the actual out-of-pocket operating expenses of the Mining Company for developing, mining, tramming and milling incurred in the State of Colorado through the properties of the Mining Company and in the properties covered hereby, being the Mining Company's total Colorado cost in its operation of said properties, made up in detail as follows:

(a) All labor and material entering the portal for use there (mine hauling is prorated with Shenandoah-Dives Mine on tonnage);

(b) Electric and air-power used, to be prorated with Shenandoah-Dives Mine on basis of drill shifts employed;

(c) Divided supervision, to be prorated with Shenandoah-Dives Mine on basis of drill shifts employed;

(d) Aerial-tramway and milling, to be prorated with Shenandoah-Dives Mine on tonnages transported and milled;

(e) Assaying, to be prorated with Shenandoah-Dives Mine on basis of determinations made and to be prorated as to the Mill on basis of tonnage milled;

(f) All "production" taxes on ore produced from the property covered hereby, and all property taxes on the above described property of Asarco, including improvements, machinery and equipment located thereon;

(g) All property taxes (excluding production taxes on its own ore) on the property of Mining Company used in, benefiting or available for the development and/or operating of both the properties of Mining Company and Asarco shall be prorated on basis of tonnage milled;

(h) Workmen's Compensation Insurance, Unemployment Compensation, Old Age Benefit Charges, and any other charges under federal and/or state laws and regulations on all labor charged directly or prorated to said properties;

(i) Colorado management expense of the Mining Company, including clerical labor, office and miscellaneous items. Such expense shall not include legal expense arising out of any dispute between the parties hereto or any legal expenses incurred in connection with any matter not related to the operation of the properties covered by this agreement. All such expenses shall be prorated with Shenandoah-Dives Mine on the basis of mine payroll charged to said properties. Management expenses to be charged as cost shall be computed after deducting the proportionate share of such expense

applicable to the milling of custom ores, which proportion shall be based upon tonnages milled;

(j) Depreciation at the heretofore rate only upon equipment actually used in connection with the ores herein described, and not previously fully charged off, prorated with Shenandoah-Dives Mine on the basis of tonnage milled;

(k) The Mining Company's hotel operation to be prorated with Shenandoah-Dives Mine on the basis of mine payroll charged to said properties;

(l) Unforeseen expense properly chargeable, upon written agreement;

(m) Equipment purchased for Silver Lake Mine (see Article 14.)

Article 7. Working Capital Reserve Fund. Out of profits realized by the operations provided for by this agreement (see Article Eight (8), sub-paragraph (3)), Mining Company may accumulate a cash reserve fund out of twenty-five percent (25%) of the net profits in any one month. The object of this fund shall be to provide funds for and which may be expended by Mining Company, for developing, equipping, and operating the property covered by this agreement, including the Letter "G" vein. Upon termination of this agreement any monies in such reserve shall be divided between the parties, two-thirds to the Mining Company and one-third to Asarco. If, during the existence of this agreement the amount in such reserve shall be in excess of that reasonably required, such excess may be divided between the parties in the same proportions.

Article 8. Division of Net Profits. From the net smelter returns as above computed for any month, plus any premium or bonus, shall be deducted the costs for that month as above defined to determine profit. Losses incurred in any month after the date hereof shall be carried forward and applied against profits of future months.

The net profit thus derived in any month shall be applied as follows:

(1) One hundred percent (100%) to the reimbursement of Mining Company's

Net Loss of $183,900.79, as of December 1, 1952, and its possible losses thereafter,

(2) After the Mining Company has been reimbursed for its net losses as provided in (1) above, then one hundred percent (100%) of the net profit in any month shall be applied to the reimbursement of Asarco's expenditure of $47,580.34, as of the date of this agreement, provided however that the Mining Company may at its election pay the amount which would otherwise be due to Asarco under this sub-paragraph for any one month in four equal monthly installments following the month in which profits payable to Asarco are earned until the said amount $47,580.34, shall have been paid in full.

(3) Thereafter, net profits in each month, subject to provisions of sub-paragraph (1) of this Article 8, shall be divided as follows:

25% to be retained by Mining Company as a working Capital reserve fund for the operations under this agreement;

50% to be retained by Mining Company on account of its investment and management;

25% to be paid Asarco on account of its investment. Said 25% to be paid on or before the 25th day of the month following that in which earned;

provided, however, that Mining Company may, at its election, recover any monthly net losses sustained by it under this agreement, either by carry-over of such losses against subsequent profits, as authorized by sub-paragraph (1) of Article 8, or by charging such net losses against the Working Capital Reserve.

All property and rights of property in and to any and all ore mined or extracted from said premises and any part thereof shall remain and be in Asarco until Asarco shall have received its full share and payment therefor, and none of said ores shall be in any way subject to any lien, claim or demand of any other person whomsoever against the Mining Company until such share and payment shall have been received by Asarco.

<u>Article 9.</u> <u>Taxes.</u> The Mining Company shall pay before they are delinquent all

general property taxes assessed against Asarco's ownership in the above described property during the term of this agreement, beginning with and prorated from this date, and all production, severance or similar or other excise taxes. The Mining Company shall also pay before they are delinquent all taxes levied against any and all personal property, machinery and equipment placed upon the above described property by the Mining Company during the term of this agreement.

Article 10. Protection from Liens and Damages. The Mining Company shall keep the above described property and the whole and every part thereof free and clear of liens for labor done or work performed upon the above described property or material furnished to it for the development and operation thereof under this agreement while the same is in force and effect, and will save and keep harmless Asarco from all costs, loss or damage which may arise by reason of injury to any persons employed by the Mining Company in or upon the above described property or any part thereof, or which may arise by reason of injury to any persons or damage to any property as the result of any work or operations of the Mining Company or of its possession and occupancy of the above described property. A lien upon the property shall not constitute a default if the Mining Company in good faith disputes the validity of the claim, in which event the existence of the lien shall constitute a default only from and after the validity of the lien has been adjudicated.

Article 11. Insurance and Liability. The Mining Company shall provide all liability, unemployment compensation and other insurance and perform all obligations in respect to workmen's compensation, old age benefit laws and other federal or state laws and regulations, pay all costs and expenses thereof as part of cost of operation, post and keep posted full and adequate notices to that effect and to the effect that the Mining Company alone is operating said premises.

Article 12. Inspection and Books of Account. Accounts of said work and of disbursements and receipts in clear and intelligible detail shall be rendered for

each month to Asarco not later than the 25th of the succeeding month, and shall be accompanied by a check for Asarco's share of the profits if any. Asarco shall at all times have full and free access to the mine for inspection purposes, together with the right to check the handling and sampling of ores and to inspect and make copies of any and all records, books and papers relating to the operations hereunder; and to these ends the Mining Company will render all reasonable assistance. The Mining Company shall furnish duplicate pulps of samples for the purpose of check-assaying by Asarco and, in case of disagreement on assays, an umpire shall be selected by the parties. If the umpire's assay lies between the assays of the respective parties, it shall be taken as final; otherwise, the assay of the party lying between the assay of the umpire and that of the other party shall be taken as final. The losing party shall pay the cost of the umpire. One or more representatives of Asarco shall have the right to be present at any or all stages of operation. If no objection is made by Asarco within sixty (60) days from and after any operation or the receiving of any account, all objection thereto shall be considered waived.

Article 13. Arbitration. Any difference or dispute concerning any matter or thing done or omitted to be done hereunder by either party hereto shall, unless otherwise provided by controlling statutes, be referred to one arbitrator who shall be chosen by the American Arbitration Association, whose rules shall be followed. The award of the arbitrator shall be in writing and it shall be final and binding upon both parties and shall not be open to objection on account of the form of the proceeding or the award unless otherwise provided by the controlling statutes. The cost of every such reference to arbitration and of the award to be made thereunder shall be payable by such party or parties as may be directed or apportioned by the arbitrator.

Article 14. Equipment. It is contemplated that the Mining Company will from time to time hereafter purchase equipment, machinery, tools and supplies and charge the cost thereof to operations. All thereof so purchased and charged shall

belong two-thirds (2/3) to the Mining Company and one-third (1/3) to Asarco. Upon cancellation, expiration or other termination of this agreement, the Mining Company will pay to Asarco a sum equal to one-third (1/3) of the reasonable value of such equipment, machinery, tools and supplies remaining on the property which the Mining Company may elect to purchase, or will pay one-third (1/3) of the sales price received therefor if any thereof is sold. Any personal property wholly owned by the Mining Company, together with any personal property theretofore purchased and charged to operations and wherein the Mining Company shall have purchased the one-third (1/3) interest of Asarco, shall be removed from said premises by the Mining Company within nine (9) months after such cancellation, expiration or other termination.

Article 15. Unavoidable Delays. Operations hereunder may be suspended because of acts of nature, strikes, fire, flood, requirement or regulation of Government, or any other cause without regard to the foregoing enumerations, beyond the control of either party, it being agreed, however, that upon the removal of the cause of suspension the work hereunder shall be resumed.

Article 16. Merger of Existing Easements. The easement or right of way for an aerial tram line granted by Asarco to the Mining Company on June 21, 1929, and any easements for disposal of tailings by the Mining Company on mining claims belonging to Asarco shall be merged and included herein and shall expire herewith, notwithstanding any limitations of time or periodical rentals heretofore specified in said easements or rights of way. Any separate rentals therefor are hereby cancelled and superseded.

Provided, however, that any and all obligations of the Mining Company to save harmless Asarco from any and all liabilities resulting directly or indirectly from the dumping and depositing on the surface of the mining claims, or any of them, particularly the Gold and Buena Vista claims, of tailings arising from the milling operations of the Mining Company heretofore or hereafter conducted on said mining

claims, or on any thereof or in proximity thereto, shall continue after any cancellation or termination of this agreement.

Article 17. Sale of Ore and Concentrates. It is agreed between the parties that the concentrates or other products produced by the Mining Company under this agreement shall at the election of Asarco be sold to its smelters upon rates equal to competitive rates offered by other reputable smelters for similar products, freight differentials considered.

Article 18. Forfeiture Clause. The failure of the Mining Company to make or cause to be made any of the payments herein provided for or to keep or perform any agreement on its part to be kept and performed according to the terms and provisions of this agreement shall, at the election of Asarco, work a forfeiture hereof; provided, however, that in the event of a default on the part of the Mining Company, and the election of Asarco to terminate this agreement on account thereof, Asarco shall give to the Mining Company a written notice of its intention to declare a forfeiture of this agreement and to terminate the same on account thereof, specifying the particular default or defaults relied upon by it, and the Mining Company shall have sixty (60) days after receipt of such notice in which to make good such default or defaults in which event there shall be no forfeiture therefor. Waiver or failure to give notice of a particular default or defaults shall not be construed as condoning any subsequent default.

Article 19. Cancellation. This agreement may be cancelled by the Mining Company at any time upon sixty (60) days' written notice to Asarco. Upon such cancellation the Mining Company shall forthwith pay Asarco any profits accruing hereunder to Asarco, including Asarco's share of any monies remaining in the working capital reserve and shall pay all bills and other outstanding obligations of the Mining Company.

Article 20. Notices. Any notices required or permitted to be given hereunder

shall be considered as delivered forty-eight (48) hours after the same shall have been deposited in the United States mail, duly registered, with postage thereon prepaid, addressed to the respective addresses given below:

If to Asarco, Attention Mining Department
120 Broadway
New York 5, New York

and

600 Pacific National Life Building
Salt Lake City 1, Utah

and if to Mining Company Silverton, Colorado

and

616 Finance Building
Kansas City 6, Missouri

Said addresses for receiving notices may be changed by either party upon two (2) days' previous written notice to the other party.

Article 21. Assignment. The Mining Company may not assign this agreement, or lease or sub-lease any part of the above described property, without the written consent of Asarco.

Article 22. Inurement. These presents shall inure to the benefit of and be binding upon the respective successors and assigns of the parties hereto.

Article 23. Construction. Titles to the respective articles hereof shall not be deemed a part of this lease but shall be regarded as having been used for convenience only.

IN WITNESS WHEREOF, the parties have executed this agreement the day and year first above written.

AMERICAN SMELTING AND REFINING COMPANY

By /s/ R. F. Goodwin
Vice President

ATTEST:

/s/ G. A. Brockington
Secretary

SHENANDOAH-DIVES MINING COMPANY

By /s/ James W. Oldham
President

ATTEST:
/s/ E. B. Kane
Secretary

STATE OF NEW YORK)
) ss.
CITY AND COUNTY OF NEW YORK)

The foregoing instrument was acknowledge before me this 23rd day of January, 1953, by R. F. GOODWIN, Vice President of American Smelting and Refining Company.

My commission expires: March 30, 1954

Witness my hand and official seal.

/s/ John E. Dempsey
Notary Public

STATE OF MISSOURI)
) ss.
COUNTY OF JACKSON)

The foregoing instrument was acknowledged before me this 14th day of January, 1953, by Jas. W. Oldham, Pres. of Shenandoah-Dives Mining Company.

My commission expires: September 26, 1956

Witness my hand and official seal.

/s/ Gladys M. Ellis
Notary Public

EXHIBIT "A"

Claim	Survey No.	Claim	Survey No.
Arabian Boy	6994	Pyramid #3	14220
Badger	11448-A	Pyramid #2	14220
Barbedoes	14036	Pyramid	2461
Bear	280	Rivington Street	9003-A
Buckeye	232	Rochester	4764
Buckeye #2	7896	Round Mountain	5110-A
Carolina	5569-A	Royal	6198-A
Dandy	7896-Am	Royal Tiger #1	769
Emma	238	Sedalia	14029
Emma	14036	Seymour	96
Eckley Cox	14066	Silver Lake	2164-A
Essex Street	9106-A	Silver Lake Spur	6994
Freiburg	14047	Smuggler	14029
Galena	11448-A	Smyrna	12122-A
General Hale	14066	Solstice	5571
General Merritt	14030	Tiger Extension #2	14036
General Miles	14066	Titusville	403
Gretchen	2163-A	Unity	9120
Happy Jack	8492	Whale	4764
Home Stake	5471	Adams Placer	15143
Jaffa	12122-A	Alexandria	14024-A
Jamaica	14035	Algiers	11469
Jocko	14163	Ann Harris Placer	11596
Jupitor	14066	Argentine Lode	11380-A
Kingston	14035	Argentine Mill Site	11380-B
Lake View	14035	Blair Mt. Lode	13322-A
Last Chance	11448-A	Blair Mt. Mill Site	13322-B
Last Chance	7896 Am	Blair Mt. Placer	16469
Lena Allen	7802	Blair Placer	841
Leucosticte	5570	Big Giant Extension Lode	14320
Lowville	5529	Big Giant Lode	1156-A
Magnala	14035	Bowery Lode	155
Manilla	14030	Cairo Lode	11469
Martha V.F.	4952	Carolina Mill Site	5569-B
Maxwell	5530-A	Coin Lode	13322-A
Monte Carlo	14035	Combination Lode	16476
Naples	14035	Contention Lode	14320
Nevada	8530-A	Contra Costa Lode	2329
Nevada Extension	8497	Cremorne Lode	827
New York City	9104	Dana Lode	13322-A
Panuco	7896 Am	Desmosthenes	14196
Pompeii	404	Dick Bland Lode	13322-A
Porto Rico	14035	Dollie Blight	12671
Professor Neisback	11469	Dolly Varden #2 Lode	2616
Professor Newberry	14046	Dreadnaught	14320
Professor Percy	14066	Ellida	16476
Professor Stelzner	7568	El Paso Lode	9842-A
Professor Wedding	11469	Whale M.S.	9106-B
Professor Zeuner	11469	Esther Allen Lode	8801

Exhibit "A" (Cont.)

Claim	Survey No.
Extension and Combination of Dolly Varden No. 2 and	
Ethan Allen	2617
First Chance Lode	13322-A
Free Coinage Lode	9903
Frithoft	16476
General Garfield Lode	828
General Grant Lode	13322-A
General Hallack Lode	14047
General Logan Lode	13322-A
General Sherman Lode	13322-A
Genoa Lode	14024
George Hesse Lode	9852
Golden Fleece Lode	11714
Grey Eagle 1/4 of	16860 1/4 of
Growler	16476
Helena Roux Lode	9852
Illinois Lode	14019
Independence	16476
Iron Mask Lode	11148
Jeanette Roux Placer	11596
J. E. Ward Mill Site	9858
Jerusalem	14012
Jess Lode 1/2 of	9426 1/2 of
Jura Lode	2388
King Solomon Lode	409
Last Chance Lode	9284
La Veta Lode	14047
Leyner Lode	14324
Lightening Attracting	16476
Little Gertie Lode	15122
Lowville Mill Site	5529-B
Manhattan Lode	13322-A
Marcia L. Lode	8801-A
Marcia L. Mill Site	8801-B
Maxwell Mill Site	5530-B
M. D. Thatcher Placer	17699
Mountain Queen Lode	2389
North Star Ext. Lode	7772
Panic Lode	13322-A
Perhaps Lode	16476
Potomac Lode	457
Professor Chandler Lode	14047
Professor Richter Lode	14028
Professor Winkler Lode	9842-A
Professor Winkler Mill Site	9842-B
Republic Lode	1158
Riverside Lode	8801
Rochester	4764

Claim	Survey No.
Rochester Mill Site	8592
Sal Custer Lode	1849
Scranton City #2 Lode	16476
Scranton City Lode	15426
Silver Star Lode	681
Smyrna Mill Site	12122-B
Snow Shed Lode	14027
Southside Lode	14012
Spring Lode	14012
Tarpon Lode	15122
Trail Lode	13322-A
Twentieth Century	16476
Vienna Placer	14057
Von Cotta Lode	14052
Iowa	480
J. W. Collins	6561
Black Diamond	4811
Cub)	12193
Last Chance)	
Club	12978
Grip	6647
Elk	12977
Lakeside	12818
Melville	12353
1/2 Diamond L.	561-A
Royal Tiger	48
Stag	6646
White Diamond	13011
Dump	9843-A Am
Lake Shore	13064
Key	13065
Hillside)	
Exploit)	12946
Galicya Boy	13139
Dump Mill Site	9843-B
Iowa Mill Site	9837
Tiger Mill Site	13749
2/3 American Boy	7244
Aspen	199
Chloride	411
Legal Tender	753
Mammoth	499
McGregor	423
Susquehanna	447
Ruby Placer #1	654
Ruby Placer #2	655
Mill Site #1	424
Mill Site #2	425
La Boca	19479

Claim	Survey No.
Hermosa Lode	19974
San Juan)	
Piedmont)	
River)	15112
New York)	
Washington)	

Together with any and all water and other rights appurtenant thereto.

Mill Operation, 1928-29; 3. Current Operation, 1930-52;

SINKING				STOPING		TOTAL ORE	TOTAL WASTE Excavated	MORE ROOMS	DRILL HOLE EXPLORATION
ad.	Productive								
. ft.	Lin. ft.	Sq. ft.	Tons	Sq. ft.	Tons	Tons	Tons	Cu. ft.	Lin. ft.
									309
				59,349	45,071	62,341	15,571	46,418	329
				111,415	98,484	118,376	5,459	15,300	426
				156,402	141,357	150,746	11,269	11,460	406
				167,868	161,720	183,315	5,935	4,564	
				235,545	167,044	184,500	18,259	15,795	1,610
36	36	372	204	271,602	121,539	202,786	12,606		2,745
194	194	4,629	2,785	127,295	79,163	111,313	3,261	47,788	844
119	89	1,734	2,130	275,540	174,548	201,511	11,429	19,173	1,170
331	96	1,369	745	339,360	171,393	190,500	8,524	21,151	867
87	87	1,336	852	229,623	191,248	203,228	6,809	3,959	2,014
162	85	1,468	982	147,536	139,120	141,232	9,557	41,550	1,126
12				224,126	179,002	196,000	6,961	9,714	1,033
				343,220	208,789	228,765	1,210		1,507
				225,435	123,833	136,564	698	1,993	113
				290,300	167,888	182,711	687	8,658	286
				212,704	135,259	152,789	272		678
				228,827	136,583	146,363	1,889		882
				230,168	140,302	150,735	9,027	13,677	741
				214,217	134,016	143,406	14,210		1,212
				180,916	114,066	134,428	2,055		663
				228,518	138,077	157,771	3,819		1,673
				320,073	197,441	206,003			342
				224,661	144,204	155,388	472		705
				194,915	102,495	114,520	1,540		289
941	587	10,908	7,708	5,170,472	3,418,071	3,827,350	143,228	214,981	22,212
941	587	10,908	7,708	5,229,821	3,463,142	3,889,691	158,799	261,399	22,850

RECONCILEMENT, MINE AND MILL TONNAGES:

Ore from Mine, not excavated by Company	(Dumps, 117,238 Tons) (Fills, 80,158 ") (Other, 29,597 ")		Tons 226,993
Mined, as shown above,		3,889,691	
Mined, above 1900 level, omitted from the above record,		5,193	3,894,884
Total,			4,121,877
Milled, as shown,			4,184,601
Balance called for at Mine,			-62,724
Excavated reserve reported at Mine,			99,491
Not accounted for, partly dilution,			162,215

Exhibit 1

THE MINE RECORD, PRESENTED IN THREE PERIODS: 1. Prior to Production, 1926-27;

YEAR	DRIFTING Total Lin. ft.	DRIFTING Productive Lin. ft.	DRIFTING Productive Sq. ft.	DRIFTING Productive Tons	CROSSCUTTING Total Lin. ft.	CROSSCUTTING Productive Lin. ft.	CROSSCUTTING Productive Sq. ft.	CROSSCUTTING Productive Tons	RAISING Total Lin. ft.	RAISING Productive Lin. ft.	RAISING Productive Sq. ft.	RAISING Productive Tons
1926-27	3,584				505				555			
1928-29	2,860	2,314	15,459	8,928	224		210	928	1,363	863	13,349	7,414
1930	3,123	2,456	21,042	13,291	140	98	959	548	700	529	10,341	6,053
1931	4,615	4,348	34,560	23,206	899	143	346	502	1,881	1,599	26,204	15,681
1932	1,999	1,791	14,279	9,281	404	55	170	212	1,092	1,092	19,256	12,102
1933	2,532	1,687	13,333	7,443	208	66	197	214	2,004	1,182	19,249	9,799
1934	2,076	1,267	13,707	7,139	519	24	434	293	2,299	1,440	22,085	12,611
1935	3,412	3,070	37,462	20,139	27	27	217	114	994	951	17,918	9,112
1936	3,627	3,203	24,952	17,402	776	213	1,471	750	1,132	754	12,165	6,681
1937	2,422	2,329	23,285	13,675	131	49	122	156	749	521	8,507	4,531
1938	2,071	1,819	18,203	10,542	83	40	46	143	571	468	9,056	5,533
1939	1,500	1,203	11,193	6,299	153	28	201	94	666	257	9,504	5,037
1940	3,142	2,854	28,841	13,825					937	416	5,960	3,173
1941	2,872	2,695	31,360	13,282	20	20	28	44	803	803	13,448	6,650
1942	1,588	1,485	16,121	7,868	232	144	549	1,021	470	470	8,762	3,842
1943	2,497	2,438	26,179	12,291	202	159	1,047	1,129	191	191	2,954	1,403
1944	3,339	3,339	32,543	17,530								
1945	1,935	1,617	16,382	9,083					71	71	1,152	697
1946	2,681	1,725	14,419	8,419	19	19	64	100	229	152	2,644	1,414
1947	2,915	1,462	14,062	8,017	47	17	291	168	645	105	2,305	1,205
1948	1,732	1,732	17,696	10,227	1,037	1,037	9,061	5,486	859	516	9,248	4,649
1949	3,248	2,803	26,367	15,506	158	158	1,343	830	642	364	6,660	3,358
1950	1,383	1,383	12,335	8,321					24	24	423	241
1951	1,351	1,321	11,636	8,365	81	35	280	230	231	231	3,690	2,589
1952	1,597	1,335	11,261	7,753	255	255	1,808	2,118	215	215	3,487	2,154
1930-52	57,657	49,362	471,218	268,904	5,391	2,587	18,634	14,152	17,405	12,351	215,018	118,515
TOTALS	64,101	51,676	486,677	277,832	6,120	2,587	18,844	15,080	19,323	13,214	228,367	125,929

TOTAL DEVELOPMENT & EXPLORATION

Major Openings:	Feet
Drifting,	64,100
Crosscutting,	6,120
Raising,	19,323
Sinking,	941
Totals,	90,484
Drill-Hole Explor.	22,850
All Development and Exploration,	113,334

CONTRIBUTIONS OF ORE

	1928-9	1930-52	1952
Development,	27.7 %	10.7 %	10.5 %
Stoping,	72.3 %	89.3 %	89.5 %
WIDTHS OF ORE:			
Development,	6.9 ft.	7.3 ft.	9.3 ft.
Stoping,	9.1 "	8.5 ft.	6.7 "
Totals,	8.5 "	8.3 "	6.9 "

enandoah-Dives Mining Company,
Silverton, Colorado

SHENANDOAH-DIVES MINING COMPANY

GRADE & TONNAGE OF ORE EXCAVATED, 1942 thru 1952
FROM SHENANDOAH-DIVES, 3220, 3490 & 4177 VEINS

MINE ASSAY RECORD OF ORE EXCAVATED

(NOTE: $ Value is 60% of the gross market price)

Shenandoah-Dives

Year	Tons	Au	Ag	Pb	Cu	Zn	$ Value $/Ton	$ Value Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	86,441	.127	1.75	1.15	.16	--	4.63	400,107	11,109.711	153,275.79	1,008.7735	138.0445	--
1943	110,528	.170	2.17	2.64	.18	--	6.82	753,691	18,850.654	240,104.68	2,915.6922	195.6629	--
1944	116,867	.134	1.30	1.60	.09	--	4.85	566,666	15,715.371	151,628.52	1,870.5335	108.9620	--
1945	109,439	.100	1.10	1.81	.09	--	4.11	449,806	10,971.210	120,291.26	1,976.7005	95.1850	--
1946	126,365	.109	1.06	1.12	.06	.97	3.71	462,571	13,810.375	133,420.03	1,417.9135	79.0345	1,228.7776
1947	145,850	.111	1.86	1.26	.07	.57	5.40	787,990	16,221.023	271,306.12	1,843.4997	99.1970	828.0015
1948	152,750	.063	2.45	1.38	.10	.59	5.02	766,913	9,557.391	374,111.16	2,113.0955	159.9208	901.3675
1949	147,229	.048	2.39	1.14	.12	.56	4.38	644,869	6,998.657	353,147.40	1,671.8059	179.1227	828.4659
1950	96,621	.050	2.85	1.40	.12	.42	4.66	450,724	4,881.550	275,052.53	1,357.0929	118.0890	406.6286
1951	19,099	.041	2.02	2.72	.11	.66	6.48	123,744	791.219	38,627.52	519.1183	21.7528	125.4906
(Drifting) 1952	1,732	.039	.56	1.01	.06	1.13	2.85	4,939	67.805	961.44	17.4896	1.1149	19.6022
	1,112,941	.098	1.90	1.50	.11	.63	4.86	5,412,020	108,974.966	2,111,926.45	16,711.7151	1,196.0861	4,338.3421

1946 - 1952 689.646 Tn This Tonnage Assay For Zn.

3220 Vein - Silver Lake

Year	Tons	Au	Ag	Pb	Cu	Zn	$/Ton	Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	15,387	.087	1.93	.76	.52	--	4.07	62,611	1,344.588	29,769.21	112.2090	79.6910	--
1943	22,645	.092	2.24	1.51	.67	--	5.03	113,993	2,088.700	50,802.50	340.9852	151.3959	--
1944													
1945													
1946													
1947	4,892	.058	1.06	.47	.41	.99	3.46	16,910	285.167	5,207.64	22.9090	19.9129	48.5472
1948	12,988	.104	2.72	1.63	.45	1.19	7.19	93,363	1,356.460	35,367.80	212.2870	59.1236	154.4236
1949	30,369	.048	1.96	1.48	.39	.98	5.14	156,183	1,457.044	59,569.07	450.3346	119.3374	298.1481
1950	59,088	.064	1.66	1.68	.43	1.18	5.27	311,285	3,757.757	98,198.79	994.0463	251.8937	699.6772
1951	70,871	.055	1.33	1.91	.36	.77	5.74	406.913	3,928.788	94,410.53	1,350.7880	256.8213	544.7406
1952	58,447	.055	1.14	1.82	.30	.86	5.31	310.458	3,206.880	66,404.79	1,066.4660	172.5952	504.9253
	274,687	.063	1.60	1.65	.40	.82	5.36	1,471,716	17,425.384	439,730.33	4,555.0251	1,110.7710	2,250.4620

1947 - 1952 236,655 Tn This Tonnage Assayed for Zn

3490 Vein

Year	Tons	Au	Ag	Pb	Cu	Zn	$/Ton	Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	26,473	.092	1.71	.90	.38	--	3.99	105,534	2,441.550	45,373.84	238.4640	102.0895	--
1943	16,942	.097	1.86	.60	.40	--	3.88	65,693	1,637.006	31,504.61	101.8450	67.9189	--
(Raising) 1952	867	.014	.13	.04	.02	.11	0.50	432	11.809	116.62	.3229	.2113	.9549
	44,282	.092	1.74	.77	.38	.11	3.88	171,659	4,090.364	76,995.07	340.6319	170.2197	0.9549

1952 867 Tn Assayed For Zn

Shenandoah-Dives Mining Company,
Silverton, Colorado

MINE ASSAY RECORD OF ORE EXCAVATED

4177 Vein

Year	Tons	Au	Ag	Pb	Cu	Zn	$ Value $/Ton	$ Value Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	8,263	.091	1.94	.40	.41	--	3.71	30,671	753.466	16,028.17	33.2800	33.8295	--
1943	33,936	.055	1.87	.57	.45	--	3.05	103,496	1,871.334	63,549.64	193.1546	152.0167	--
1944	35,902	.103	3.16	1.16	.83	--	5.74	205,968	3,705.772	113,356.04	417.4910	298.0995	--
1945	36,924	.084	2.40	1.66	.88	--	5.34	197,218	3,087.600	88,736.53	613.4200	326.6645	--
1946	30,111	.081	2.71	1.37	.81	.61	5.08	151,510	2,436.631	81,735.04	413.2900	242.8465	183.2083
1947	17,015	.079	2.35	.51	.71	.29	5.36	91,194	1,345.719	40,036.45	87.4882	120.2534	49.6411
1948	2,150	.058	2.04	1.03	.27	.64	4.48	9,639	125.116	4,391.12	22.0662	5.8500	13.6666
1949	7,663	.044	1.48	1.90	.50	.87	5.46	41,829	338.416	11,307.69	145.9520	38.0794	66.9309
1950	61,519	.055	1.92	2.40	.56	.68	6.36	391,423	3,409.968	118,394.72	1,478.4895	342.2075	418.0311
1951	65,418	.048	1.76	1.90	.48	.56	6.08	397,806	3,149.995	114,941.29	1,245.7959	312.6235	367.9586
1952	53,474	.047	1.58	0.90	.41	.45	4.23	226,224	2,538.436	84,447.52	483.3284	216.9239	240.0968
	352,375	.065	2.09	1.46	.59	.56	5.24	1,846,978	22,762.453	736,924.21	5,133.7558	2,089.3944	1,339.5334

*1946 - 1952 237,350 Ton. Tonnage Assayed for Zinc

TOTAL ALL MINED

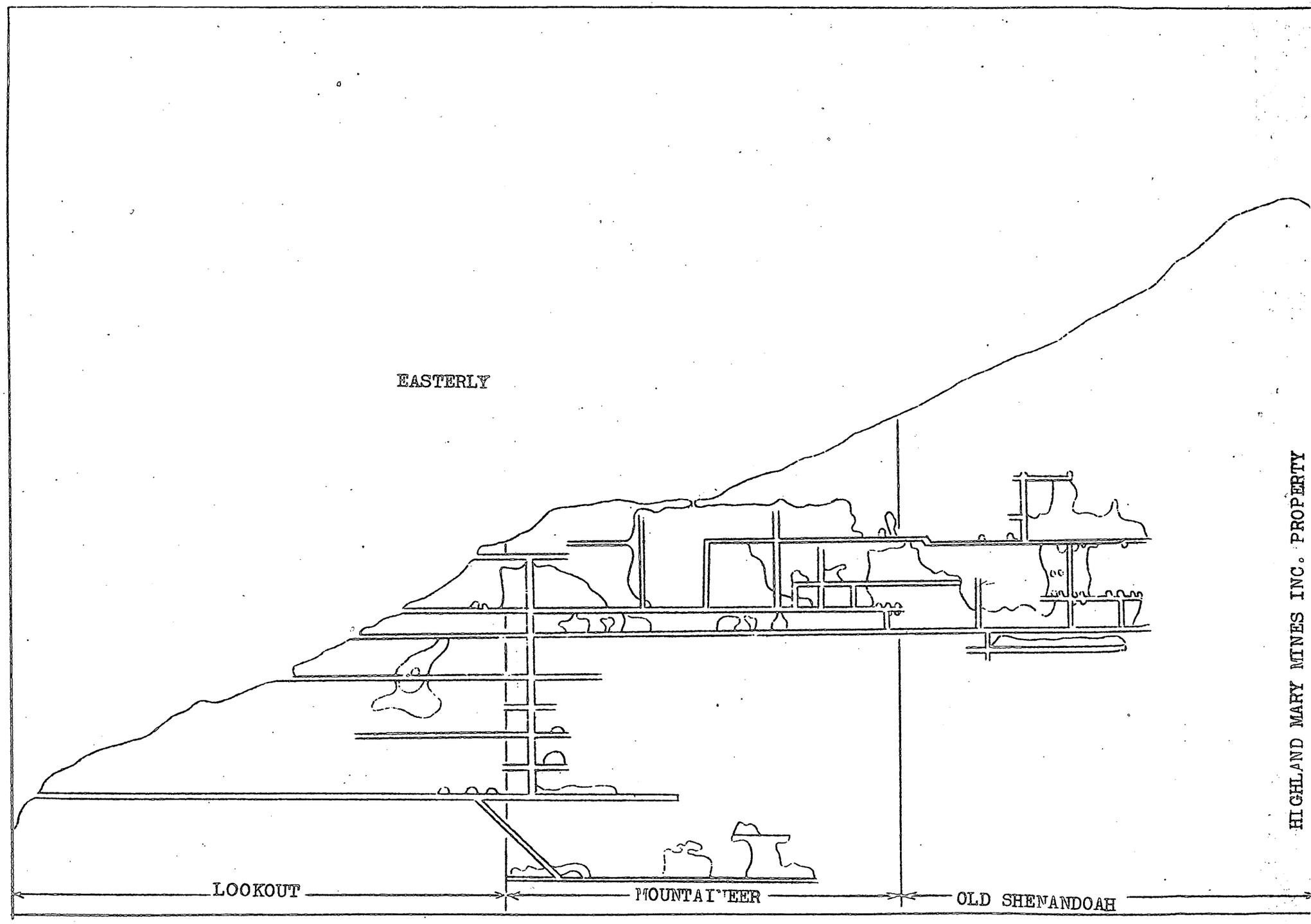
Year													
1942	136,564	.114	1.79	1.02	.26	--	4.35	598,923	15,649.315	244,447.01	1,397.7265	353.6545	--
1943	184,051	.133	2.10	1.93	.31	--	5.63	1,036,873	24,447.694	385,961.43	3,551.6770	566.9944	--
1944	152,789	.127	1.73	1.50	.21	--	5.06	772,634	19,421.143	264,984.56	2,288.0245	407.0615	--
1945	146,363	.096	1.43	1.77	.29	--	4.42	647,024	14,058.810	209,027.79	2,590.1205	421.8495	--
1946	156,476	.104	1.38	1.17	.21	.90	3.97	614,081	16,247.006	215,155.07	1,831.2035	321.8810	1,411.9859
1947	167,757	.106	1.89	1.16	.14	.55	5.34	896,094	17,851.909	316,550.21	1,953.8969	239.3633	926.1898
1948	167,888	.066	2.46	1.40	.13	.64	5.18	869,915	11,038.967	413,870.08	2,347.4487	224.8944	1,069.4577
1949	185,261	.048	2.29	1.22	.18	.64	4.55	842,881	8,794.117	424,024.16	2,268.0925	336.5395	1,193.5449
1950	217,228	.056	2.26	1.76	.33	.76	5.31	1,153,432	12,049.275	491,646.04	3,829.6287	712.1902	1,524.3371
1951	155,388	.051	1.60	2.00	.38	.67	5.98	928,463	7,920.002	247,979.34	3,115.7022	591.6726	1,038.1978
1952	114,520	.051	1.33	1.37	.34	.67	4.73	542,053	5,824.930	151,930.37	1,567.6069	390.8453	765.5792
	1,784,285	.086	1.89	1.50	.26	.68	4.99	8,902.373	153,303.168	3,365,576.06	26,741.1279	4,566.9462	7,929.2924

*1946 - 1952 1,164,515 Ton Assayed for Zinc

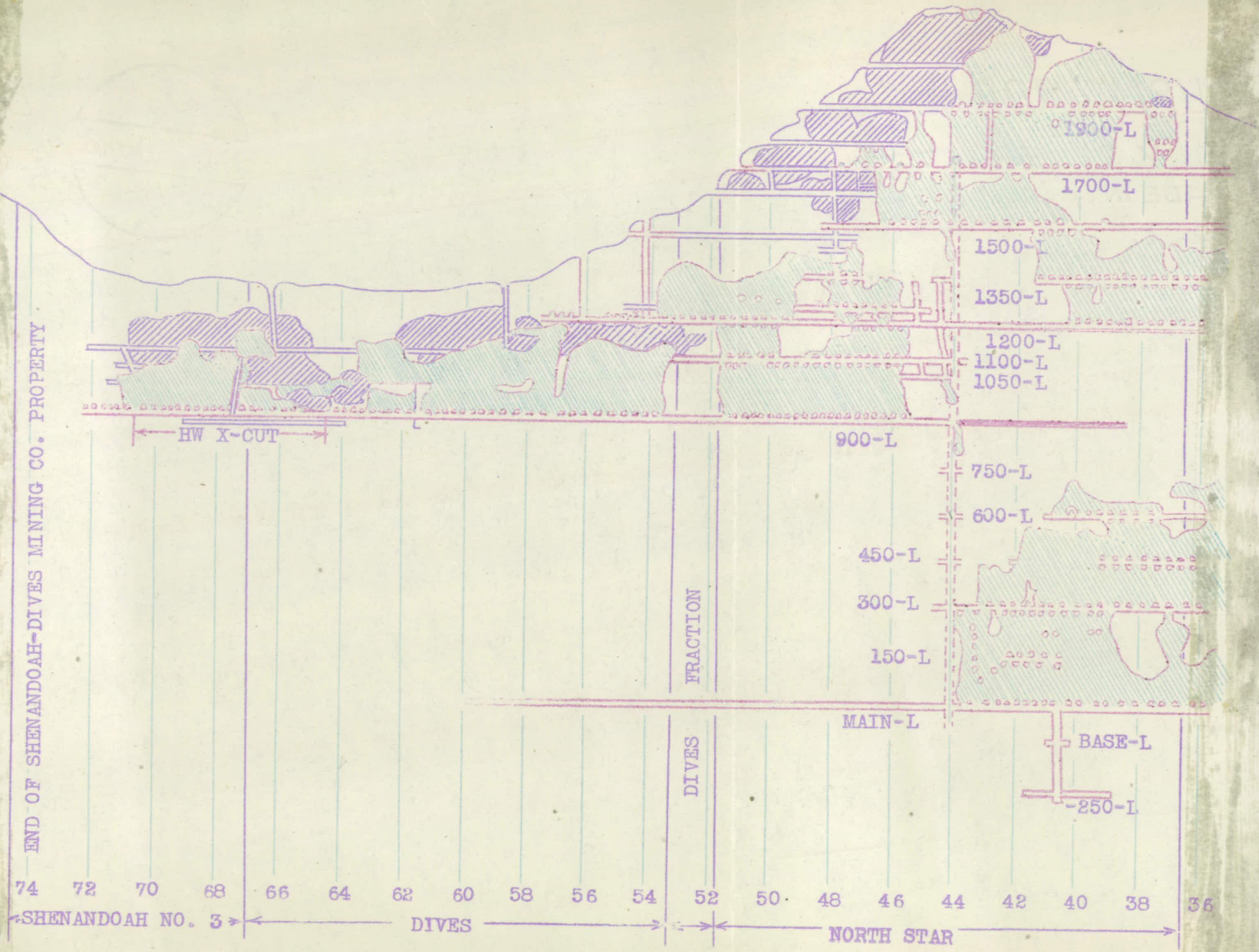
Metal Prices

Year	Au	Ag	Pb	Cu
1942 - 1946	$ 35	.7111	.065	.12
1947 - 1948	35	.90	.1255	.195
1949	35	.90	.131	.173
1950	35	.90	.105	.17
1951 - 1952	35	.90	.13	.20

	Tons	Au	Ag	Pb	Cu	Zn	$/ton	$	Au Oz.	Ag Oz.	Pb Ton	Cu Ton	Zn Ton
Melville Fills 1952	4,941	0.053	1.33	2.00	0.31	0.68	5.70	28,149	264.330	6,593.63	98.6070	15.2735	33.3890



HIGHLAND MARY MINES INC. PROPERTY


1900-L
1700-L
1500-L
1350-L
1200-L
1100-L
1050-L
900-L
750-L
600-L
450-L
300-L
150-L
MAIN-L
BASE-L
250-L
HW X-CUT
FRACTION
DIVES
END OF SHENANDOAH-DIVES MINING CO. PROPERTY
74 72 70 68 66 64 62 60 58 56 54 52 50 48 46 44 42 40 38 36
SHENANDOAH NO. 3
DIVES
NORTH STAR

PROGRESS DIAGRAM FOR THE YEAR 1952

SHENANDOAH-DIVES MINING CO.

SILVERTON, COLORADO

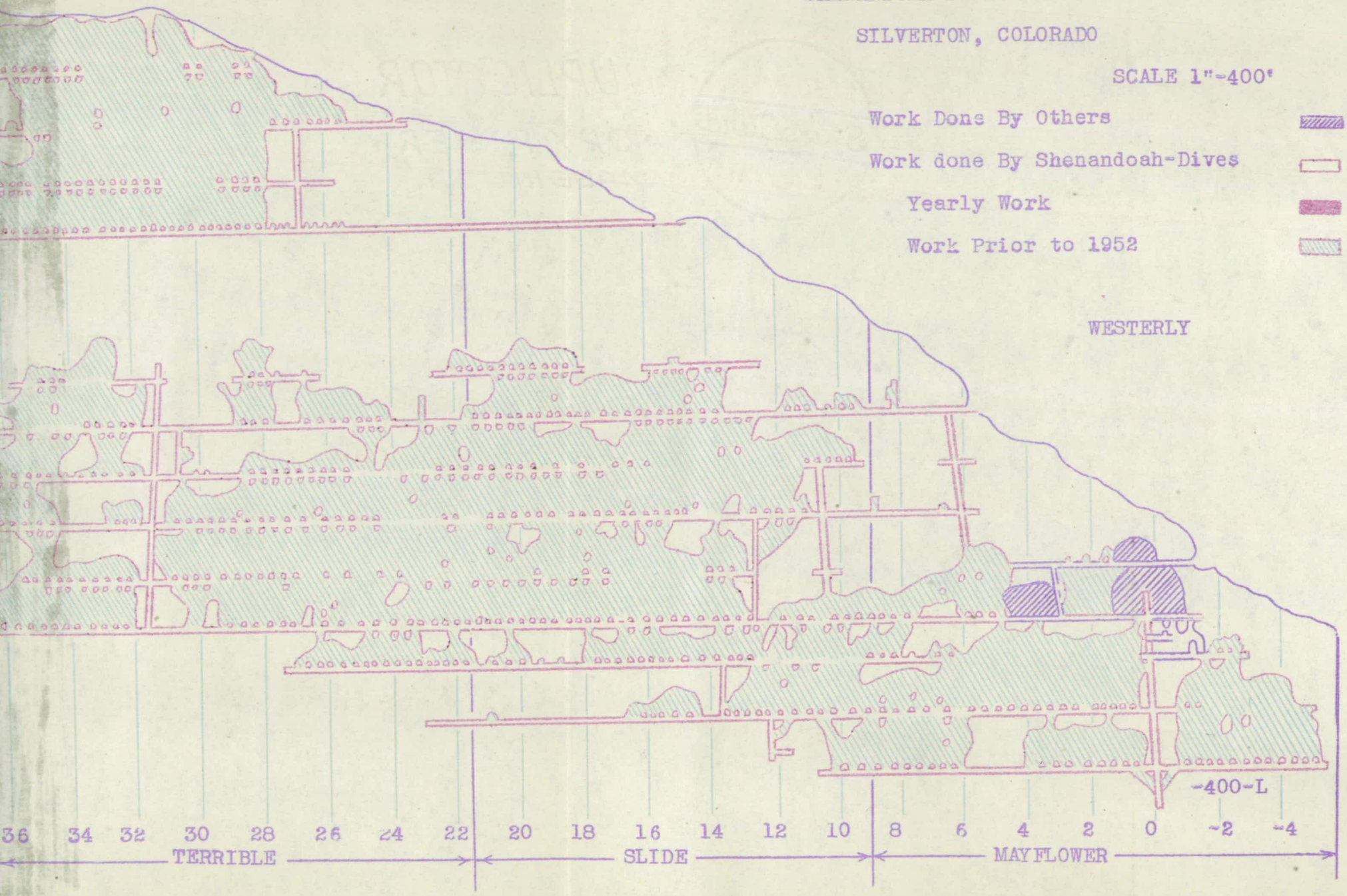
SCALE 1"-400'

Work Done By Others

Work done By Shenandoah-Dives

Yearly Work

Work Prior to 1952



NET RETURNS Total	FROM SMELTER Per Ton	Per Cent
$ 386,330.32	$ 8.08	59.0
6,767,509.20	3.71	62.8
824,138.70	3.87	53.9
854,145.96	3.69	58.3
806,133.19	4.78	63.4
843,511.38	5.38	68.4
1,031,359.26	7.23	64.5
826,524.18	5.43	60.2
867,015.24	4.95	70.3
979,498.57	5.69	63.4
1,044,812.82	6.32	65.1
1,011,397.92	5.44	63.5
1,142,898.11	5.63	61.3
1,448,120.82	7.38	63.3
1,108,441.17	7.40	60.2
$ 19,941,836.84	$ 4.77	62.6

COPPER Pounds	Price	Value	ZINC Pounds	Price	Value	TOTAL VALUE
991,376	$ .167	$ 165,702.51				$ 570,599.90
12,410,167	.089	1,110,065.00	2,312,833 (3 yrs.)	$	120,497.11 (3 yrs.)	9,104,343.63
795,861	.115	91,683.78	3,751,008	.063	235,019.08	1,242,414.30
911,041	.120	109,538.47	2,104,234	.075	157,351.64	1,208,965.80
569,821	.120	68,378.52	851,042	.0825	70,210.97	983,280.91
429,837	.120	51,580.44	801,729	.0825	66,142.62	968,068.48
326,270	.120	39,152.40	1,052,487	.0825	86,830.16	1,216,136.34
404,047	.120	48,485.64	1,602,004	.0825	132,165.32	1,032,479.96
406,885	.150	60,984.48	1,666,754	.0881	146,846.18	952,088.02
274,864	.213	58,410.23	1,327,400	.1050	139,377.12	1,169,256.74
336,966	.225	75,694.58	829,017	.1430	118,567.09	1,262,914.97
415,345	.187	77,832.34	1,152,109	.1171	134,942.10	1,326,975.39
658,476	.219	144,592.21	1,731,943	.1384	239,752.16	1,558,890.98
1,046,216	.245	256,322.57	1,838,877	.1799	330,722.10	2,029,599.84
1,062,855	.245	260,399.44	1,523,520	.1608	244,871.03	1,655,434.09
21,040,027		$ 2,618,822.61	22,544,957		$2,223,294.70	$ 26,281,449.35

Shenandoah-Dives Mining Company
Silverton, Colorado

Letter to J. W. O.

A SUMMARY OF PRODUCTION

Exhibit #2 Page 3

YEAR	TONS ORE	GROSS VALUE Total	GROSS VALUE Per Ton	CONCENTRATE MADE Total	CONCENTRATE MADE Per Ton	PREMIUMS Total (Included in Net Return)	PREMIUMS Per Ton
1928-29 (Iowa Mill)	47,810	$ 654,327.86	$ 13.69	$ 570,599.90	$ 11.93		
1930-39	1,824,678	10,775,614.16	5.91	9,104,343.63	4.99		
1940	212,891	1,528,736.16	7.18	1,242,414.30	5.83		
1941	231,519	1,465,394.43	6.33	1,208,965.80	5.22		
1942	168,772	1,270,491.57	7.53	983,280.91	5.83	53,180.50	.32
1943	156,763	1,232,750.65	7.86	968,068.48	6.17	79,619.39	.51
1944	142,635	1,598,838.08	11.21	1,216,136.34	8.53	56,606.93	.40
1945	152,084	1,372,708.76	9.03	1,032,479.96	6.79	55,477.00	.36
1946	175,121	1,232,831.40	7.04	952,088.02	5.44	176,441.27	1.01
1947	172,125	1,544,970.95	8.97	1,169,256.74	6.79	69,193.20	.40
1948	165,283	1,604,822.08	9.71	1,262,914.97	7.64		
1949	186,072	1,591,308.39	8.55	1,326,975.39	7.13		
1950	202,947	1,864,765.23	9.18	1,558,890.98	7.68		
1951	196,097	2,286,446.57	11.66	2,029,599.84	10.35		
1952	149,804	1,841,771.91	12.29	1,655,434.09	11.05		
TOTALS	4,184,601	$ 31,865,778.20	$ 7.62	$ 26,281,449.35	$ 6.28	$ 490,518.29	

METALS IN CONCENTRATES

YEAR	GOLD Ounces	GOLD Price	GOLD Value	SILVER Ounces	SILVER Price	SILVER Value	LEAD Pounds	LEAD Price	LEAD Value
1928-29 (Iowa Mill)	11,585.770	$ 20.58	$ 238,456.18	191,274.43	$ .544	$ 104,108.98	952,624	$ .065	$ 62,332.23
1930-39	199,056.106	28.49	5,670,306.97	3,084,109.91	.517	1,595,453.40	13,436,627	.045	608,021.15
1940	14,544.448	35.00	509,055.63	248,160.53	.711	176,466.92	4,431,878	.052	230,188.89
1941	14,973.950	"	524,088.22	315,746.67	.711	224,527.44	3,333,159	.058	193,460.03
1942	14,850.009	"	519,750.26	256,596.15	.711	182,465.51	2,191,933	.065	142,475.65
1943	17,526.008	"	613,410.25	164,250.88	.711	116,798.77	1,848,251	.065	120,136.40
1944	24,469.580	"	856,435.21	127,980.27	.711	91,006.74	2,195,567	.065	142,711.81
1945	17,238.189	"	603,336.59	142,967.86	.711	101,664.39	2,258,893	.065	146,828.02
1946	11,940.788	"	417,927.56	131,095.12	.886	116,204.44	2,234,240	.094	210,125.36
1947	15,534.645	"	543,711.90	167,233.18	.900	150,509.85	1,880,507	.147	277,247.64
1948	11,241.154	"	393,440.31	302,685.57	.900	272,416.98	2,198,225	.183	402,796.01
1949	8,820.227	"	308,707.95	417,087.78	.900	375,378.98	2,866,742	.150	430,114.02
1950	10,424.341	"	364,851.95	408,819.86	.900	367,937.84	3,284,666	.134	441,756.82
1951	8,232.101	"	288,123.53	325,522.37	.901	293,343.47	4,920,379	.175	861,088.17
1952	6,390.212	"	223,657.37	224,621.68	.900	202,159.49	4,453,476	.163	724,346.76
TOTALS	389,019.768		$12,075,259.88	6,508,152.26		$4,370,443.20	52,487,167		$4,993,628.96

4 - C

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

LETTER "G" VEIN

Chip samples from back of drift on the Silver Lake Main level (Adit level)

NOTE—Copy to Be Forwarded Daily to the Home Office

DATE 23 August 1951

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
5772	S. L. Main Level 270W Unity Shaft 7' ~~0 to 4.3' from HW (Robison)~~ Altered rock & gouge	4.3'	----	0.8	0.7	0.1	0.3	$ 2.54	$ 1.52
5775	S. L. Main Level 100W Unity Shaft 7' ~~0 to 5.0' from HW (Anderson)~~ altered rock & gouge	5.0'	----	0.2	0.7	---	0.5	$ 2.00	$ 1.20
5776	S. L. Main Level 55W Unity Shaft 7' ~~0 to 5.5' from HW (Robison)~~ Altered rock, qtz, gouge & few sulfides	5.5'	0.03	2.4	1.0	1.0	1.0	$ 9.81	$ 5.89
5777	S. L. Main Level 10W Unity Shaft 7' ~~0 to 11.0' from HW (Holmgren)~~ Altered rock, qtz, gouge & few sulfides	11.0'	0.03	1.6	3.4	0.7	6.7	$14.17	$ 8.50
5778	S. L. Main Level 300E Unity Shaft 7' ~~0 to 6.0' from HW (Anderson)~~ Altered rock with gouge & sulfides	6.0'	0.02	3.0	2.1	0.8	2.1	$12.06	$ 7.24
5779	S. L. Main Level 10E New York X-Cut 7' ~~0 to 5.0' from HW (Holmgren)~~ Altered rock, qtz, gouge & few sulfides	5.0'	0.02	1.4	2.4	0.8	1.2	$11.44	$ 6.86
5780	S. L. Main Level 75E New York X-Cut 7' ~~0 to 6.5' from HW (Robison)~~ Altered rock, qtz, gouge & sulfides	6.5'	0.03	1.2	3.8	---	0.4	$12.01	$ 7.21
5781	S. L. Main Level 185E New York X-Cut 10' ~~0 to 4.3' from HW (Holmgren)~~ Altered rock, qtz, gouge & sulfides	4.3'	0.03	1.8	4.6	011	0.5	$14.63	$ 8.78
5782	S. L. Main L. HW X-Cut by Access Rse 7' ~~0 to 8.5' from HW (Holmgren & Anderson)~~ Altered rock & CR	8.5'	----	0.1	0.3	---	0.3	$ 0.87	$ 0.52

----------Nothing Follows----------

SAMPLER .....

ASSAYER S --- J. W. Cole

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

NOTE—Copy to Be Forwarded Daily to the Home Office

Buckeye Dump

DATE 15 August 1950

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
847	Buckeye Dump sample #1 0 to 25.0' from NE side (Holmgren, Turner & Robison) Top of Dump	25.0'	0.12	12.5	10.5	2.0	3.4	$42.85	$25.71
848	Buckeye Dump sample #2 25.0 to 55.0' from NE side Top of Dump	30.0'	0.58	1.2	1.0	0.5	1.0	$24.98	$14.99
849	Buckeye Dump sample #3 55.0 to 90.0' from NE side Top of Dump	35.0'	—	0.1	2.8	—	0.9	$ 5.69	$ 3.41
850	Buckeye Dump sample #4 (height- 37.0' height Face of small South Dump	37.0'	0.02	3.0	2.1	0.5	1.0	$ 9.20	$ 5.52
851	Buckeye Dump sample #5 (height- 65.0' height Face from toe of larger dump (Center)	65.0'	—	0.1	0.3	—	0.9	$ 0.69	$ 0.41
852	Buckeye Dump sample #6 (height- 27.0' height Face from toe of small South Dump	27.0'	—	0.1	0.2	—	0.4	$ 0.49	$ 0.29
853	Dandy Drift (face 32' in) 4' 0 to 3.5' from HW CR & qts	3.5'	—	0.2	0.2	—	0.3	$0.58	$ 0.35
854	Vein (Disc. Cut) Stephen's Report on SE of the Lake 0 to 8.5' from HW CR with qts & few sulfides	8.5'	—	0.2	0.3	—	0.1	$ 1.53	$ 0.92

Nothing Follows

SAMPLER

ASSAYER S — J. W. Cole

A FRAGMENT OF COLORADO MINING HISTORY

A first exhibit is in excerpts from an expression by Mr. Edward C. Stoiber of August 2, 1899, reciting a story of human achievement in twelve years that is astonishing as measured by extent of mineral property acquired, by miles of mine workings opened, and by completeness of plant and equipment provided to make the property productive. The altitude of the major work was above 12,000 ft, the approaches were forbidding: much of the heroic was in the work.

A second exhibit is in excerpts from a report from Mr. Clapp, of February, 1913, on the same property, 11 years after its sale by Mr. Stoiber, in which three comments arrest attention:

A "——the rate of 200 tons per day, the maximum that can be handled through Unity tunnel (the outlet)":

B "——the former company and Mr. Stoiber before them, both fought a losing battle in the attempt to keep their reserves of $9.00 or $10.00 ore in advance of their consumption."

C "Of lower grade ore there is perhaps 100,000 tons already exposed and the prospective tonnage is almost unlimited,——."

A third exhibit lists the production of the mine 1902-1918 inclusive. (The record of large production 1890-1901 is not available.) In parallel is shown the contemporary production of Liberty Bell mine at Telluride.

I present the material because it confirms so strikingly my conviction of the ruling importance of human temperaments in the industry. Mr. Stoiber presented for sale in 1899 an organized property producing some 200 tons daily, with miles of access workings and great reserves. Liberty Bell mine was then in its first few months of production, with 2800 ft of drifting on ore, and minimum plant and equipment; it approached production of 100 tons daily.

Silver Lake ore was better. Fourteen years later Mr. Clapp reviewed an unhappy history, saw that production in larger volume could change the picture for the future, and reported great reserves of ore in range of $6 that might be profitable. He gave 200 tons daily as the capacity of the outlet of the mine. At that time Liberty Bell was reaching 500 tons daily, and was organized to live on ore yielding less than $5 per ton; in the end the average yield from ore sales was $6.55 and dividends approached $3 million. Volume was critical (Incidentally, I never thought of any low limit of capacity of a mine level of normal size.), but, back of volume at Liberty Bell, were timely completions of two strategic developments, one in the upper area in 1906, and one in the lower area in 1910. They were key projects, for ready access for men and supplies, and efficient outlets for ore, that were never paralleled in the other mine despite crying needs; they meant so much in the final result as to dwarf the penalties of normal human error through the twenty years.

The Liberty Bell was founded, and given character, by Arthur Winslow, but the organization of its production was mine in large part.

C. A. C.

Silverton, Colorado
22 February, 1949

EXHIBIT 1

E X C E R P T S

GENERAL REPORT UPON THE SILVER LAKE MINES

By

Edward G. Stoiber
1899

1. Location, Ownership and History of the Property:

This Property, known as The Silver Lake Mines and owned by Edward G. and Lena Allen Stoiber, is situated near Silverton, in the Animas Mining District, San Juan County, Colorado, it has been under the management of Edward G. Stoiber, since February 1887, to date.

At the time of the purchase of the property in 1887, probably not over 500 feet of work had been done on same, and there were but two claims in the group; to-day the underground workings may reach a total length of 35000 feet, and the group embraces about 100 claims.

3. Purpose of Owners in the acquisition of large acreage:

It has been the special aim of the Owners, to get together a grouping of Mineral Claims, capable of being worked advantageously as one large mining enterprise, and whose life would unquestionably be a very long one; by the judicious location of protecting claims, possible litigation has been carefully guarded against.

It is claimed for this property that it is a low grade Concentrating proposition, with the premises of practically unlimited vein area to draw from.

4. Estimated length of Vein Croppings, covered by this Property:

The Property covers about 20000 running feet of the Silver Lake Vein croppings; about 5300 running feet of the Titusville-Buckeye vein and probably a further 5000 feet of "Royal", "Professor Stelzner"

and "Whale Rochester" veins; other vein croppings known to exist, but less explored, are ignored in this estimate.

5. Vein Systems:

There are upon this property, two mineralized vein systems: The "Silver Lake" and the "Titusville-Buckeye" veins belonging to the North-West and South-East system, and the "Royal", "Stelzner" and "Whale-Rochester" veins belonging to the North and South system, and running between the "Silver Lake" vein on the North, to the "Titusville-Buckeye" vein on the South, thus making it possible to connect these vein systems by underground workings upon the veins themselves.

9. The Mine Workings and Ore Reserves:

A glance at the maps will be sufficient to show a present large underground development, representing probably in the neighborhood of seven miles of Drifting and Crosscutting, without including the Unity or Blair Mountain Tunnel workings.

Regarding ore reserves, it may be stated that a conservative measurement and estimate recently made by Mr. R. W. Hollis, places same at about 510000 Tons, equivalent to about seven years of running of the present Concentrator, which annually handles about 70000 Tons of mill ore. Mr. Hollis, having been connected with this enterprise for some 8 years or more past, as Engineer and lately as Assistant Manager, is perhaps the best possible person to pass upon this matter of ore reserves.

20. Concluding Remarks:

The "Titusville-Buckeye" vein, although showing excellent croppings, and some underground workings with ore reserves on the "Buckeye" claim, has barely been referred to; The "Nevada" claim has been mentioned only; and the territory N.W. of same on the "Silver Lake" vein, has not been referred to except by the expressed expectation of having the Blair Mountain Tunnel strike and develope it near the Animas River.

Just so the territory on the "Silver Lake" vein to the South East of Arastra Lake, i.e., the "Royal Tiger" #1, the "Homestake" and "Emma" claims, which should have an excellent future.

EXHIBIT 2

EXCERPTS

REPORT ON SILVER LAKE MINES
BY
LAWRENCE R. CLAPP, SUPERINTENDENT

FEBRUARY 12, 1913

In order to continue beyond this preliminary period other ore bodies on the Unity level must have been opened up in that time. Assuming then that the entire program of prospecting is carried out, and, that after an expenditure of $20,000.00 we have available 117,000 tons of $9.40 ore which we will assume, will be worked out at the rate of 200 tons per day, the maximum which can be handled through the Unity tunnel, we will have

	Daily tons.	Life Mo's.	Cost	Profit
13000 tons @ $9.30	50	8.5)	$4.35	$.90
117000 " @ 9.40	200	19.5)		

Total Profit $117,000.00

The above outlook is decidedly discouraging, particularly as from present knowledge this evidently constitutes the entire amount of pay ore in the Silver Lake Mines above the Unity Tunnel. Of lower grade ore, of say, $6.00 value, there is perhaps 100,000 tons already exposed and the prospective tonnage available is almost unlimited, probably the entire Letter "G" vein from the Scranton City to the Buckeye, a distance of nearly two miles, averaging at least that value.

The future of the Silver Lake Mines in my opinion, lies wholly in the solution of the problem of making this material profitable and not in the search of better grade ore; the former company and Mr. Stoiber before them, both fought a losing battle in the attempt to keep their reserves of $9.00 or $10.00 ore in advance of their consumption. In so doing they exposed a very large tonnage of lower grade material and indicated where a still larger tonnage was probable. If this can be made available, the property has a big future still ahead of it.

To make $6.00 ore profitable, will require a total cost of not more than $4.75 per ton and a mill extraction of at least 80%. Neither of these are beyond possibility. A $4.75 cost would mean a big tonnage, the avoidance of an expensive tram, an adequate modern equipment and a high concentration ratio. An 80% mill extraction on ore of only $6.00 gross value means considerably more than our present mill is capable of. Recently, I was attracted by the remarkable success of the Minerals Separation Co's froth flotation process at the Braden Copper Company and at the Butte & Superior. I made some tests in a very crude way with a home-made laboratory size flotation apparatus. From the results obtained, it is apparent that an 80% extraction combined with a high ratio of concentration is not at all an impossibility with the method. If this is possible on a commercial scale and indications apparently point that way, to judge from the results obtained at Braden, it will mean over $1.00 per ton of difference on our present prospects, and would change a probable loss into an almost certain profit, besides making available a considerable tonnage of lower grade ore. From what I can gather from other plants, the purchase and erection of the necessary apparatus for the installation of the process at this property would not exceed $3,000.00, which would be repaid within one month of operation by the expected increase in saving.

APPENDIX 2

RECORDED HISTORIES OF MAJOR PRODUCTIONS OF THE MINES. SHOWN: TONS, OUNCES AND/OR TONS OF RECOVERED METALS: FINAL NET SMELTER

SILVER TOPE MINES

Year	Tons	Au Oz/T	Au Tot.Oz.	Ag Oz/T	Ag Tot.Oz.	Pb %	Pb Tons	Cu %	Cu Tons	$/T Gross	$/T Rec.	$/T N.S.
1899												
1900										12.10		8.78
1												
2	83,496	.161	13,470	3.20	267,576	.922	768.822	1.068	889.548	8.30		5.83
3	98,876	.165	16,513	4.55	446,113	1.750	1,738.473	1.003	992.532	10.24	8.12	6.93
4	89,363	.162	14,612	6.10	548,608	2.255	2,025.787	1.130	1,016.386	11.38	9.34	7.94
5	69,950	.112	7,817	6.27	435,397	2.995	2,095.883	1.068	746.561	11.25	8.80	7.44
6	18,720	.102	1,874	6.17	115,803	1.770	330.763	.740	138.565	10.49	8.73	7.13
7	52,716	.117	6,161	5.80	305,406	1.870	985.075	.982	516.907			
8	58,915	.129	7,612	4.95	291,928	1.294	762.607	.885	521.106			
9	5,301	.170	900	4.71	24,972	2.922	154.927	1.140	60.544			
10	4,540	.213	967	4.92	22,354	2.160	98.216	1.200	54.563			
1	9,381	.091	858	3.88	36,418	1.146	107.635	.602	56.456			
2	20,398	.107	2,182	4.18	84,386	1.608	327.885	.558	113.841			
3	12,179	.212	2,581	4.44	54,049	7.630	928.043	.439	53.460			
4	14,133	.227	3,207	4.73	66,927	4.240	599.235	.483	68.281			
5	29,652	.147	4,371	1.72	50,907	1.130	334.863	.408	120.934			
6	29,190	.126	3,683	1.98	57,805	1.082	315.967	.558	162.677			
7	18,069	.096	1,744	1.74	31,485	2.133	385.421	.461	83.198			
8	16,066	.083	1,340	1.77	28,425	2.035	327.125	.463	74.324			
19												
20												
1												
Totals,	630,645	.142	89,892	4.52	2,868,563	1.94	12,266.727	.896	5,659.863			

All From U. S. Bureau of Mines

1901 1906	360,105	.147	54,286	5.03	1,813,501	1.92	6,939.728	1.045	3,773.592
1907 1919	270,540	.132	35,606	3.90	1,055,062	1.97	5,326.999	.697	1,886.291

These Data From Incomplete Office Records.

LEGEND FOR SILVER PRODUCTION FROM MINING IN COLORADO, U.S.G.S. PROF. PAP. 138, GILL, PAGE 225

Tons	Au/T	Ag/T	% Per Recov.	Ton N.S.
17,300	.156	0.77	4.01	3.45
23,500	.255	1.22	5.32	5.02
54,397	.240	1.26	5.76	5.53
67,439	.299	1.68	7.15	6.72
83,372	.288	1.89	6.97	6.44
45,311	.355	2.25	9.52	8.93
27,379	.306	1.79	7.87	7.50
92,900	.315	2.21	7.98	7.73
102,104	.270	2.21	7.13	6.88
116,353	.285	2.43	7.26	7.02
125,681	.222	1.52	5.59	5.38
133,899	.290	2.07	7.17	6.85
155,950	.377	2.12	8.97	8.66
175,340	.279	1.79	6.87	6.59
179,216	.205	1.61	5.24	5.05
173,840	.191	1.82	4.96	4.86
174,100	.138	1.81	3.80	3.58
165,300	.185	1.55	4.79	4.59
143,100	.218	1.83	5.92	5.69
90,700	.517	2.19	12.71	12.38
110,700	.355	1.18	8.58	8.53
56,100			10.08	
55,285			9.83	
2,368,067	.267	1.91	6.80	6.55

Tonnage 1899 Corrected, and Columns 2, 3, and 5 Supplied from Company Reports.

MF 1-3

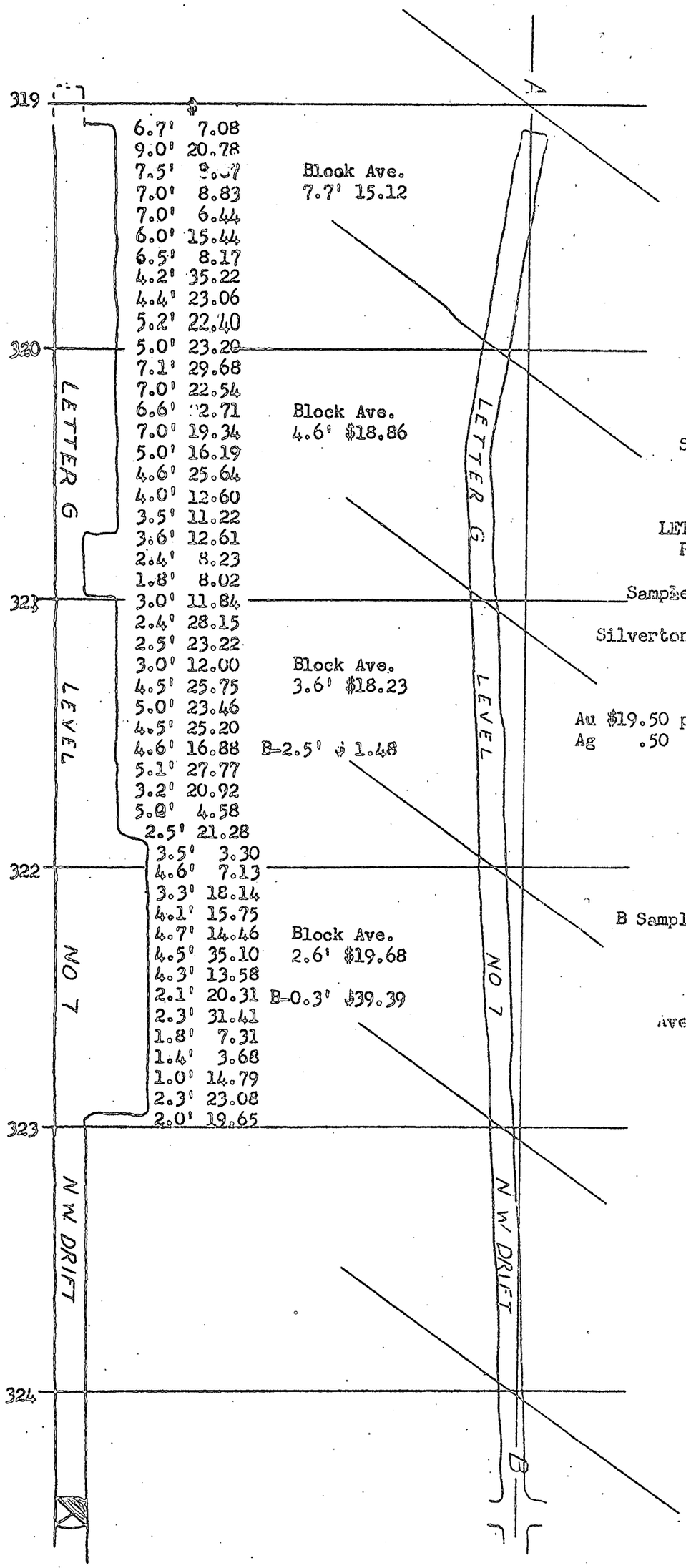
Shenandoah-Dives Mining Company,
Silverton, Colorado

4 C-1

SILVER LAKE MINES

ASSAY PLAN MAPS
of
LETTER "G" VEIN

No.	Level	Coordinates	Scale	Date
76	No.7	319 - 325	1"=30'	Oct. 1903
77	"	317 - 324	"	Dec. 1903
78	"	316 - 318	"	Jan. 1904
79	No. 6	322 - 323	"	Feb. 1904
95	No. 4	289 - 294	"	July 1903
180	No. 7	293 - 301	"	Feb. 1905
181	"	301 - 309	"	Feb. 1905
182	No. 8	316 - 321	"	Jan. 1905
186	No. 6	318 - 323	"	June 1905
187	No. 7	285 - 290	"	June 1905
189	No. 8	309 - 315	"	June 1905



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLESS 319-325

Samples Taken Oct. 1903

Silverton, Colo. Scale: 1" = 30'

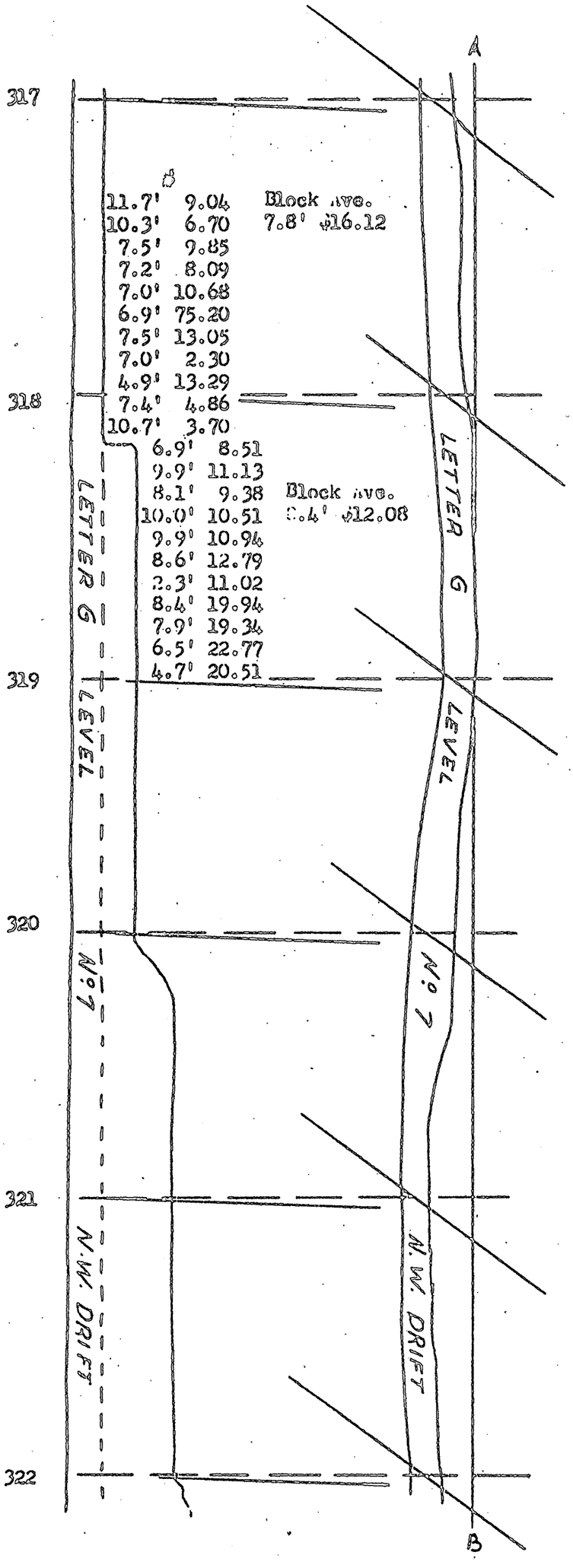
-Quotations-

Au $19.50 per oz. Pb $ .40 per unit
Ag .50 " " Cu 1.50 " "

B Samples From HW streak

Average - All Samples

4.7' - $16.17



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 317-322

Samples Taken Dec. 1903

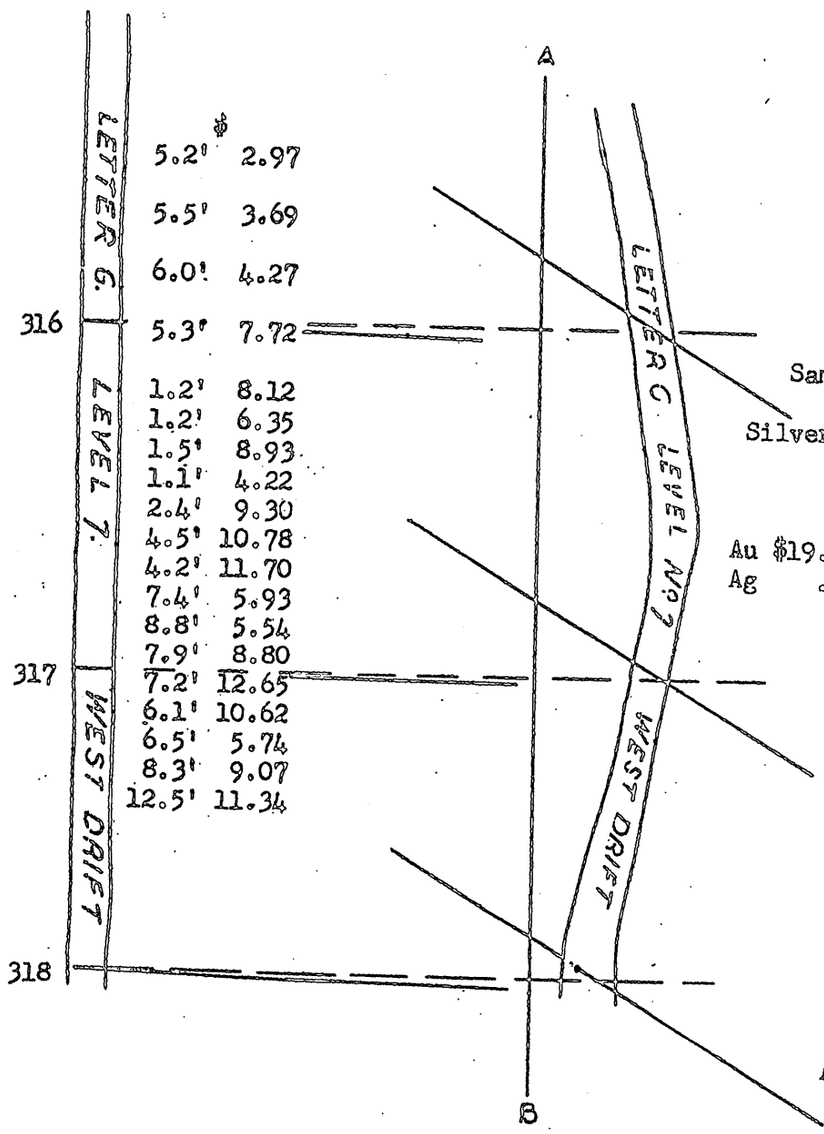
Silverton, Colo. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.30 per unit

Average - All Samples

8.2' - $13.66



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 316-318

Samples Taken Jan. 1904

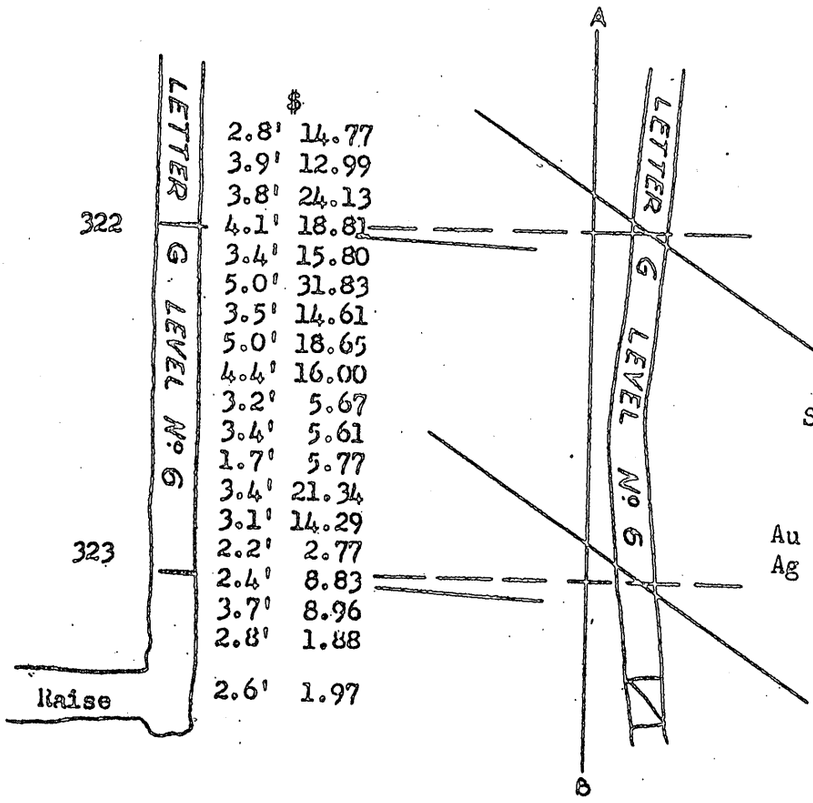
Silverton, Colo. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.30 per unit

Average - All Samples

5.4' - $ 8.07



	$
2.8'	14.77
3.9'	12.99
3.8'	24.13
4.1'	18.81
3.4'	15.80
5.0'	31.83
3.5'	14.61
5.0'	18.65
4.4'	16.00
3.2'	5.67
3.4'	5.61
1.7'	5.77
3.4'	21.34
3.1'	14.29
2.2'	2.77
2.4'	8.83
3.7'	8.96
2.8'	1.88
2.6'	1.97

SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 6
PARALLELS 322-323

Samples Taken Feb. 1904

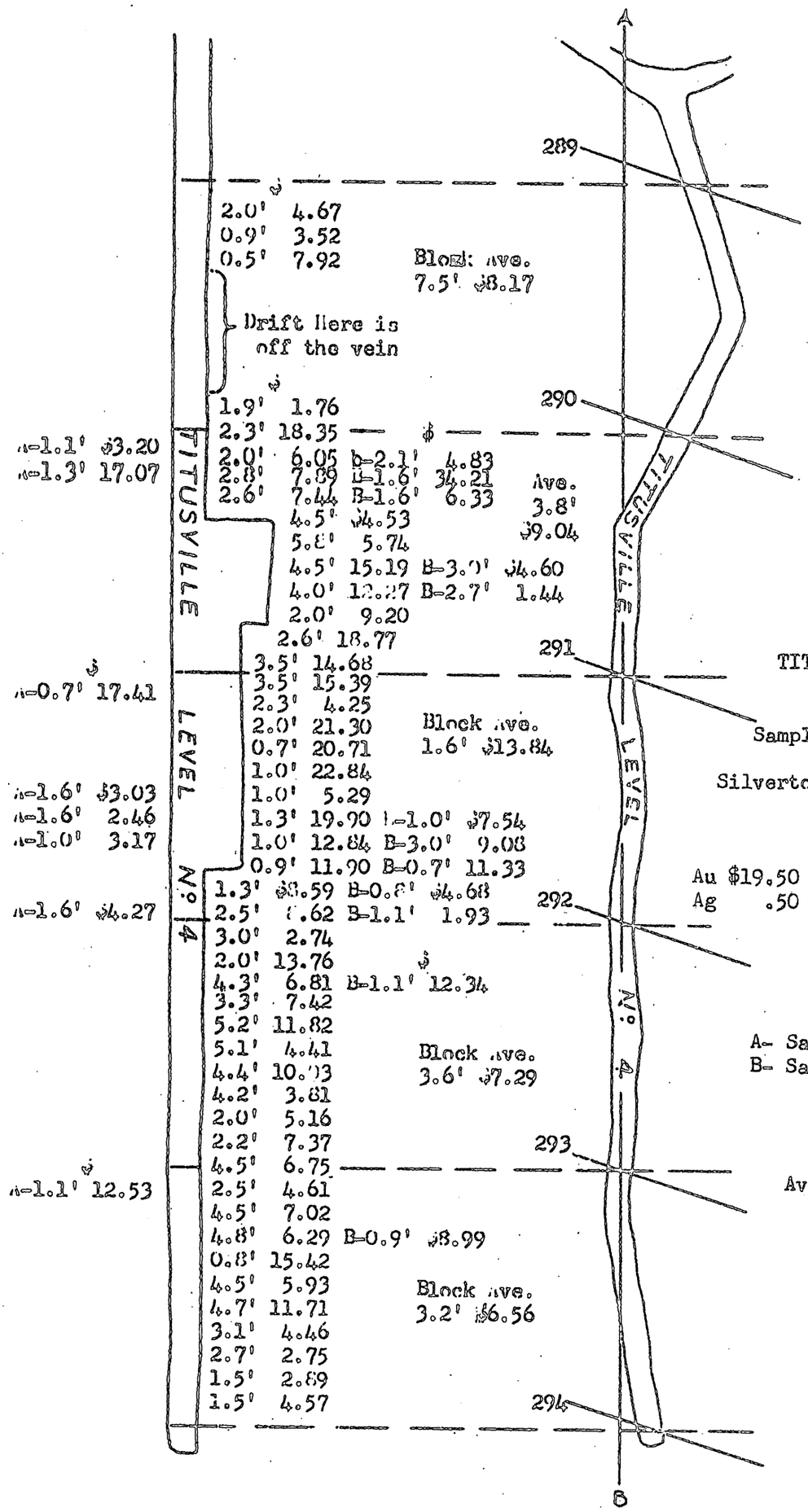
Silverton, Colo. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.40 " "

Average - All Samples

3.4' - $13.10



SILVER LAKE MINES

ASSAY PLAN

TITUSVILLE LEVEL NO. 4
PARALLELS 289-294

Samples Taken July, 1903

Silverton, Colo. Scale: 1" = 30'

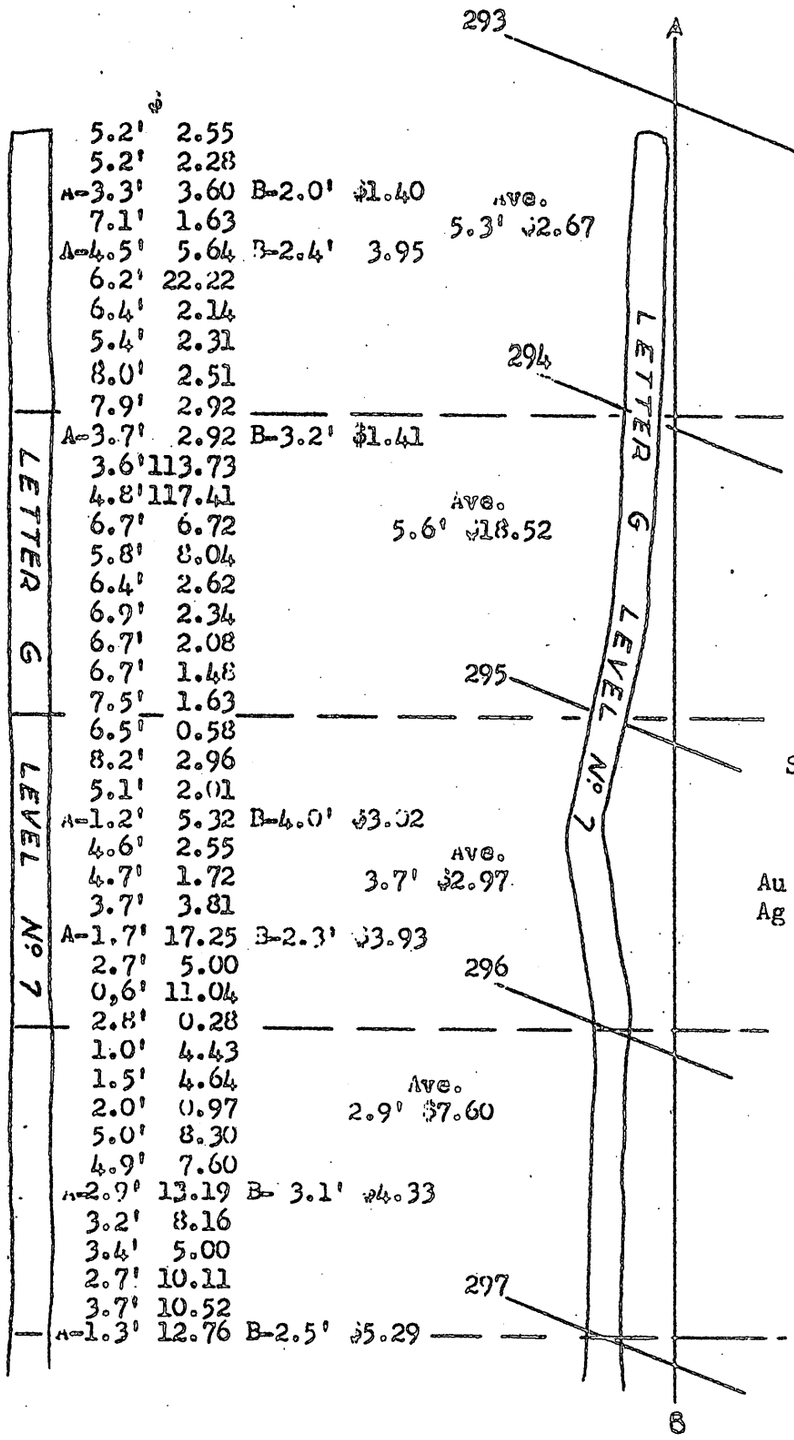
-Quotations-

Au $19.50 per oz. Pb $ .40 per unit
Ag .50 " " Cu 1.50 " "

A- Samples from FW streak
B- Samples from HW streak

Average - All Samples except A & B

2.8' - $8.48



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 293-297

Samples Taken Jan-Feb. 1905

Silverton, Colo. Scale: 1" = 30'

-Quotations-

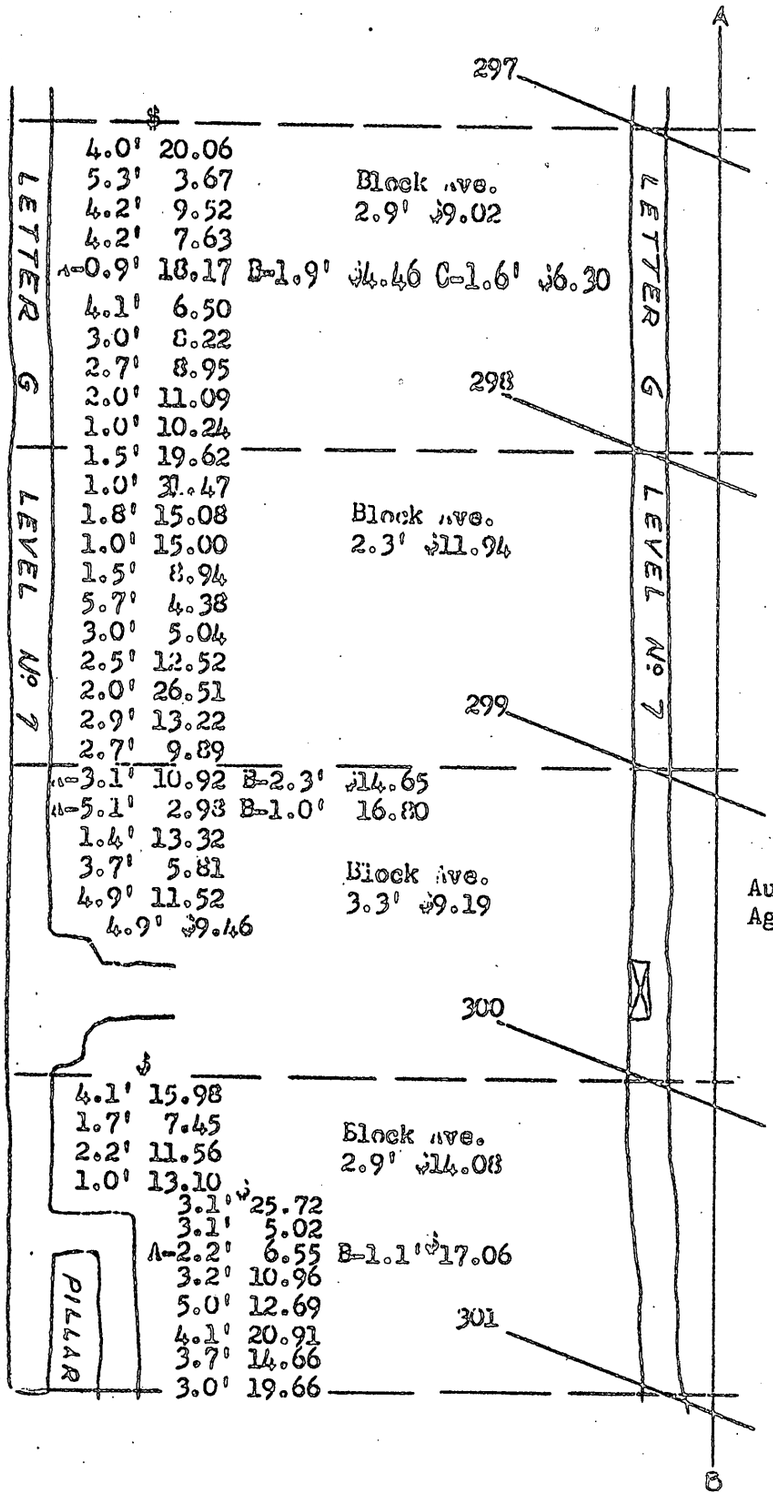
Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.45 " "

A - Samples from FW streak
B - Samples from HW streak

Average - All Samples

4.3' - $8.27

P. 180-A



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 297-301

Samples Taken Jan-Feb. 1905

Silverton, Colo. Scale: 1" = 30'

-Quotations-

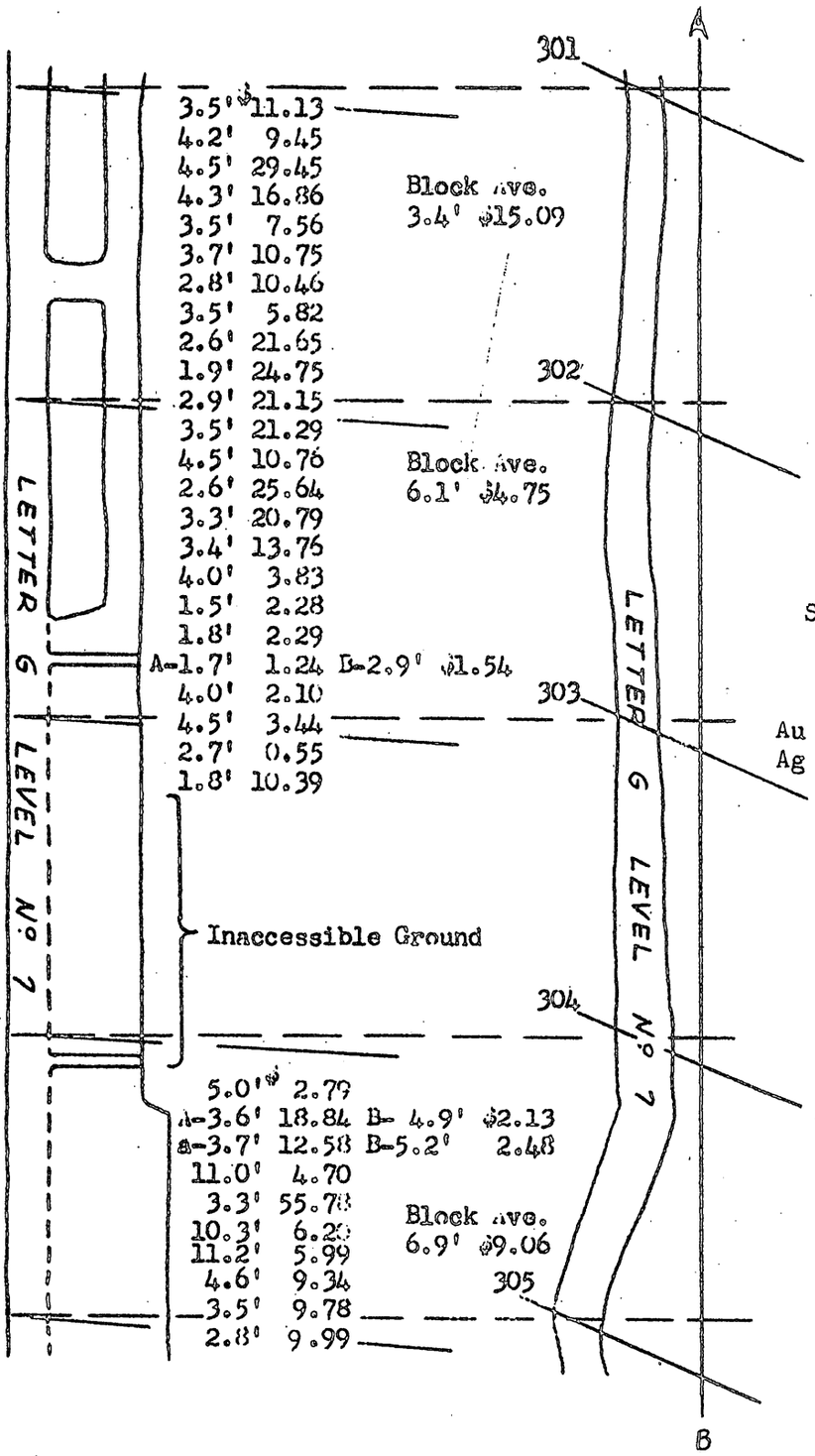
Au	$19.50 per oz.	Pb	$ .35 per unit
Ag	.55 " "	Cu	1.45 " "

A - Samples from FW streak
B - Samples from HW streak
C - Samples from Center streak

Average - All Samples

2.8' - $11.18

P. 180-B



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 301-305

Samples Taken Jan-Feb. 1905

Silverton, Colo. Scale: 1" = 30'

-Quotations-

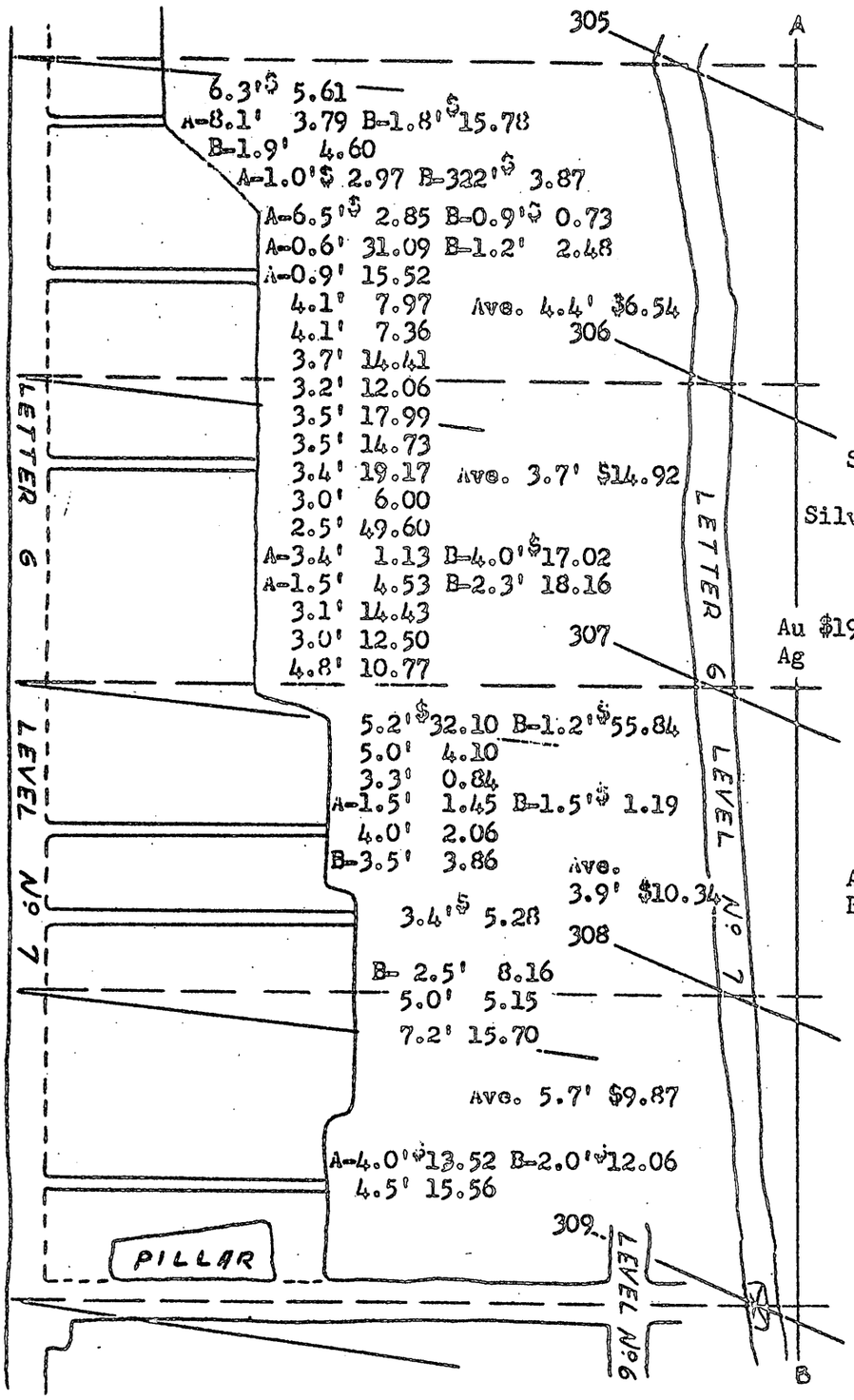
Au	$19.50 per oz.	Pb	$ .35 per unit
Ag	.55 " "	Cu	1.45 " "

A - Samples from FW streak.
B - Samples from HW streak

Average - All Samples

5.5' - $8.43

P. 181-A



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 305-309

Samples Taken Jan-Feb. 1905

Silverton, Colo. Scale: 1" =30'

-Quotations-

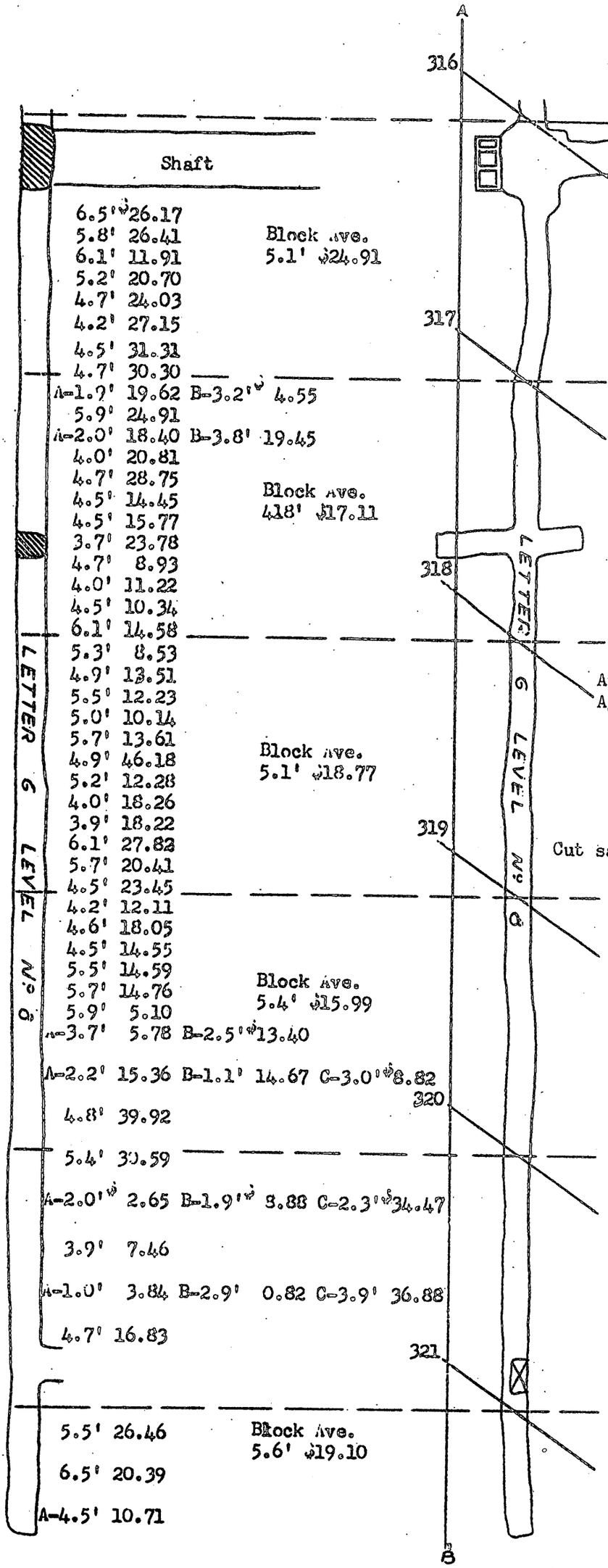
Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.45 " "

A - Samples from FW streak
B - Samples from HW streak

Average - All Samples

4.2' - $10.41

P. 181-B



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 8
PARALLELS 316-321

Samples taken Jan. 1905

Silverton, Colo. Scale: 1" = 30'

-Quotations-

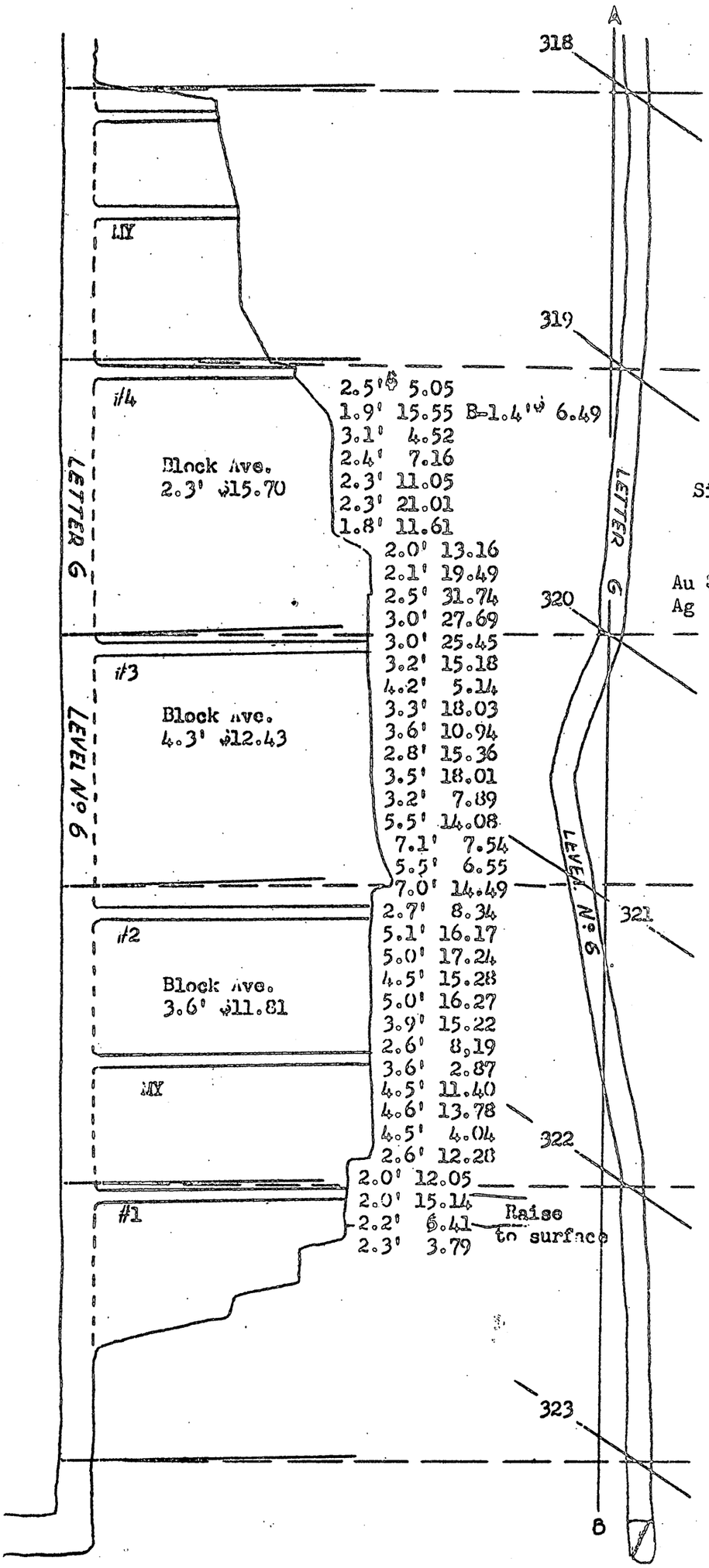
Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.45 " "

NOTE
Cut samples of ore streak taken with a moil.

A - Samples from FW streak
B - Samples from HW streak
C - Samples from Center streak

Average- All Samples

5.2' - $18.73



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 6
PARALLELS 318-323

Samples Taken May-June 1905

Silverton, Colo. Scale: 1" = 30'

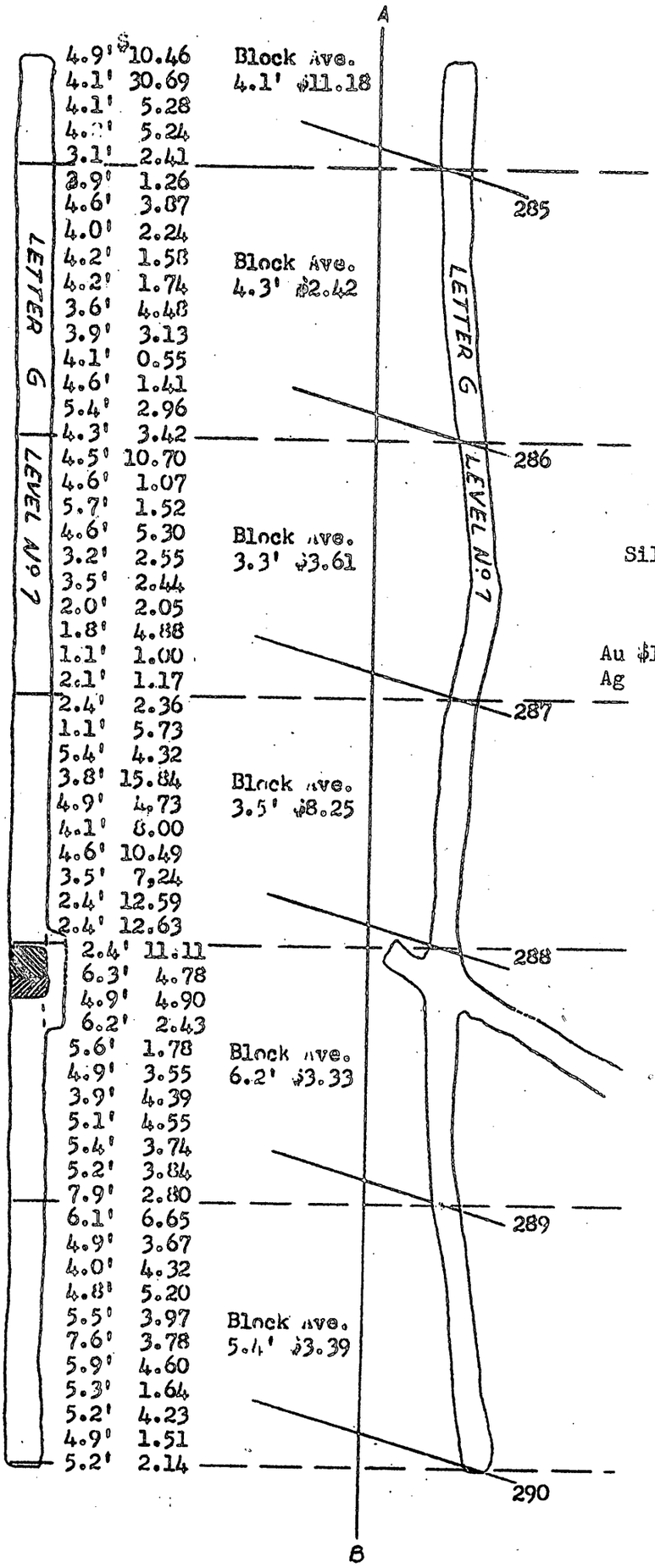
-Quotations-

Au	$19.50 per oz.	Pb	$ .35 per unit
Ag	.53 " "	Cu	1.55 " "

B - Samples from HW streak

Average - All Samples

3.5' - $12.80



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 285-290

Samples Taken June 1905

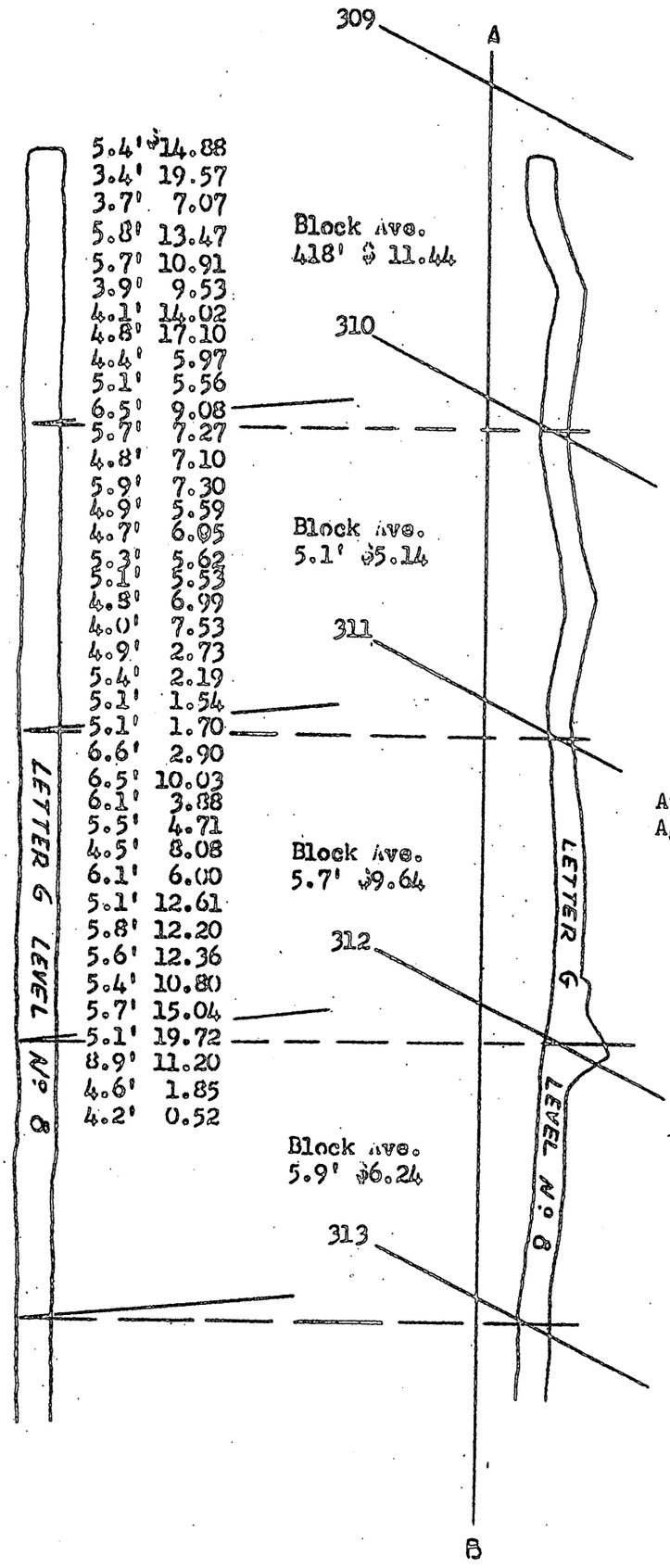
Silverton, Colo. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.50 " "

Average - All Samples

4.5' - $4.48



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 8
PARALLELS 309-313

Samples taken June 1905

SILVERTON, COLO. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag 155 " " Cu 1.50 " "

Average - All Samples

5.2' - $8.36

4 - C

DRIFT SAMPLE ASSAYS

-MELVILLE VEIN-

SHENANDOAH-DIVIS MINING CO.

4177 - 370 level Coordinates 2300 - 3207

4177 - main level Coordinates 2202 - 2425

Net smelter $ values are 60% of following quotations:

Au-	$35.00 per oz.	Pb-	$0.13 per lb.
Ag-	0.90 " "	Cu-	0.20 " "

(zinc not included in $ value)

4177 - 370 level 23 block (Block Average - 7.8', $6.89)

width	$ value	Au	Ag	Pb	Cu	Zn
8.0'	$ 0.13	---	0.2	0.1	---	0.3
8.0	3.74	0.09	0.7	0.2	0.5	0.3
8.0	2.46	---	0.6	0.6	0.5	0.1
8.0	9.02	0.18	1.8	1.2	1.0	0.4
8.0	1.88	---	0.4	0.6	0.3	0.1
8.0	0.84	---	0.4	0.4	---	0.1
6.5	33.99	0.13	5.9	12.3	3.7	0.1
8.0	9.99	0.16	2.8	1.9	0.9	0.1
8.0	3.84	0.02	1.6	0.1	1.0	0.4

24 block (Block Average - 6.9', $4.93)

width	$ value	Au	Ag	Pb	Cu	Zn
8.0'	$ 0.05	---	0.1	---	---	0.1
8.0	0.13	---	0.2	0.1	---	0.3
8.0	0.13	---	0.2	0.1	---	0.3
7.5	9.15	0.11	1.9	2.8	0.6	1.9
7.0	11.28	0.11	2.3	2.8	1.4	2.5
3.0	18.13	0.03	6.4	7.0	1.3	6.1

25 block (Block Average - 7.9', $3.95)

width	$ value	Au	Ag	Pb	Cu	Zn
7.0'	$13.44	0.04	4.0	5.0	1.1	5.3
8.0	0.32	---	0.6	---	---	0.3
8.5	7.15	0.04	1.6	1.8	1.1	1.4
8.0	0.32	0.01	0.2	---	---	0.1
8.0	10.40	0.35	5.2	---	0.1	0.3
8.0	6.16	0.04	1.4	2.0	0.6	2.0
7.5	5.66	0.03	1.4	1.2	1.0	0.7
8.0	0.22	---	0.4	---	---	0.2
8.0	0.05	---	0.1	---	---	0.1
8.0	0.38	---	0.4	0.1	---	0.1
8.0	0.42	---	0.2	0.2	---	0.1

26 block (Block Average - 8.4', $2.34)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 6.35	0.03	1.0	2.4	0.6	0.5
8.0	1.39	---	0.4	0.1	0.2	0.2
8.5	0.86	---	0.4	0.1	0.2	0.2
8.5	0.92	0.03	0.1	---	0.1	0.1
8.0	1.61	0.05	0.6	---	0.1	0.2
8.5	4.15	0.16	0.4	0.1	0.3	0.3
8.5	1.10	0.05	0.5	---	0.2	0.1
8.5	1.56	0.01	0.6	0.2	0.3	0.2

27 block (Block Average - 7.9', $2.82)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 1.62	0.02	0.6	0.1	0.3	0.2
8.5	2.42	0.01	1.0	0.3	0.5	0.7
5.0	0.35	---	0.2	---	0.1	0.1
8.5	0.21	---	0.1	0.1	---	0.2
8.5	2.02	---	0.2	0.3	0.6	0.3
8.5	9.26	0.05	2.5	2.4	1.3	0.4

28 block (Block Average - 7.7', $17.69)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$20.06	0.09	6.1	8.0	1.0	1.1
8.5	15.54	0.21	2.4	4.3	1.3	1.3
3.0	45.59	0.95	4.6	11.0	2.5	2.2
7.5	2.38	0.02	0.4	0.5	0.4	0.3
8.5	30.26	0.09	3.1	16.5	0.4	1.9
8.5	26.26	0.07	4.5	13.1	0.8	1.2
8.5	15.29	0.11	3.7	5.5	1.0	2.0
7.5	15.20	0.03	5.2	6.0	1.0	1.3
8.0	16.36	0.06	4.5	7.2	0.6	2.6
8.5	6.60	0.02	2.6	1.9	0.8	2.2

29 block (Block Average - 8.0', $10.80)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$21.92	0.08	6.5	9.8	0.6	2.3
8.0	6.70	0.02	2.6	1.9	0.8	0.2
8.5	3.23	0.01	0.6	0.5	0.8	0.8
8.5	0.42	---	0.2	0.2	---	0.6
7.5	0.52	---	0.1	0.3	---	0.1
8.5	8.86	0.14	2.3	1.0	1.3	0.5
6.0	18.03	0.34	2.7	4.2	1.2	2.5
5.0	8.70	0.04	1.0	3.0	1.1	1.7
8.0	16.99	0.07	1.5	8.2	0.8	3.4
8.5	29.58	0.02	2.2	16.7	0.8	1.1
7.5	9.15	0.08	2.1	3.6	0.3	0.6
7.5	5.77	0.04	0.6	0.8	1.4	3.8

30 block (Block Average - 8.6', $10.86)

width	$ value	Au	Ag	Pb	Cu	Zn
8.0'	$ 2.28	0.02	0.2	0.2	0.6	0.1
8.0	5.89	---	0.8	3.5	---	0.3
8.5	0.47	---	0.3	0.2	---	0.3
8.5	3.90	0.05	1.5	1.0	0.2	1.0
8.5	6.79	0.03	2.0	3.0	0.2	2.2
8.5	9.81	0.04	1.4	4.8	0.3	2.2
10.5	29.66	0.08	1.5	16.8	0.4	2.2
8.0	15.79	0.04	1.8	8.5	0.3	2.2
8.5	6.59	0.06	1.3	2.2	0.5	2.9
8.5	1.18	0.01	0.2	0.4	0.1	0.6
8.5	12.47	0.13	1.7	5.5	0.1	1.5
8.5	28.92	0.03	3.5	16.0	0.6	5.1
9.0	14.73	0.25	1.7	4.1	0.9	2.9
9.0	14.59	0.06	1.9	6.5	0.9	3.0
9.0	4.00	0.07	0.9	1.0	0.2	1.2
9.0	12.80	0.06	2.7	6.0	0.3	1.8
8.5	9.51	0.04	1.4	4.3	0.5	4.0

31 block (Block Average - 8.8', $1.54)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 0.35	---	0.2	---	0.1	0.3
9.5	0.35	---	0.1	0.2	---	0.3
8.5	0.94	0.01	0.2	0.4	---	0.3
8.5	1.71	0.03	0.4	0.4	0.1	0.4
8.5	0.27	---	0.2	0.1	---	0.5
8.5	3.43	0.01	0.6	1.4	0.3	0.5
9.5	0.05	---	0.1	---	---	0.3
9.0	0.21	---	0.1	0.1	---	0.1
8.5	0.52	---	0.1	0.3	---	0.1
9.0	5.24	0.08	0.5	1.8	0.2	0.6
9.0	3.90	0.15	0.2	0.1	0.2	1.0

32 block (Block Average - 8.0', $1.10)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 1.17	0.02	0.2	0.1	0.2	1.0
9.0	1.84	---	0.2	0.8	0.2	0.5
8.5	0.42	---	0.2	0.2	---	0.6

370 Level Average
-All Samples-

width	$ value
8.1'	$7.28

4177 - Main Level

22 block (Block Average - 9.1', $0.43)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 0.05	tr	0.1	---	---	0.1
9.0	0.05	tr	0.1	---	---	0.1
8.5	0.05	tr	0.1	---	---	0.2
8.5	0.05	tr	0.1	---	---	0.1
8.5	1.31	0.06	0.1	---	---	0.2
8.5	0.05	tr	0.1	---	---	0.6
8.5	0.21	---	0.1	0.1	---	0.2
9.5	0.72	0.01	0.2	0.1	0.1	0.6
9.0	0.75	---	0.2	0.1	0.2	0.3
10.0	0.27	---	0.2	0.1	---	0.1
10.0	0.42	0.01	0.1	0.1	---	0.1
9.5	1.05	0.02	0.6	0.2	---	0.2
10.0	0.58	---	0.2	0.3	---	0.1

23 block (Block Average - 9.0', $1.04)

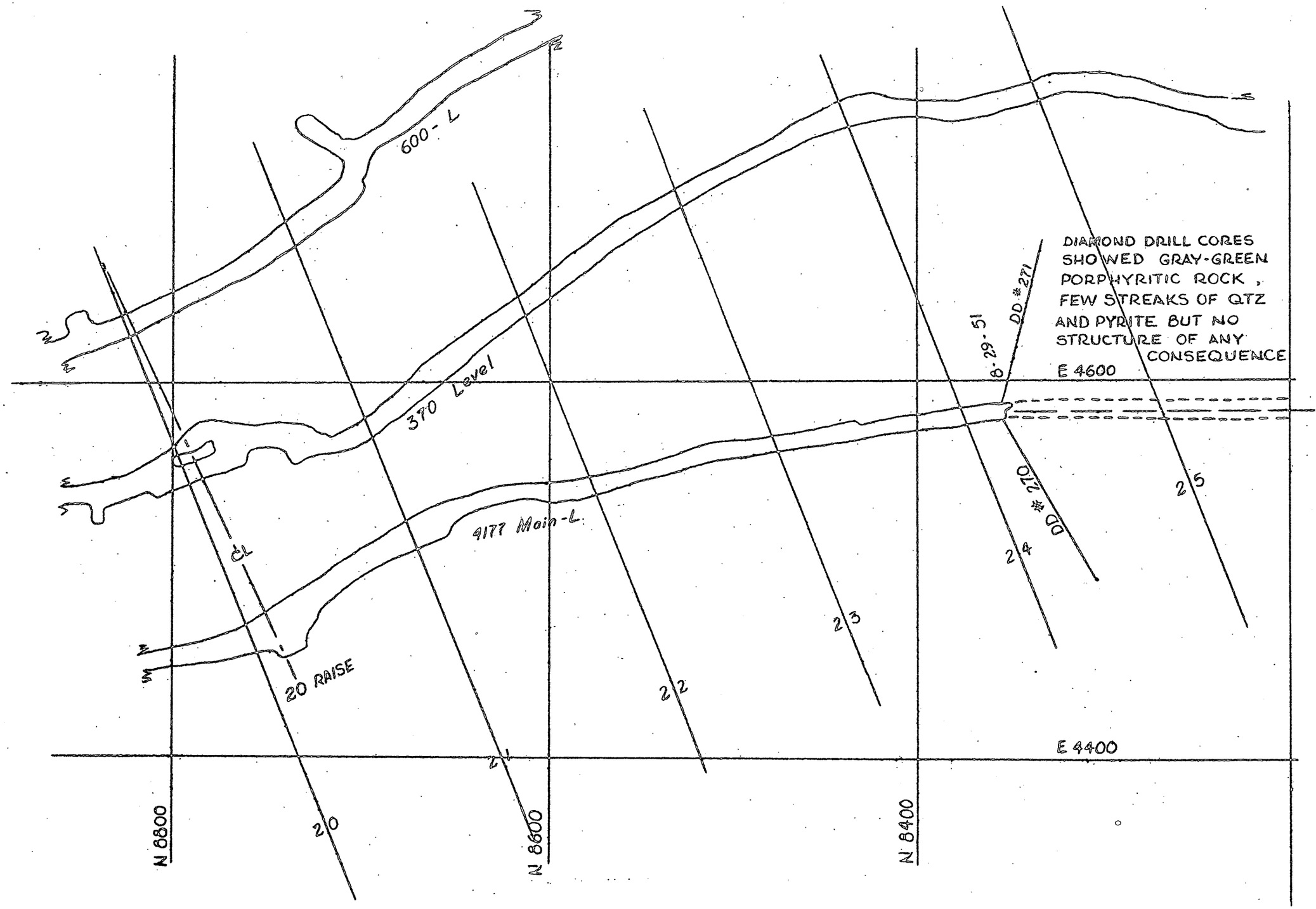
9.0'	$ 0.27	---	0.2	0.1	---	0.1
10.0	0.69	0.01	0.6	0.1	---	0.1
9.5	0.21	---	0.1	0.1	---	0.1
9.5	0.21	---	0.1	0.1	---	0.3
9.5	0.38	---	0.4	0.1	---	0.3
9.0	1.14	---	0.1	0.7	---	0.1
10.0	0.42	0.01	0.1	0.1	---	0.1
9.0	0.26	0.01	0.1	---	---	0.1
9.0	0.26	0.01	0.1	---	---	0.1
8.0	11.08	0.04	2.4	4.5	0.8	0.8
8.5	0.42	0.01	0.1	0.1	---	0.1
8.5	0.42	0.01	0.1	0.1	---	0.1
8.5	0.27	---	0.2	0.1	---	0.1
9.0	0.27	---	0.2	0.1	---	0.1
8.5	0.36	---	0.1	0.2	---	0.1
9.0	1.14	---	0.1	0.7	---	0.1

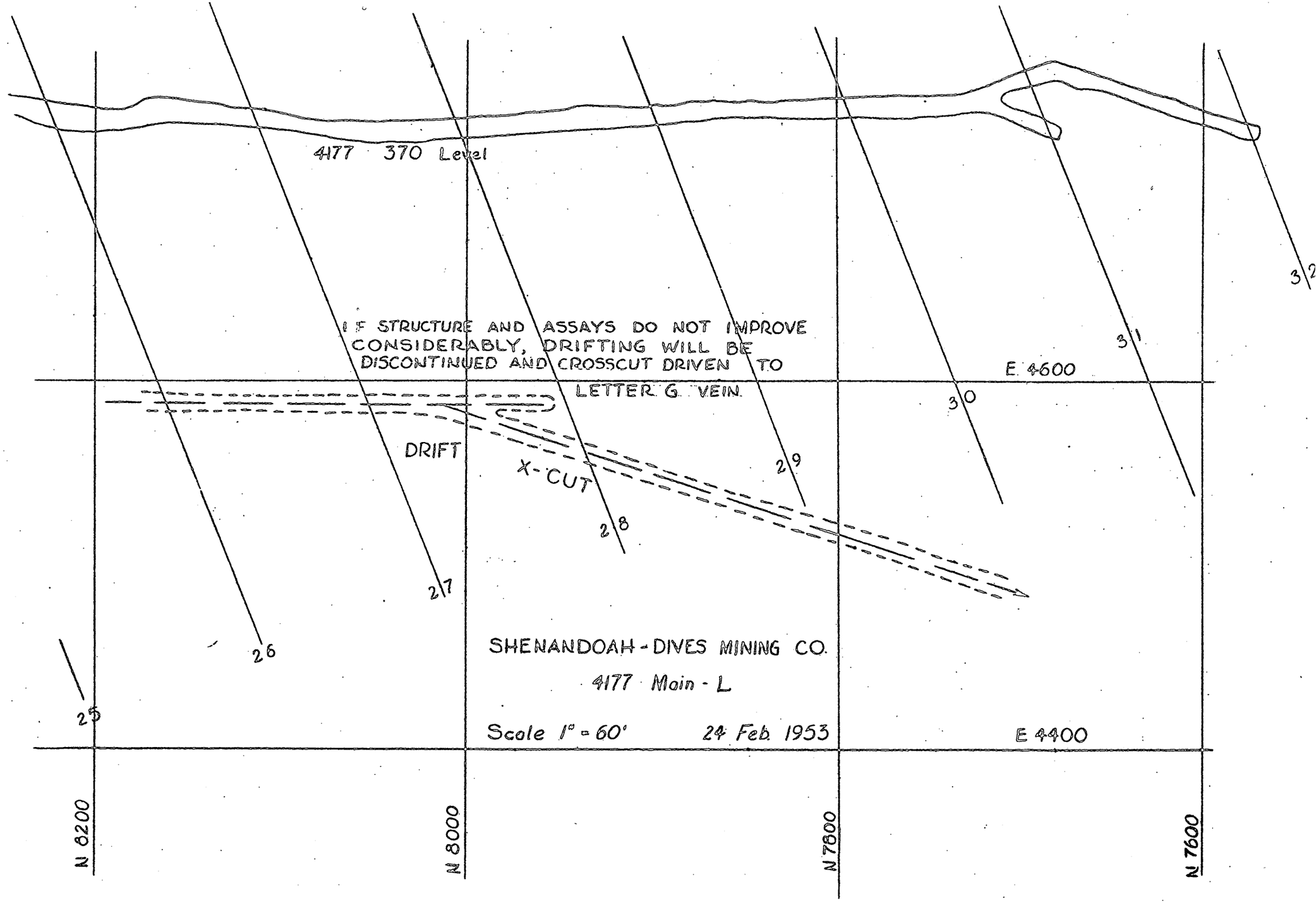
24 block (Block Average - 9.1', $0.24)

8.5'	$ 0.52	---	0.1	0.3	---	0.1
9.0	0.05	---	0.1	---	---	0.1
9.0	0.05	---	0.1	---	---	0.1
10.0	0.36	---	0.1	0.2	---	0.1

Main Level Average
-All Samples-

width	$ value
9.1'	$0.70

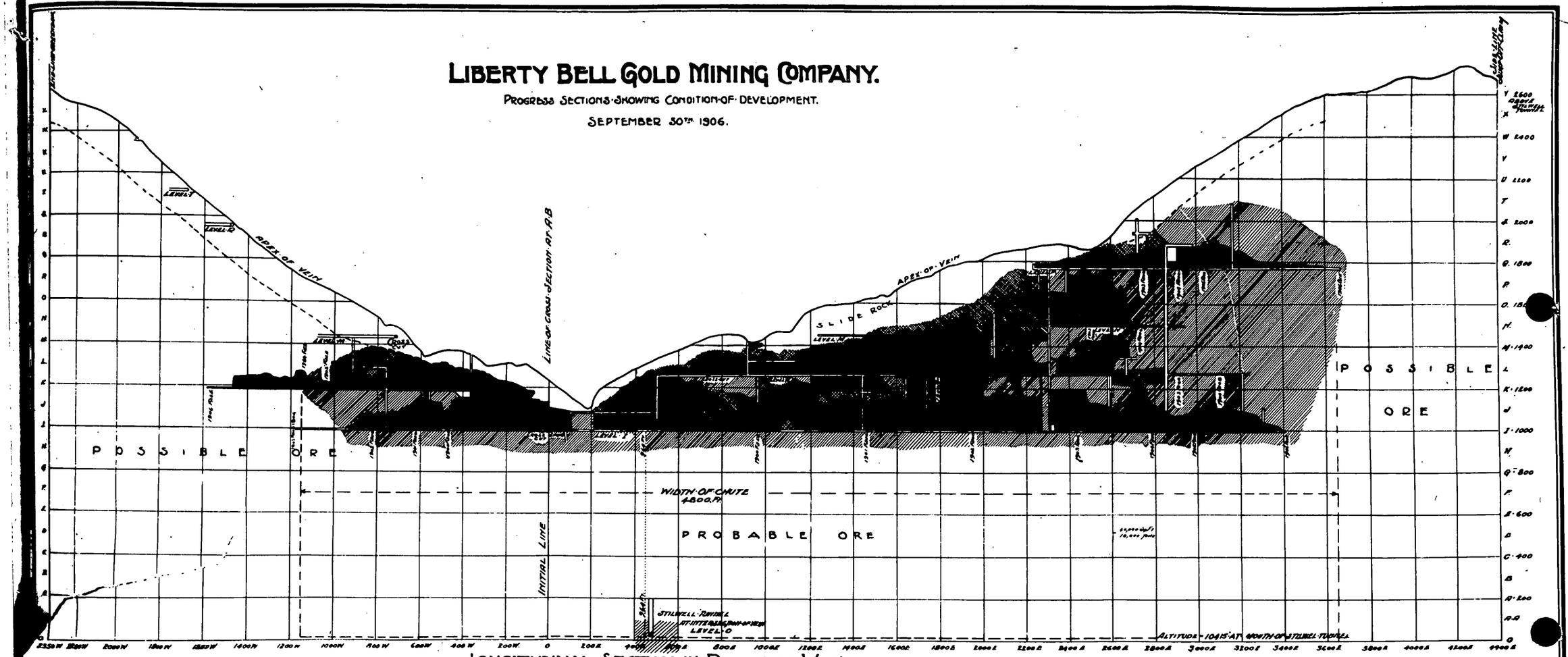

600-L
370 Level
4177 Main-L
CL
20 RAISE
N 8800
N 8600
N 8400
E 4600
E 4400
20
21
22
23
24
25
DD #270
DD #271
8-29-51
DIAMOND DRILL CORES SHOWED GRAY-GREEN PORPHYRITIC ROCK, FEW STREAKS OF QTZ AND PYRITE BUT NO STRUCTURE OF ANY CONSEQUENCE


4177 370 Level
IF STRUCTURE AND ASSAYS DO NOT IMPROVE
CONSIDERABLY, DRIFTING WILL BE
DISCONTINUED AND CROSSCUT DRIVEN TO
LETTER G. VEIN.
E 4600
DRIFT
X-CUT
26
27
28
29
30
31
32
25
SHENANDOAH-DIVES MINING CO.
4177 Main - L
Scale 1" = 60'
24 Feb. 1953
E 4400
N 8200
N 8000
N 7800
N 7600

LIBERTY BELL GOLD MINING COMPANY.

PROGRESS SECTIONS SHOWING CONDITION OF DEVELOPMENT.

SEPTEMBER 30TH 1906.



LONGITUDINAL SECTION IN PLANE OF VEIN.

HORIZONTAL AND VERTICAL SCALE 1" : 400'

Vertical Distances measured on Slope of vein.

Ore Stoped 408,282 Dry Tons from	- -	1,259,000 Sq. Ft.
Pinched and Unworkable Vein	- - -	250,000 " "
Ore "In Sight"	- - - - - -	316,000 Tons, Dry.
Width of Chute 4,800 ft.		
Probable Ore in Chute above Stilwell Tunnel	- - -	1,150,000 " "
Total Ore in Sight and Probable	- -	1,466,000 Tons, Dry.
Estimated Ore beyond Chute within Property, and above Stilwell Tunnel (½ of Possible)	-	300,000 " "
Total in Sight Prob. and Estim.	- -	1,766,000 Tons, Dry.
Possible Ore within Property above Stilwell Tunnel, and in addition to the last Total	- - -	900,000 " "
Total Possible above Stilwell Tunnel	-	2,666,000 Tons, Dry.
Probable and Possible Ore below Stilwell Tunnel	- -	Not Estimated.

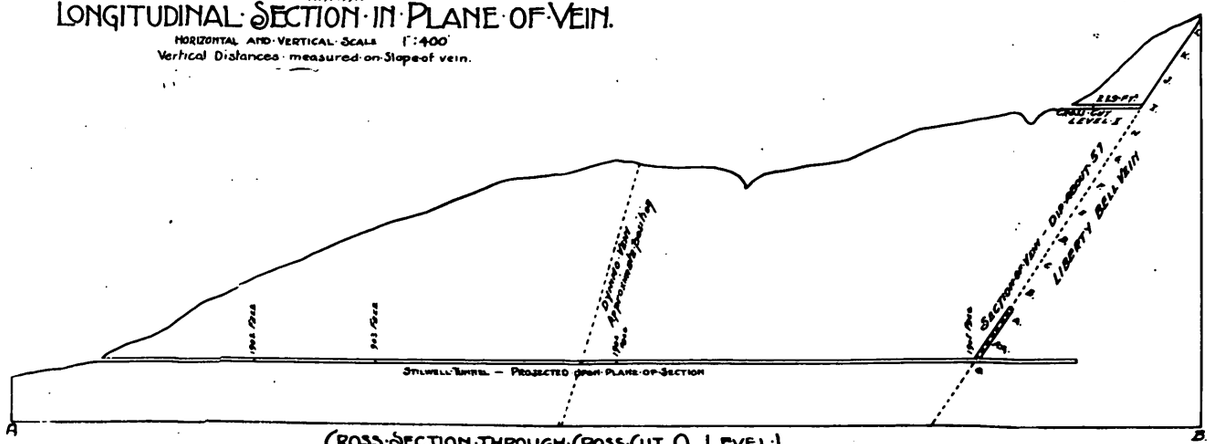
Progress of Development for Year Ending September 30th, 1906.

Ore Mined, 92,221 Tons, dry. — Tunnelling, 292 ft.
Drifting, 2,206 ft. Crosscutting, 40 ft. Upr. 1,812 ft. Total deadwork 8,850 ft.

NOTE. — The above results are calculated on the following assumptions

Average width of Vein,=8.52 ft. (Actual average of eight years.)
One ton in solid (dry) 18 cub. ft.
Distance between Stilwell Tunnel and 1 Level,=964 ft.

In calculating the average width of vein, upon which the Ore in sight and other tonnage results are based, the area of pinched and unworkable vein so far developed is included within the stoped area.



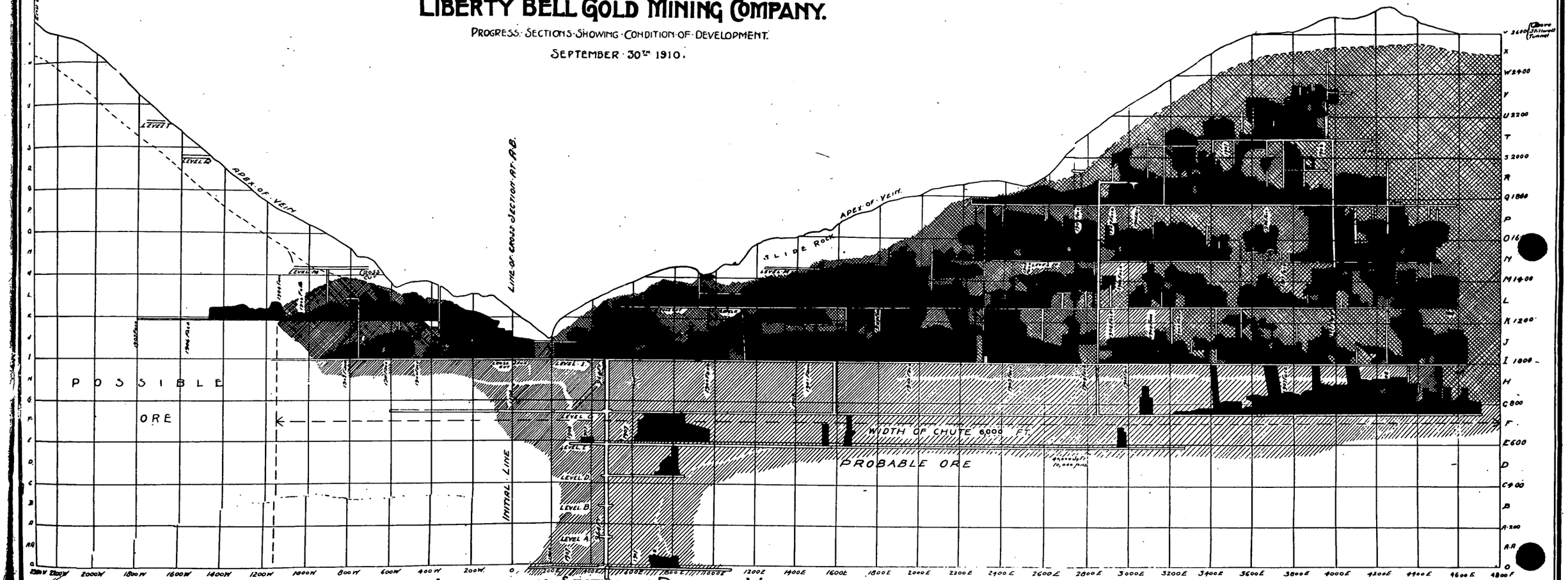
CROSS SECTION THROUGH CROSS CUT O LEVEL 1.

HORIZONTAL AND VERTICAL SCALE 1" : 400

LIBERTY BELL GOLD MINING COMPANY.

PROGRESS SECTIONS SHOWING CONDITION OF DEVELOPMENT.

SEPTEMBER 30TH 1910.



LONGITUDINAL SECTION IN PLANE OF VEIN.

HORIZONTAL AND VERTICAL SCALE 1" : 400'

Vertical distances measured on slope of vein.

Ore stoped 2,680,000 sq. ft. yielding	887,606 Tons, dry.
Pinched and unworkable vein 2,150,000 sq. ft.	
Ore "in sight"	676,000 Tons, dry.
Width of shoot 6,000 ft.	
Probable ore in shoot above Stilwell tunnel	630,000 " "
Total ore in sight and probable	1,306,000 Tons, dry.
Estimated ore beyond shoot within property, and above Stilwell tunnel (⅓ of possible)	130,000 " "
Total in sight prob. and estim.	1,436,000 " "
Possible ore within property above Stilwell tunnel and in addition to the last total	400,000 " "
Total possible above Stilwell tunnel	1,836,000 Tons, dry.
Probable and possible ore below Stilwell tunnel	Not estimated

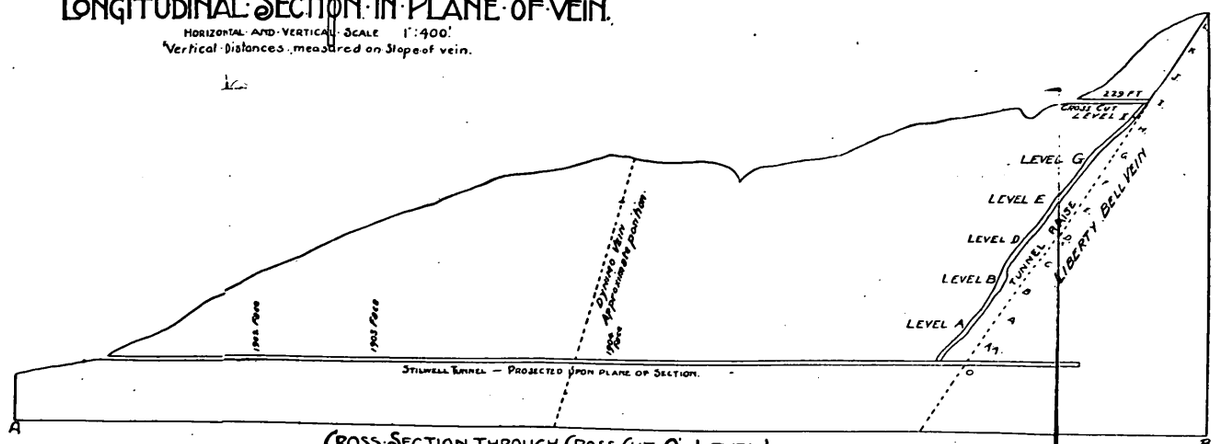
Progress of development for year ending September 30, 1910.

Ore mined 134,321 Tons, dry.
Drifting 3,951 ft. Upraising 1,423 ft.
Total deadwork 5,374 ft.

NOTE.—The above results are calculated on the following assumptions:

Average width of vein—3 ft. (Actual average of 11 years.)
One ton in solid (dry) 13 cub. ft.
Distance between Stilwell tunnel and I level 964 ft.

In calculating the average width of vein, upon which the ore in sight and other tonnage results are based, the area of pinched and unworkable vein so far developed within the limits of operations is included as if it were a part of the stoped area.



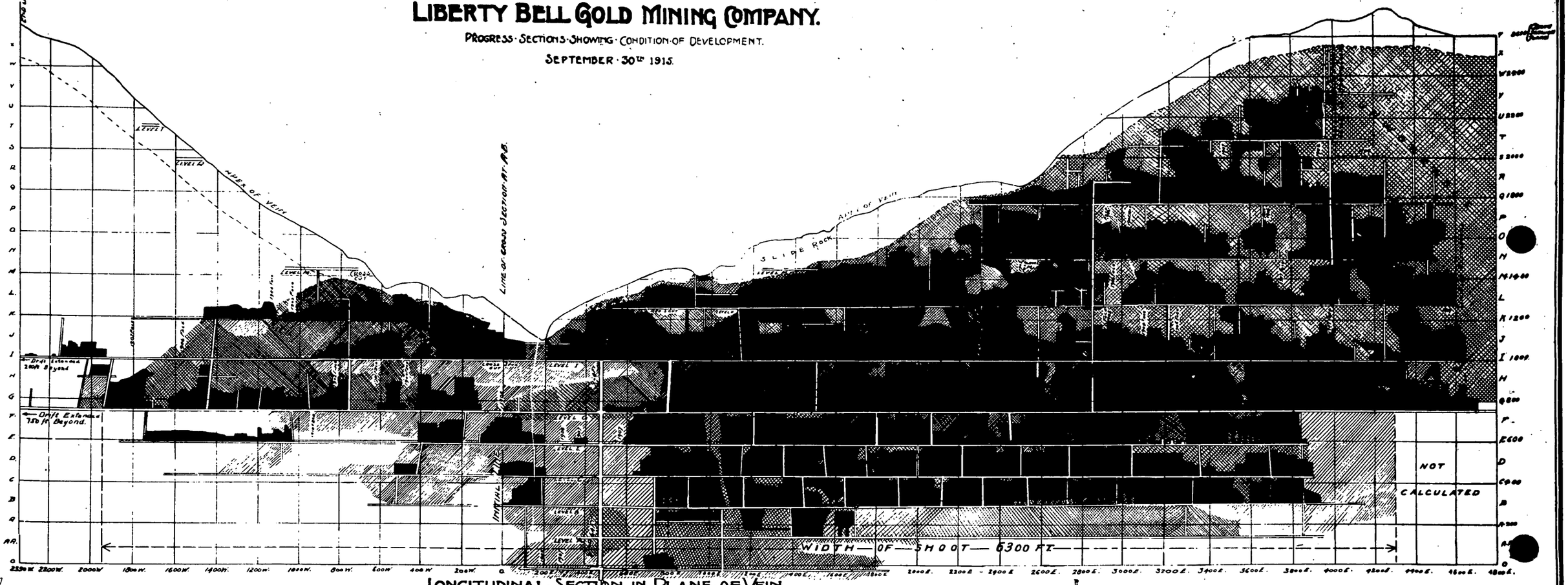
CROSS SECTION THROUGH CROSS CUT O LEVEL I.

HORIZONTAL AND VERTICAL SCALE 1" : 400'

LIBERTY BELL GOLD MINING COMPANY.

PROGRESS · SECTIONS · SHOWING · CONDITION · OF DEVELOPMENT.

SEPTEMBER · 30TH 1915.


LEVEL I
LEVEL II
LEVEL III
LEVEL IV
LEVEL V
LEVEL VI
LEVEL VII
LEVEL VIII
LEVEL IX
LEVEL X
LEVEL XI
LEVEL XII
LEVEL XIII
LEVEL XIV
LEVEL XV
LEVEL XVI
LEVEL XVII
LEVEL XVIII
LEVEL XIX
LEVEL XX
LEVEL XXI
LEVEL XXII
LEVEL XXIII
LEVEL XXIV
LEVEL XXV
LEVEL XXVI
LEVEL XXVII
LEVEL XXVIII
LEVEL XXIX
LEVEL XXX
LEVEL XXXI
LEVEL XXXII
LEVEL XXXIII
LEVEL XXXIV
LEVEL XXXV
LEVEL XXXVI
LEVEL XXXVII
LEVEL XXXVIII
LEVEL XXXIX
LEVEL XL
LEVEL XLI
LEVEL XLII
LEVEL XLIII
LEVEL XLIV
LEVEL XLV
LEVEL XLVI
LEVEL XLVII
LEVEL XLVIII
LEVEL XLIX
LEVEL L
LEVEL LI
LEVEL LII
LEVEL LIII
LEVEL LIV
LEVEL LV
LEVEL LVI
LEVEL LVII
LEVEL LVIII
LEVEL LIX
LEVEL LX
LEVEL LXI
LEVEL LXII
LEVEL LXIII
LEVEL LXIV
LEVEL LXV
LEVEL LXVI
LEVEL LXVII
LEVEL LXVIII
LEVEL LXIX
LEVEL LXX
LEVEL LXXI
LEVEL LXXII
LEVEL LXXIII
LEVEL LXXIV
LEVEL LXXV
LEVEL LXXVI
LEVEL LXXVII
LEVEL LXXVIII
LEVEL LXXIX
LEVEL LXXX
LEVEL LXXXI
LEVEL LXXXII
LEVEL LXXXIII
LEVEL LXXXIV
LEVEL LXXXV
LEVEL LXXXVI
LEVEL LXXXVII
LEVEL LXXXVIII
LEVEL LXXXIX
LEVEL XC
LEVEL XCI
LEVEL XCII
LEVEL XCIII
LEVEL XCIV
LEVEL XCV
LEVEL XCVI
LEVEL XCVII
LEVEL XCVIII
LEVEL XCIX
LEVEL C
LEVEL CI
LEVEL CII
LEVEL CIII
LEVEL CIV
LEVEL CV
LEVEL CVI
LEVEL CVII
LEVEL CVIII
LEVEL CIX
LEVEL CX
LEVEL CXI
LEVEL CXII
LEVEL CXIII
LEVEL CXIV
LEVEL CXV
LEVEL CXVI
LEVEL CXVII
LEVEL CXVIII
LEVEL CXIX
LEVEL CXX
LEVEL CXXI
LEVEL CXXII
LEVEL CXXIII
LEVEL CXXIV
LEVEL CXXV
LEVEL CXXVI
LEVEL CXXVII
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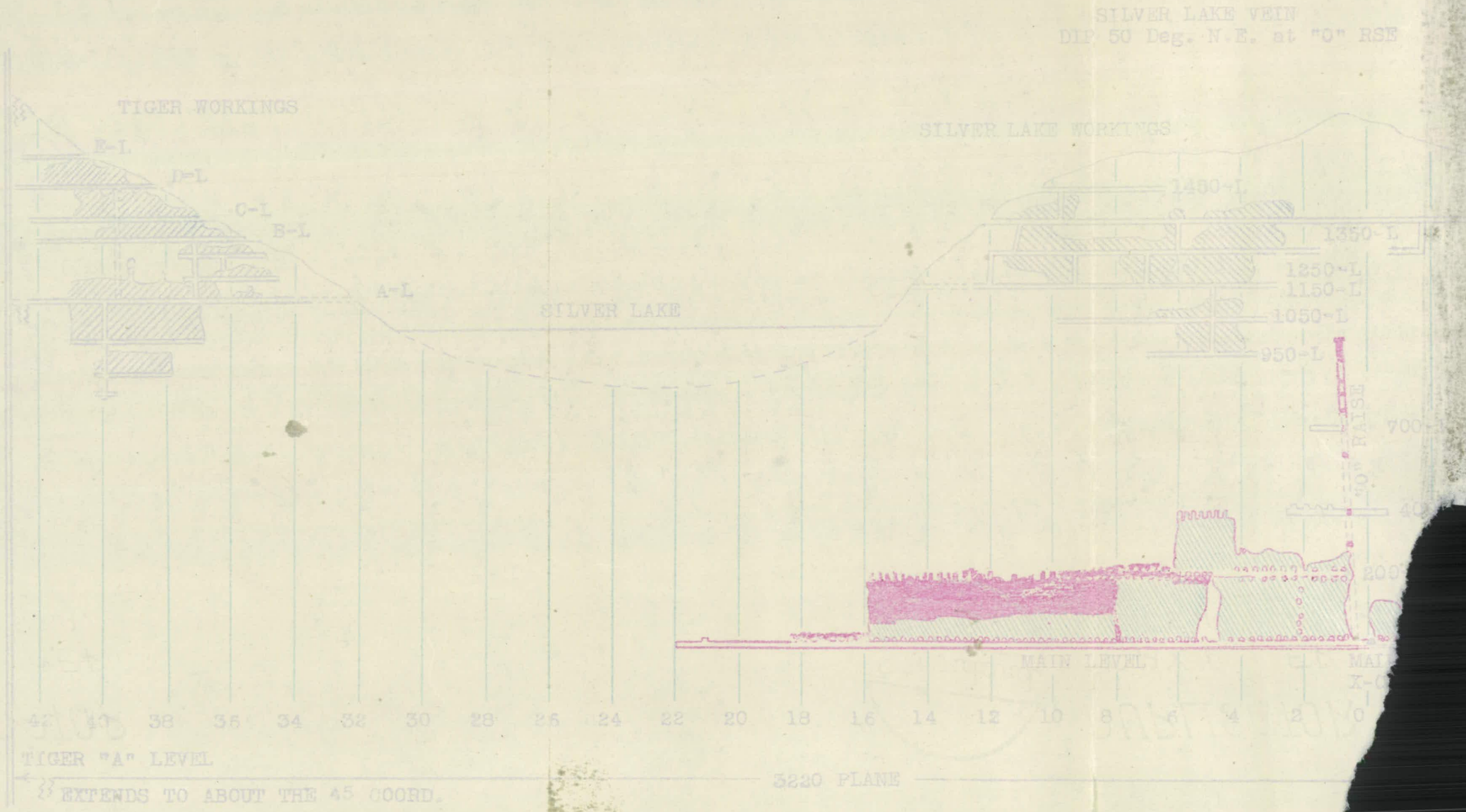
Shenandoah-Dives Mining Company,
Silverton, Colorado



MF 103
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MF 103
5.6 (Part 1)

SHENANDOAH-DIVES MINING COMPANY
SILVERTON, COLORADO

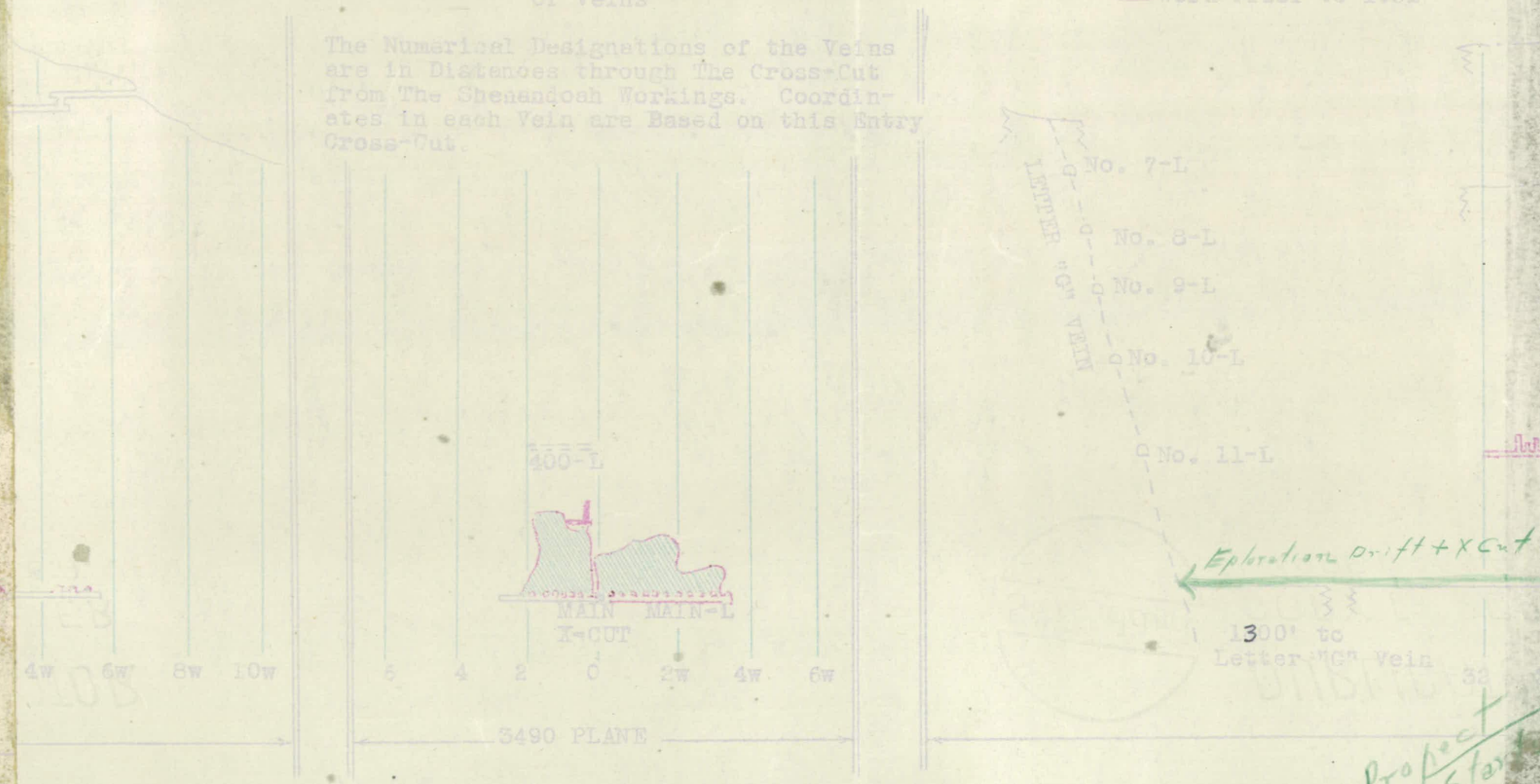
PROGRESS DIAGRAMS THREE VEINS OF SILVER LAKE UNIT

YEAR 1952 SCALE 1" = 400'

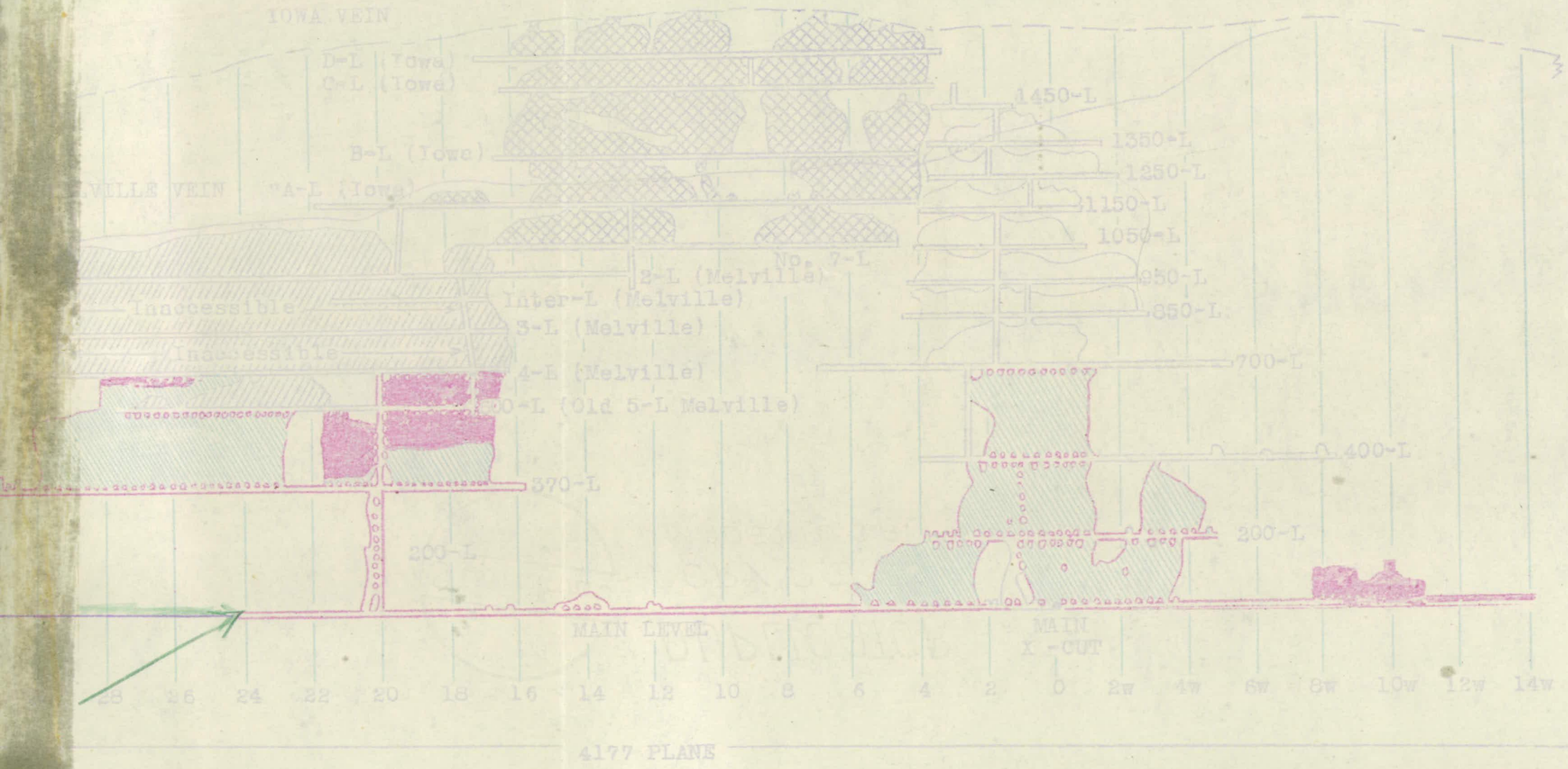
Vertical Projections

of Veins

The Numerical Designations of the Veins are in Distances through The Cross-Cut from The Shenandoah Workings. Coordinates in each Vein are Based on this Entry Cross-Cut.



Shenandoah-Dives Mining Company,
Silverton, Colorado



MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 20 1953

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

Not to be filled in by applicant

Docket No. DMEA - 2991
Metal or Mineral
Date Received 4-20-53
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Shenandoah-Dives Mining Company, Silverton, Colorado

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

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

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

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

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

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it

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

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

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

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

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

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

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

.....

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated April 15, 1953, 195...

Shenandoah-Dives Mining Company,
Silverton, Colorado
(Applicant)

By Charles A. Chase
Ex. Vice President

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

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

MF-103

UNITED STATES DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

Application for aid in an exploration project, pursuant to DMEA order 1, under the Defense Production Act of 1950, as amended

1. Name of Applicant.

(A) Shenandoah-Dives Mining Company
Silverton, San Juan County, Colorado.

(b) Incorporated, State of Colorado

(c) Home Office; Shenandoah-Dives Mining Company,
616 Finance Building,
Kansas City, Mo.

Officers J. W. Oldham, President, 616 Finance Bldg., Kansas City, Mo.
E. B. Kane, Secty & Treas. 616 Finance Bldg., Kansas City, Mo.
Charles A. Chase, Executive Vice Pres., Silverton, Colo.

3. (a,b,c,d)

Exploration project in the Silver Lake Group of Claims, owned by the American Smelting & Refining Company and under lease to Shenandoah-Dives Mining Company for thirty years. Copy of lease is attached and lists all mining claims of the Silver Lake Group; the project map shows the claims where exploration work will be performed.

4. (a) Shenandoah-Dives Mining Company has been in operation since 1928 and has mined in the Silver Lake Group since 1942 as shown on map 5-b, part 1.

(b) Exhibits 1 & 2 from our annual report,(The Mine Record and a Summary of Production) plux exhibit 4-b-3 Mine Assay Record of ore excavated, are attached.

(c) Assay plan maps of Letter "G" vein, attached No. 4-c-1
Also please refer to maps under 5-b, parts 1,2,3 & 4.

(d) Shenandoah-Dives Mill is situated on oiled highway 2-1/2 miles easterly from Silverton (population 1400) in San Juan County, Colorado. Served by the Denver & Rio Grande Western Railroad. A 2 mile aerial tramway from Mill to Mine is the means of transportation for men, supplies and ore.

(e) Manpower is available in Silverton by reason of our recent suspension of Mining and Milling operations; Power is purchased from the Western Colorado Power Company, delivered to our Mill sub-station at 16,500 volts; We have ample water for Mine & Mill operations.

M F 103

No. 5. EXPLORATION PROJECT

5 (a) To explore for Lead, Copper & Zinc

5 (b) supported by maps--Part 1, 2, 3, 4.

Proposed Letter "G" Exploration Project, from 4177 ML Drift.

Extend present 4177 ML drift (24 Coord.) to at least the 28 Coord. about 400 ft. to explore for a downward continuation of the Melville-Iowa ore shoot worked above on the 370 and 600 levels by Shenandoah-Dives Mining Company and by previous operators of the old workings above. Walls of this drift should be checked by diamond-drilling to be sure that the structure drifted on is the main and/or only one coming down to main level. (See plan map and 370-L drift assay record). Extending this drift will increase the distance to the Letter "G" vein less than 50 feet. The results of our work above main level require this exploration. We will leave 50 feet at the end of this drift for a switch; slab and turn west from drift and drive a straight crosscut bearing S 18° W. to the Letter "G" vein. This crosscutting, assuming an average dip from old workings above and from dips taken on the outcrop of the Buckeye and Last Chance claims, will approximate 850 feet. Total exploratory drifting-crosscutting to Letter "G" vein will be about 1300 feet.

Turn and drift on the vein westerly 1700 feet.

Raise from near the end of the west drift to the Unity Tunnel Level 500 feet above. The dog-hole crosscutting (220 ft., 4' x 6') and the Station crosscutting (90 ft., 8'x 8') are necessarily a part of the Raise project as shown on project map, part 4. The ore pass is not included in this project---to be driven after completion of Raise.

SUMMARY

1300 ft of Drifting & Crosscutting to Letter "G" Vein
1700 ft of Drifting on Letter "G" Vein
500 ft of Raise, including 310 ft. of crosscutting from Raise.

No. 5 (c) The work will start promptly when exploration project is approved and to be completed in 19 months.

5 (d) Shenandoah-Dives Mining Company has operated for 25 years under the supervision of Mr. Charles A. Chase, Executive Vice President; Mr. John Holmgren, Mine Supt., has been with the Company 20 years and will supervise the exploration work; Others of the present staff have been with the Company many years.

M F 103

6 - a - b

EXPLORATION CROSSCUT & DRIFT

3,000 feet, 12 Month Project

Labor:			
Miners & Helpers @ $16.00/ft.	$ 48,000.00		
Supervision	9,000.00		
Shift Bosses, Maint. & Repair, (2 shifts)	10,200.00		
Electrician	4,920.00		
Shop, Sharpening & Drills	4,860.00		
Engineer	5,100.00		
Tramway, transportation of men & supplies	13,680.00		
Office	4,200.00		
Payroll Tax	1,799.00		
Liability Insurance	4,268.00		
		$ 106,027.00	
Explosives		12,000.00	
Electric Power		24,000.00	
Drill Steel & Bits		6,600.00	
		148,627.00	$ 148,627.00

EXPLORATION RAISE LETTER G VEIN

500 feet Raise; 90 ft. station X-C
220 ft. x-c dog holes
7 month project-- after completion of
3000 ft project above

Labor:			
500 ft. Raise @ $35.00	$ 17,500.00		
220 ft. doghole x-cut @ $10.00	2,200.00		
90 ft. Station x-cut @ 14.00	1,260.00		
Control chutes at stations	1,000.00		
Supervision	5,250.00		
Shift Bosses, M&R (2 shifts)	5,950.00		
Electrician	2,870.00		
Shop, Sharpening & Drills	2,835.00		
Engineer	2,975.00		
Tramway, transportation of men & supplies	7,980.00		
Office	2,450.00		
Payroll Tax	941.00		
Liability Insurance	2,232.00		
		55,443.00	
Explosives		2,430.00	
Electric Power		14,000.00	
Drill Steel & Bits		972.00	
Timber, Plank & Ladders		1,933.00	
9/16" Cable, 1100 feet		225.00	
230 Volt Cable, 3000 ft.		6,000.00	
			81,003.00

TOTAL EXPLORATION PROJECT ..... $ 229,630.00

6 - c - d

SHENANDOAH-DIVES MINING COMPANY
Silverton, Colorado

MINE EQUIPMENT
April 1, 1953

			$	$
ELECTRIC PLANT:				
	Steel Sub-station at Mill, 3 - 250 K.V.A. Transformers, Switches, Lightning Arresters, 15 ft. above ground on hillside		30,000.00	
	Power Line to Mine, 2 miles - 17000 volt		7,800.00	
	Transformers at Mine, 3 - 200's		9,000.00	
	Transformers Underground 3 - 50's		2,500.00	
	2500 volt Underground Cable, 7,320 ft. @ $2.20		16,104.00	
	Trolley Wire, Hangers, Switches, 8,087 ft. @ $ .40		3,235.00	
	200 H.P., 125 KW, 250 volt, Synchronus Motor Generator Set complete with Switches		7,500.00	
	75 H.P., 75 KW, 250 volt, Motor Generator Set		2,500.00	
1	2080 cu.ft. C. P. Compressor and 200 H.P. Motor		18,500.00	
1	80 H.P. - 9 ton Locomotive		13,000.00	
1	62 H.P. - 8 ton Locomotive		12,000.00	
	Electric Shop, Lamps, Spare Armatures & Equipment		6,500.00	
				128,639.00
MINE:				
	Phones Lines and Signals		1,000.00	
	8,187 ft. Track - 30 gauge - 45# & 52# Rail @ $1.93		15,800.00	
	(1,160 ft. 8" Airline @ $2.94	$ 3,410.00)		
	(3,990 ft. 6" Airline @ $2.32	9,250.00)		
	(2,507 ft. 4" Airline @ $1.31	3,280.00)		
	7,657 ft. Air Line		15,940.00	
	6,980 ft. 2" Waterline @ $.45		3,140.00	
	677 ft. 1" Waterline @ $.21		142.00	
7	75 cu. ft. Cars		6,000.00	
8	105 cu. ft. Cars and Dumpers		14,000.00	
1	Eimco Mucking Machine (New)		5,000.00	
1	Eimco Muching Machine (Used)		2,000.00	
1	2 - Column Jumbo		1,000.00	
	Shop Equipment		4,000.00	
	Dry Room Equipment		1,000.00	
	Engineering Equipment and Supplies		1,500.00	
	Mine Timber Shed and Tools		4,000.00	
	2/5 Value of Mine Boardinghouse, (Heating Plant, Living Quarters, Kitchen, Engineering Office)		10,000.00	
	1,800 ft. 20 H.P. Ingersoll Rand Blower and Vent Pipe		2,600.00	
	Drills, Hose, Couplings, Oilers necessary for complete Project		6,500.00	
				93,622.00
	2 miles Aerial Tramway - Steel Tower Construction $0/ton/hr.			150,000.00
	Total All,			$ 372,261.00

OPERATING MATERIAL & SUPPLIES
On Hand at Mine

3,000 ft. Track, 52# Rail & Splice Bars	$ 3,990.00	
3,270 ft. 4" Air Line & Couplings	2,975.70	
1,450 ft. 2" Water Line & Couplings	652.50	
1,125 ft. 1" Water Line & Couplings	236.25	
Drill Steel, 1" Quarter Oct. 5½ tons	2,379.96	
Drill Steel, 1-1/8" Round 4 tons	1,941.84	
Stull Timber, 3,446 lin. ft.	623.17	
Sprag Timber, 1,018 pcs.	1,092.31	
6 x 6 Ties, 8,040 bd. ft.	506.52	
Total,		$ 14,398.25

6 - (e) Rehabilitation & Repairs: None required; our Mine Plant is in good order.

(f) No new buildings, improvements, or installations are required to get the exploration project under way.

(g) Miscellaneous: Believe everything covered in 6 - a & b.

(h) Contingencies: No allowances for contingencies have been included; Only in the case of a major break-down would we have to consider the time element of the project.

7 - (a) We are prepared to furnish our share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No.1)

(b) We propose to furnish our share of the costs by:-

Rental allowance for our Mine Plant & Equipment
Materials & supplies on hand
Money for the balance, if any.

SHENANDOAH-DIVES MINING COMPANY'S RELATIVE POSITION IN THE NON-FERROUS METAL MINING INDUSTRY OF SAN JUAN COUNTY AND OF COLORADO. THE COMPANY'S PRODUCTION BEGAN IN 1928.

			PERCENTAGES OF COUNTY	PERCENTAGES OF STATE
COLORADO. 1858 - 1927, INCLUSIVE.				
ORE, TONS,	Not reported prior to 1924			
GOLD, OZ.,	33,922,445	(1,469,850 Placer)		
SILVER, OZ.,	645,099,437			
LEAD, TONS,	2,223,461			
COPPER, " ,	138,613			
ZINC, " ,	997,455			
MONEY VALUE,	$1,608,323,176	($30,384,494 Placer)		
SAN JUAN COUNTY. 1873 - 1927, INCLUSIVE.				
ORE, TONS,	Not reported prior to 1924			
GOLD, OZ.,	1,159,840			3.52
SILVER, OZ.,	31,745,741			4.92
LEAD, TONS,	195,275			8.78
COPPER, "	26,119			20.28
ZINC, "	68,713			6.39
MONEY VALUE,	$86,226,436			5.36
COLORADO. 1928 - 1952, INCLUSIVE. 25 YEARS.				
ORE, TONS,	38,455,982			
GOLD, OZ.,	5,928,090			
SILVER, OZ.,	104,136,243			
LEAD, TONS,	396,456			
COPPER, " ,	128,690			
ZINC, " ,	628,085			
MONEY VALUE,	$513,461,241			
SAN JUAN COUNTY. 1928 - 1952, INCLUSIVE. 25 YEARS.				
ORE, TONS,	5,982,816			15.6
GOLD, OZ.,	496,847			8.4
SILVER, OZ.,	11,989,865			11.5
LEAD, TONS,	81,510			20.5
COPPER, " ,	13,213			10.3
ZINC, " ,	57,052			9.1
MONEY VALUE,	$49,839,933			9.7
SHENANDOAH-DIVES. 1928 - 1952, INCLUSIVE. 25 YEARS.				
ORE, TONS,	4,184,601		69.9	10.88
GOLD, OZ.,	389,020		78.3	6.56
SILVER, OZ.,	6,508,152		54.3	6.25
LEAD, TONS,	26,244		32.2	6.62
COPPER, " ,	10,520		79.6	8.17
ZINC, " ,	11,272	(16 Years)	19.8	1.79
MONEY VALUE,	$26,281,449		52.7	5.12

Sources: For State and County, Mr. A. J. Martin, Supervising Engineer, U. S. Bureau of Mines. All figures of "Recoverable Metals".
For Shenandoah-Dives Company, its Annual Reports of Metals Shipped.

We ask for assistance in a large project. The first step is drifting, followed by crosscutting, and that followed by drifting; thereafter comes raising.

These last two items at first glance suggest "preparation for mining." They would not weigh heavily as such for two reasons:

1. Natural ventilation not being established, production of ore of grade to be expected would be unbearably penalized, so the raise is required;

2. Prior experience has demonstrated that mining from bottom up is enough more costly than mining from top down, in retreat, to spell the difference between profit and loss. For us to do all this horizontal work without getting such access to the upper areas prior to production would penalize the work unbearably, so the raise is required.

The text enclosed "A Fragment of Colorado Mining History," plus the typed comparison presented here,

CONDENSED HISTORY OF PRODUCTION FROM

LIBERTY BELL MINE, 2 PERIODS:

	TONS	MINE COST			OTHER	TOTAL	NET	
		DEV.	OTHER	TOTAL	COST	COST	SMELTER	PROFIT
1907-10	477,917	$.49	$2.43	$2.91	$2.85	$5.73	$6.98	$1.25
1911-15	858,446	.22	1.54	1.76	2.33	4.08	6.12	2.01

plus the three photostats presented, show the astonishing benefit from what we call "orderly mining, in retreat from top." In September, 1906, the L. B. Mine set out on a determined campaign which produced the financial results of the tabulation above.

3-d

Lease

AGREEMENT WITH

AMERICAN SMELTING & REFINING COMPANY

Dated January 1, 1953

to

January 1, 1983

AGREEMENT

THIS AGREEMENT, entered into as of this 1st day of January, 1953, regardless of the actual times of signing and acknowledgment, between AMERICAN SMELTING AND REFINING COMPANY, a New Jersey Corporation, party of the first part, hereinafter referred to as Asarco, and SHENANDOAH-DIVES MINING COMPANY, a Colorado Corporation, party of the second part, hereinafter referred to as the Mining Company,

W I T N E S S E T H

THAT WHEREAS, under date of September 8, 1936, the parties hereto entered into an agreement, and under date of July 1, 1942, entered into a supplemental agreement, and at divers times since July 1, 1942, entered into further supplements and modifications thereof, for and among other things, carrying on the operations of mining, tramming, milling, marketing and accounting for ores from Asarco's Silver Lake Unit, and the additional mining properties known as the Iowa Mine referred to in said agreements; and

WHEREAS, under the above agreements as supplemented and modified, Asarco has expended a total sum of $47,580.34 toward the cost of the Silver Lake Main Raise and Crosscut, as of the date hereof, and the Mining Company has incurred a net loss of $183,900.79 as of December 1, 1952; and

WHEREAS, the parties desire to make provision for the reimbursement to Asarco of said expenditures and to the Mining Company of said net losses, by the further working of the property covered hereby; and

WHEREAS, title to the Iowa Mine has been acquired by Asarco and said Iowa Mine shall be included in the property covered hereby; and

WHEREAS, it is the intention of the parties hereto that the Mining Company shall mine and operate the property covered hereby in the same diligent manner as under prior agreements and for the purposes hereinafter specified; and

WHEREAS, it is the desire of the parties that the area above as well as below

"D" level be developed and mined, and that the former distinction as to costs and profits from above and below "D" level be eliminated;

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements herein set forth to be duly performed by the respective parties hereto, it is agreed as follows:

Article 1. Previous Agreements Cancelled. The agreement of September 8, 1936, the supplemental agreement of July 1, 1942, and all supplements and modifications thereof are hereby superseded and cancelled as of the date of this agreement.

Article 2. Grant of Lease and Description of the Property. Asarco hereby leases to the Mining Company the property covered hereby, which lies in San Juan County, Colorado, and is more particularly described in Exhibit "A" attached hereto and made a part hereof. Any part of said property may be dropped from this agreement by mutual consent of both parties hereto.

Article 3. Term of Agreement. The term of this agreement shall be thirty (30) years from and after the date hereof, unless sooner terminated in the manner hereinafter provided.

Article 4. Manner of Work. The Mining Company shall diligently and in approved and minerlike fashion develop, mine, tram and mill ore from the above described property, shall pay and discharge all bills, costs and expenses, and shall hold Asarco harmless from any claim, suit or demand by reason thereof. The Mining Company shall use reasonable care to avoid mixing low grade, non-profitable material with better grade of ore in shipments to the mill. Until weights are determined and samples are taken, in accordance with established practice of the mine, ores mined from the property covered hereby shall be kept separate from all other ores.

Article 5. Definition of Net Smelter Returns. Net Smelter Returns shall be

defined as the calculated net value at the mill of the concentrates produced from ore mined from the above described property. The factors entering into such calculation shall be tonnage milled, head assay of the ore, metal recoveries and ratios of concentration, metal prices, freight rates and smelter schedules. Metal recoveries and ratios of concentration shall be those shown by mill records. Metal prices to be so employed shall be the average prices for the month in question as quoted in sources referred to in the applicable smelter schedules. Smelter schedules and freight rates so employed shall be those currently applicable to the concentrates produced in the mill.

After the Mining Company has exhausted its own ores, the net smelter returns shall be the actual amounts received by the Mining Company from the smelter, after deduction for the cost of transportation from mill to smelter. Any payment made by the Smelter to the Mining Company for ores or concentrates not produced from the property covered hereby shall not be included as a part of Net Smelter Returns. The phrase "not produced from the property covered hereby" refers to the Mining Company's own ore and to custom ore purchased by Mining Company and milled with ore from the property of Asarco.

<u>Article 6.</u> <u>Definition of Costs.</u> The cost hereunder shall be computed for each month and shall be applicable to the tonnage marketed during that month. It shall include only the actual out-of-pocket operating expenses of the Mining Company for developing, mining, tramming and milling incurred in the State of Colorado through the properties of the Mining Company and in the properties covered hereby, being the Mining Company's total Colorado cost in its operation of said properties, made up in detail as follows:

(a) All labor and material entering the portal for use there (mine hauling is prorated with Shenandoah-Dives Mine on tonnage);

(b) Electric and air-power used, to be prorated with Shenandoah-Dives Mine on basis of drill shifts employed;

(c) Divided supervision, to be prorated with Shenandoah-Dives Mine on basis of drill shifts employed;

(d) Aerial-tramway and milling, to be prorated with Shenandoah-Dives Mine on tonnages transported and milled;

(e) Assaying, to be prorated with Shenandoah-Dives Mine on basis of determinations made and to be prorated as to the Mill on basis of tonnage milled;

(f) All "production" taxes on ore produced from the property covered hereby, and all property taxes on the above described property of Asarco, including improvements, machinery and equipment located thereon;

(g) All property taxes (excluding production taxes on its own ore) on the property of Mining Company used in, benefiting or available for the development and/or operating of both the properties of Mining Company and Asarco shall be prorated on basis of tonnage milled;

(h) Workmen's Compensation Insurance, Unemployment Compensation, Old Age Benefit Charges, and any other charges under federal and/or state laws and regulations on all labor charged directly or prorated to said properties;

(i) Colorado management expense of the Mining Company, including clerical labor, office and miscellaneous items. Such expense shall not include legal expense arising out of any dispute between the parties hereto or any legal expenses incurred in connection with any matter not related to the operation of the properties covered by this agreement. All such expenses shall be prorated with Shenandoah-Dives Mine on the basis of mine payroll charged to said properties. Management expenses to be charged as cost shall be computed after deducting the proportionate share of such expense

applicable to the milling of custom ores, which proportion shall be based upon tonnages milled;

(j) Depreciation at the heretofore rate only upon equipment actually used in connection with the ores herein described, and not previously fully charged off, prorated with Shenandoah-Dives Mine on the basis of tonnage milled;

(k) The Mining Company's hotel operation to be prorated with Shenandoah-Dives Mine on the basis of mine payroll charged to said properties;

(l) Unforeseen expense properly chargeable, upon written agreement;

(m) Equipment purchased for Silver Lake Mine (see Article 14.)

Article 7. Working Capital Reserve Fund. Out of profits realized by the operations provided for by this agreement (see Article Eight (8), sub-paragraph (3)), Mining Company may accumulate a cash reserve fund out of twenty-five percent (25%) of the net profits in any one month. The object of this fund shall be to provide funds for and which may be expended by Mining Company, for developing, equipping, and operating the property covered by this agreement, including the Letter "G" vein. Upon termination of this agreement any monies in such reserve shall be divided between the parties, two-thirds to the Mining Company and one-third to Asarco. If, during the existence of this agreement the amount in such reserve shall be in excess of that reasonably required, such excess may be divided between the parties in the same proportions.

Article 8. Division of Net Profits. From the net smelter returns as above computed for any month, plus any premium or bonus, shall be deducted the costs for that month as above defined to determine profit. Losses incurred in any month after the date hereof shall be carried forward and applied against profits of future months.

The net profit thus derived in any month shall be applied as follows:

(1) One hundred percent (100%) to the reimbursement of Mining Company's

Net Loss of $183,900.79, as of December 1, 1952, and its possible losses thereafter,

(2) After the Mining Company has been reimbursed for its net losses as provided in (1) above, then one hundred percent (100%) of the net profit in any month shall be applied to the reimbursement of Asarco's expenditure of $47,580.34, as of the date of this agreement, provided however that the Mining Company may at its election pay the amount which would otherwise be due to Asarco under this sub-paragraph for any one month in four equal monthly installments following the month in which profits payable to Asarco are earned until the said amount $47,580.34, shall have been paid in full.

(3) Thereafter, net profits in each month, subject to provisions of sub-paragraph (1) of this Article 8, shall be divided as follows:

25% to be retained by Mining Company as a working Capital reserve fund for the operations under this agreement;

50% to be retained by Mining Company on account of its investment and management;

25% to be paid Asarco on account of its investment. Said 25% to be paid on or before the 25th day of the month following that in which earned;

provided, however, that Mining Company may, at its election, recover any monthly net losses sustained by it under this agreement, either by carry-over of such losses against subsequent profits, as authorized by sub-paragraph (1) of Article 8, or by charging such net losses against the Working Capital Reserve.

All property and rights of property in and to any and all ore mined or extracted from said premises and any part thereof shall remain and be in Asarco until Asarco shall have received its full share and payment therefor, and none of said ores shall be in any way subject to any lien, claim or demand of any other person whomsoever against the Mining Company until such share and payment shall have been received by Asarco.

<u>Article 9.</u> <u>Taxes.</u> The Mining Company shall pay before they are delinquent all

general property taxes assessed against Asarco's ownership in the above described property during the term of this agreement, beginning with and prorated from this date, and all production, severance or similar or other excise taxes. The Mining Company shall also pay before they are delinquent all taxes levied against any and all personal property, machinery and equipment placed upon the above described property by the Mining Company during the term of this agreement.

Article 10. Protection from Liens and Damages. The Mining Company shall keep the above described property and the whole and every part thereof free and clear of liens for labor done or work performed upon the above described property or material furnished to it for the development and operation thereof under this agreement while the same is in force and effect, and will save and keep harmless Asarco from all costs, loss or damage which may arise by reason of injury to any persons employed by the Mining Company in or upon the above described property or any part thereof, or which may arise by reason of injury to any persons or damage to any property as the result of any work or operations of the Mining Company or of its possession and occupancy of the above described property. A lien upon the property shall not constitute a default if the Mining Company in good faith disputes the validity of the claim, in which event the existence of the lien shall constitute a default only from and after the validity of the lien has been adjudicated.

Article 11. Insurance and Liability. The Mining Company shall provide all liability, unemployment compensation and other insurance and perform all obligations in respect to workmen's compensation, old age benefit laws and other federal or state laws and regulations, pay all costs and expenses thereof as part of cost of operation, post and keep posted full and adequate notices to that effect and to the effect that the Mining Company alone is operating said premises.

Article 12. Inspection and Books of Account. Accounts of said work and of disbursements and receipts in clear and intelligible detail shall be rendered for

each month to Asarco not later than the 25th of the succeeding month, and shall be accompanied by a check for Asarco's share of the profits if any. Asarco shall at all times have full and free access to the mine for inspection purposes, together with the right to check the handling and sampling of ores and to inspect and make copies of any and all records, books and papers relating to the operations hereunder; and to these ends the Mining Company will render all reasonable assistance. The Mining Company shall furnish duplicate pulps of samples for the purpose of check-assaying by Asarco and, in case of disagreement on assays, an umpire shall be selected by the parties. If the umpire's assay lies between the assays of the respective parties, it shall be taken as final; otherwise, the assay of the party lying between the assay of the umpire and that of the other party shall be taken as final. The losing party shall pay the cost of the umpire. One or more representatives of Asarco shall have the right to be present at any or all stages of operation. If no objection is made by Asarco within sixty (60) days from and after any operation or the receiving of any account, all objection thereto shall be considered waived.

Article 13. Arbitration. Any difference or dispute concerning any matter or thing done or omitted to be done hereunder by either party hereto shall, unless otherwise provided by controlling statutes, be referred to one arbitrator who shall be chosen by the American Arbitration Association, whose rules shall be followed. The award of the arbitrator shall be in writing and it shall be final and binding upon both parties and shall not be open to objection on account of the form of the proceeding or the award unless otherwise provided by the controlling statutes. The cost of every such reference to arbitration and of the award to be made thereunder shall be payable by such party or parties as may be directed or apportioned by the arbitrator.

Article 14. Equipment. It is contemplated that the Mining Company will from time to time hereafter purchase equipment, machinery, tools and supplies and charge the cost thereof to operations. All thereof so purchased and charged shall

belong two-thirds (2/3) to the Mining Company and one-third (1/3) to Asarco. Upon cancellation, expiration or other termination of this agreement, the Mining Company will pay to Asarco a sum equal to one-third (1/3) of the reasonable value of such equipment, machinery, tools and supplies remaining on the property which the Mining Company may elect to purchase, or will pay one-third (1/3) of the sales price received therefor if any thereof is sold. Any personal property wholly owned by the Mining Company, together with any personal property theretofore purchased and charged to operations and wherein the Mining Company shall have purchased the one-third (1/3) interest of Asarco, shall be removed from said premises by the Mining Company within nine (9) months after such cancellation, expiration or other termination.

Article 15. Unavoidable Delays. Operations hereunder may be suspended because of acts of nature, strikes, fire, flood, requirement or regulation of Government, or any other cause without regard to the foregoing enumerations, beyond the control of either party, it being agreed, however, that upon the removal of the cause of suspension the work hereunder shall be resumed.

Article 16. Merger of Existing Easements. The easement or right of way for an aerial tram line granted by Asarco to the Mining Company on June 21, 1929, and any easements for disposal of tailings by the Mining Company on mining claims belonging to Asarco shall be merged and included herein and shall expire herewith, notwithstanding any limitations of time or periodical rentals heretofore specified in said easements or rights of way. Any separate rentals therefor are hereby cancelled and superseded.

Provided, however, that any and all obligations of the Mining Company to save harmless Asarco from any and all liabilities resulting directly or indirectly from the dumping and depositing on the surface of the mining claims, or any of them, particularly the Gold and Buena Vista claims, of tailings arising from the milling operations of the Mining Company heretofore or hereafter conducted on said mining

claims, or on any thereof or in proximity thereto, shall continue after any cancellation or termination of this agreement.

Article 17. Sale of Ore and Concentrates. It is agreed between the parties that the concentrates or other products produced by the Mining Company under this agreement shall at the election of Asarco be sold to its smelters upon rates equal to competitive rates offered by other reputable smelters for similar products, freight differentials considered.

Article 18. Forfeiture Clause. The failure of the Mining Company to make or cause to be made any of the payments herein provided for or to keep or perform any agreement on its part to be kept and performed according to the terms and provisions of this agreement shall, at the election of Asarco, work a forfeiture hereof; provided, however, that in the event of a default on the part of the Mining Company, and the election of Asarco to terminate this agreement on account thereof, Asarco shall give to the Mining Company a written notice of its intention to declare a forfeiture of this agreement and to terminate the same on account thereof, specifying the particular default or defaults relied upon by it, and the Mining Company shall have sixty (60) days after receipt of such notice in which to make good such default or defaults in which event there shall be no forfeiture therefor. Waiver or failure to give notice of a particular default or defaults shall not be construed as condoning any subsequent default.

Article 19. Cancellation. This agreement may be cancelled by the Mining Company at any time upon sixty (60) days' written notice to Asarco. Upon such cancellation the Mining Company shall forthwith pay Asarco any profits accruing hereunder to Asarco, including Asarco's share of any monies remaining in the working capital reserve and shall pay all bills and other outstanding obligations of the Mining Company.

Article 20. Notices. Any notices required or permitted to be given hereunder

shall be considered as delivered forty-eight (48) hours after the same shall have been deposited in the United States mail, duly registered, with postage thereon prepaid, addressed to the respective addresses given below:

If to Asarco, Attention Mining Department
120 Broadway
New York 5, New York

and

600 Pacific National Life Building
Salt Lake City 1, Utah

and if to Mining Company Silverton, Colorado

and

616 Finance Building
Kansas City 6, Missouri

Said addresses for receiving notices may be changed by either party upon two (2) days' previous written notice to the other party.

Article 21. Assignment. The Mining Company may not assign this agreement, or lease or sub-lease any part of the above described property, without the written consent of Asarco.

Article 22. Inurement. These presents shall inure to the benefit of and be binding upon the respective successors and assigns of the parties hereto.

Article 23. Construction. Titles to the respective articles hereof shall not be deemed a part of this lease but shall be regarded as having been used for convenience only.

IN WITNESS WHEREOF, the parties have executed this agreement the day and year first above written.

AMERICAN SMELTING AND REFINING COMPANY

By /s/ R. F. Goodwin
Vice President

ATTEST:

/s/ G. A. Brockington
Secretary

SHENANDOAH-DIVES MINING COMPANY

By /s/ James W. Oldham
President

ATTEST:
/s/ E. B. Kane
Secretary

STATE OF NEW YORK)
) ss.
CITY AND COUNTY OF NEW YORK)

The foregoing instrument was acknowledge before me this 23rd day of January, 1953, by R. F. GOODWIN, Vice President of American Smelting and Refining Company.

My commission expires: March 30, 1954

Witness my hand and official seal.

/s/ John E. Dempsey
Notary Public

STATE OF MISSOURI)
) ss.
COUNTY OF JACKSON)

The foregoing instrument was acknowledged before me this 14th day of January, 1953, by Jas. W. Oldham, Pres. of Shenandoah-Dives Mining Company.

My commission expires: September 26, 1956

Witness my hand and official seal.

/s/ Gladys M. Ellis
Notary Public

EXHIBIT "A"

Claim	Survey No.	Claim	Survey No.
Arabian Boy	6994	Pyramid #3	14220
Badger	11448-A	Pyramid #2	14220
Barbedoes	14036	Pyramid	2461
Bear	280	Rivington Street	9003-A
Buckeye	232	Rochester	4764
Buckeye #2	7896	Round Mountain	5110-A
Carolina	5569-A	Royal	6198-A
Dandy	7896-Am	Royal Tiger #1	769
Emma	238	Sedalia	14029
Emma	14036	Seymour	96
Eckley Cox	14066	Silver Lake	2164-A
Essex Street	9106-A	Silver Lake Spur	6994
Freiburg	14047	Smuggler	14029
Galena	11448-A	Smyrna	12122-A
General Hale	14066	Solstice	5571
General Merritt	14030	Tiger Extension #2	14036
General Miles	14066	Titusville	403
Gretchen	2163-A	Unity	9120
Happy Jack	8492	Whale	4764
Home Stake	5471	Adams Placer	15143
Jaffa	12122-A	Alexandria	14024-A
Jamaica	14035	Algiers	11469
Jocko	14163	Ann Harris Placer	11596
Jupitor	14066	Argentine Lode	11380-A
Kingston	14035	Argentine Mill Site	11380-B
Lake View	14035	Blair Mt. Lode	13322-A
Last Chance	11448-A	Blair Mt. Mill Site	13322-B
Last Chance	7896 Am	Blair Mt. Placer	16469
Lena Allen	7802	Blair Placer	841
Leucosticte	5570	Big Giant Extension Lode	14320
Lowville	5529	Big Giant Lode	1156-A
Magnala	14035	Bowery Lode	155
Manilla	14030	Cairo Lode	11469
Martha V.F.	4952	Carolina Mill Site	5569-B
Maxwell	5530-A	Coin Lode	13322-A
Monte Carlo	14035	Combination Lode	16476
Naples	14035	Contention Lode	14320
Nevada	8530-A	Contra Costa Lode	2329
Nevada Extension	8497	Cremorne Lode	827
New York City	9104	Dana Lode	13322-A
Panuco	7896 Am	Deamosthenes	14196
Pompeii	404	Dick Bland Lode	13322-A
Porto Rico	14035	Dollie Blight	12671
Professor Neisback	11469	Dolly Varden #2 Lode	2616
Professor Newberry	14046	Dreadnaught	14320
Professor Percy	14066	Ellida	16476
Professor Stelzner	7568	El Paso Lode	9842-A
Professor Wedding	11469	Whale M.S.	9106-B
Professor Zeuner	11469	Esther Allen Lode	8801

Claim	Survey No.
Extension and Combination of Dolly Varden No. 2 and Ethan Allen	2617
First Chance Lode	13322-A
Free Coinage Lode	9903
Frithoft	16476
General Garfield Lode	828
General Grant Lode	13322-A
General Hallack Lode	14047
General Logan Lode	13322-A
General Sherman Lode	13322-A
Genoa Lode	14024
George Hesse Lode	9852
Golden Fleece Lode	11714
Grey Eagle 1/4 of	16860 1/4 of
Growler	16476
Helena Roux Lode	9852
Illinois Lode	14019
Independence	16476
Iron Mask Lode	11148
Jeanette Roux Placer	11596
J. E. Ward Mill Site	9858
Jerusalem	14012
Jess Lode 1/2 of	9426 1/2 of
Jura Lode	2388
King Solomon Lode	409
Last Chance Lode	9284
La Veta Lode	14047
Leyner Lode	14324
Lightening Attracting	16476
Little Gertie Lode	15122
Lowville Mill Site	5529-B
Manhattan Lode	13322-A
Marcia L. Lode	8801-A
Marcia L. Mill Site	8801-B
Maxwell Mill Site	5530-B
M. D. Thatcher Placer	17699
Mountain Queen Lode	2389
North Star Ext. Lode	7772
Panic Lode	13322-A
Perhaps Lode	16476
Potomac Lode	457
Professor Chandler Lode	14047
Professor Richter Lode	14028
Professor Winkler Lode	9842-A
Professor Winkler Mill Site	9842-B
Republic Lode	1158
Riverside Lode	8801
Rochester	4764

Claim	Survey No.
Rochester Mill Site	8592
Sal Custer Lode	1849
Scranton City #2 Lode	16476
Scranton City Lode	15426
Silver Star Lode	681
Smyrna Mill Site	12122-B
Snow Shed Lode	14027
Southside Lode	14012
Spring Lode	14012
Tarpon Lode	15122
Trail Lode	13322-A
Twentieth Century	16476
Vienna Placer	14057
Von Cotta Lode	14052
Iowa	480
J. W. Collins	6561
Black Diamond	4811
Cub) Last Chance)	12193
Club	12978
Grip	6647
Elk	12977
Lakeside	12818
Melville	12353
1/2 Diamond L.	561-A
Royal Tiger	48
Stag	6646
White Diamond	13011
Dump	9843-A Am
Lake Shore	13064
Key	13065
Hillside) Exploit)	12946
Galicya Boy	13139
Dump Mill Site	9843-B
Iowa Mill Site	9837
Tiger Mill Site	13749
2/3 American Boy	7244
Aspen	199
Chloride	411
Legal Tender	753
Mammoth	499
McGregor	423
Susquehanna	447
Ruby Placer #1	654
Ruby Placer #2	655
Mill Site #1	424
Mill Site #2	425
La Boca	19479

Claim	Survey No.
Hermosa Lode	19974
San Juan)	
Piedmont)	
River)	15112
New York)	
Washington)	

Together with any and all water and other rights appurtenant thereto.

Exhibit 1

THE MINE RECORD, PRESENTED IN THREE PERIODS: 1. Prior to Production, 1926-27;

YEAR	DRIFTING Total Lin. ft.	DRIFTING Productive Lin. ft.	DRIFTING Productive Sq. ft.	DRIFTING Productive Tons	CROSSCUTTING Total Lin. ft.	CROSSCUTTING Productive Lin. ft.	CROSSCUTTING Productive Sq. ft.	CROSSCUTTING Productive Tons	RAISING Total Lin. ft.	RAISING Productive Lin. ft.	RAISING Productive Sq. ft.	RAISING Productive Tons
1926-27	3,584				505				555			
1928-29	2,860	2,314	15,459	8,928	224		210	928	1,363	863	13,349	7,414
1930	3,123	2,456	21,042	13,291	140	98	959	548	700	529	10,341	6,053
1931	4,615	4,348	34,560	23,206	899	143	346	502	1,881	1,599	26,204	15,681
1932	1,999	1,791	14,279	9,281	404	55	170	212	1,092	1,092	19,256	12,102
1933	2,532	1,687	13,333	7,443	208	66	197	214	2,004	1,182	19,249	9,799
1934	2,076	1,267	13,707	7,139	519	24	434	293	2,299	1,440	22,085	12,611
1935	3,412	3,070	37,462	20,139	27	27	217	114	994	951	17,918	9,112
1936	3,627	3,203	24,952	17,402	776	213	1,471	750	1,132	754	12,165	6,681
1937	2,422	2,329	23,285	13,675	131	49	122	156	749	521	8,507	4,531
1938	2,071	1,819	18,203	10,542	83	40	46	143	571	468	9,056	5,533
1939	1,500	1,203	11,193	6,299	153	28	201	94	666	257	9,504	5,037
1940	3,142	2,854	28,841	13,825					937	416	5,960	3,173
1941	2,872	2,695	31,360	13,282	20	20	28	44	803	803	13,448	6,650
1942	1,588	1,485	16,121	7,868	232	144	549	1,021	470	470	8,762	3,842
1943	2,497	2,438	26,179	12,291	202	159	1,047	1,129	191	191	2,954	1,403
1944	3,339	3,339	32,543	17,530								
1945	1,935	1,617	16,382	9,083					71	71	1,152	697
1946	2,681	1,725	14,419	8,419	19	19	64	100	229	152	2,644	1,414
1947	2,915	1,462	14,062	8,017	47	17	291	168	645	105	2,305	1,205
1948	1,732	1,732	17,696	10,227	1,037	1,037	9,061	5,486	859	516	9,248	4,649
1949	3,248	2,803	26,367	15,506	158	158	1,343	830	642	364	6,660	3,358
1950	1,383	1,383	12,335	8,321					24	24	423	241
1951	1,351	1,321	11,636	8,365	81	35	280	230	231	231	3,690	2,589
1952	1,597	1,335	11,261	7,753	255	255	1,808	2,118	215	215	3,487	2,154
1930-52	57,657	49,362	471,218	268,904	5,391	2,587	18,634	14,152	17,405	12,351	215,018	118,515
TOTALS	64,101	51,676	486,677	277,832	6,120	2,587	18,844	15,080	19,323	13,214	228,367	125,929

TOTAL DEVELOPMENT & EXPLORATION

Major Openings:	Feet
Drifting,	64,100
Crosscutting,	6,120
Raising,	19,323
Sinking,	941
Totals,	90,484
Drill-Hole Explor.	22,850
All Development and Exploration,	113,334

CONTRIBUTIONS OF ORE

	1928-9	1930-52	1952
Development,	27.7 %	10.7 %	10.5 %
Stoping,	72.3 %	89.3 %	89.5 %
WIDTHS OF ORE:			
Development,	6.9 ft.	7.3 ft.	9.3 ft.
Stoping,	9.1 "	8.5 ft.	6.7 "
Totals,	8.5 "	8.3 "	6.9 "

2. Iowa Mill Operation, 1928-29; 3. Current Operation, 1930-52;

SINKING				STOPING		TOTAL ORE	TOTAL WASTE Excavated	WORK ROOMS	DRILL HOLE EXPLORATION
Total Lin. ft.	Productive Lin. ft.	Sq. ft.	Tons	Sq. ft.	Tons	Tons	Tons	Cu.ft.	Lin. ft.
									309
				59,349	45,071	62,341	15,571	46,418	329
				111,415	98,484	118,376	5,459	15,300	426
				156,402	141,357	180,746	11,269	11,460	406
				167,868	161,720	183,315	5,935	4,564	
				235,545	167,044	184,500	18,259	15,795	1,610
36	36	372	204	251,808	121,539	201,786	19,886		2,745
194	194	4,629	2,785	127,295	79,163	111,313	3,261	47,788	844
119	89	1,734	2,130	275,540	174,548	201,511	11,429	19,173	1,170
331	96	1,369	745	239,360	171,393	190,500	8,524	21,151	867
87	87	1,336	862	239,623	191,248	208,328	6,809	3,958	2,014
162	85	1,468	982	187,536	129,120	141,532	9,557	41,550	1,126
12				284,126	179,002	196,000	6,961	9,714	1,813
				343,220	208,789	228,765	1,210		1,507
				225,435	123,833	136,564	698	1,993	113
				290,300	167,888	182,711	687	8,658	286
				212,704	135,259	152,789	272		678
				228,827	136,583	146,363	1,889		882
				230,168	140,802	150,735	9,027	13,877	741
				214,217	134,016	143,406	14,210		1,212
				180,916	114,066	134,428	2,055		663
				228,518	138,077	157,771	3,819		1,673
				320,073	197,441	206,003			342
				224,661	144,204	155,388	472		705
				194,915	102,495	114,520	1,540		389
941	587	10,908	7,708	5,170,472	3,418,071	3,827,350	143,228	214,981	22,212
941	587	10,908	7,708	5,229,821	3,463,142	3,889,691	158,799	261,399	22,850

RECONCILEMENT, MINE AND MILL TONNAGES:

			Tons
Ore from Mine, not excavated by Company	Dumps,	117,238 Tons	226,993
	Fills,	80,158 "	
	Other,	29,597 "	

Mined, as shown above,	3,889,691	
Mined, above 1900 level, omitted from the above record,	5,193	3,894,884
Total,		4,121,877
Milled, as shown,		4,184,601
Balance called for at Mine,		-62,724
Excavated reserve reported at Mine,		99,491
Not accounted for, partly dilution,		162,215

Letter to J. W. O. — A SUMMARY OF PRODUCTION — Exhibit #2 Page 3

YEAR	TONS ORE	GROSS VALUE Total	GROSS VALUE Per Ton	CONCENTRATE MADE Total	CONCENTRATE MADE Per Ton	PREMIUMS Total (Included in Net Return)	PREMIUMS Per Ton
1928-29 (Iowa Mill)	47,810	$ 654,327.86	$ 13.69	$ 570,599.90	$ 11.93		
1930-39	1,824,678	10,775,614.16	5.91	9,104,343.63	4.99		
1940	212,891	1,528,736.16	7.18	1,242,414.30	5.83		
1941	231,519	1,465,394.43	6.33	1,208,965.80	5.22		
1942	168,772	1,270,491.57	7.53	983,280.91	5.83	53,180.50	.32
1943	156,763	1,232,750.65	7.86	968,068.48	6.17	79,619.39	.51
1944	142,635	1,598,838.08	11.21	1,216,136.34	8.53	56,606.93	.40
1945	152,084	1,372,708.76	9.03	1,032,479.96	6.79	55,477.00	.36
1946	175,121	1,232,831.40	7.04	952,088.02	5.44	176,441.27	1.01
1947	172,125	1,544,970.95	8.97	1,169,256.74	6.79	69,193.20	.40
1948	165,283	1,604,822.08	9.71	1,262,914.97	7.64		
1949	186,072	1,591,308.39	8.55	1,326,975.39	7.13		
1950	202,947	1,864,765.23	9.18	1,558,890.98	7.68		
1951	196,097	2,286,446.57	11.66	2,029,599.84	10.35		
1952	149,804	1,841,771.91	12.29	1,655,434.09	11.05		
TOTALS	4,184,601	$ 31,865,778.20	$ 7.62	$ 26,281,449.35	$ 6.28	$ 490,518.29	

METALS IN CONCENTRATES

YEAR	GOLD Ounces	GOLD Price	GOLD Value	SILVER Ounces	SILVER Price	SILVER Value	LEAD Pounds	LEAD Price	LEAD Value
1928-29 (Iowa Mill)	11,585.770	$ 20.58	$ 238,456.18	191,274.43	$ .544	$ 104,108.98	952,624	$ .065	$ 62,332.23
1930-39	199,056.106	28.49	5,670,306.97	3,084,109.91	.517	1,595,453.40	13,436,627	.045	608,021.15
1940	14,544.448	35.00	509,055.63	248,160.53	.711	176,466.92	4,431,878	.052	230,188.89
1941	14,973.950	"	524,088.22	315,746.67	.711	224,527.44	3,333,159	.058	193,460.03
1942	14,850.009	"	519,750.26	256,596.15	.711	182,465.51	2,191,933	.065	142,475.65
1943	17,526.008	"	613,410.25	164,250.88	.711	116,798.77	1,848,251	.065	120,136.40
1944	24,469.580	"	856,435.21	127,980.27	.711	91,006.74	2,195,567	.065	142,711.81
1945	17,238.189	"	603,336.59	142,967.86	.711	101,664.39	2,258,893	.065	146,828.02
1946	11,940.788	"	417,927.56	131,095.12	.886	116,204.44	2,234,240	.094	210,125.36
1947	15,534.645	"	543,711.90	167,233.18	.900	150,509.85	1,880,507	.147	277,247.64
1948	11,241.154	"	393,440.31	302,685.57	.900	272,416.98	2,198,225	.183	402,796.01
1949	8,820.227	"	308,707.95	417,087.78	.900	375,378.98	2,866,742	.150	430,114.02
1950	10,424.341	"	364,851.95	408,819.86	.900	367,937.84	3,284,666	.134	441,756.82
1951	8,232.101	"	288,123.53	325,522.37	.901	293,343.47	4,920,379	.175	861,088.17
1952	6,390.212	"	223,657.37	224,621.68	.900	202,159.49	4,453,476	.163	724,346.76
TOTALS	389,019.768		$12,075,259.88	6,508,152.26		$4,370,443.20	52,487,167		$4,993,628.96

NET RETURNS Total	FROM SMELTER Per Ton	Per Cent
$ 386,330.32	$ 8.08	59.0
6,767,509.20	3.71	62.8
824,138.70	3.87	53.9
854,145.96	3.69	58.3
806,133.19	4.78	63.4
843,511.38	5.38	68.4
1,031,359.26	7.23	64.5
826,524.18	5.43	60.2
867,015.24	4.95	70.3
979,498.57	5.69	63.4
1,044,812.82	6.32	65.1
1,011,397.92	5.44	63.5
1,142,898.11	5.63	61.3
1,448,120.82	7.38	63.3
1,108,441.17	7.40	60.2
$ 19,941,836.84	$ 4.77	62.6

COPPER Pounds	Price	Value	ZINC Pounds	Price	Value	TOTAL VALUE
991,376	$ .167	$ 165,702.51				$ 570,599.90
12,410,167	.089	1,110,065.00	2,312,833 (3 yrs.)	$	120,497.11 (3 yrs.)	9,104,343.63
795,861	.115	91,683.78	3,751,008	.063	235,019.08	1,242,414.30
911,041	.120	109,538.47	2,104,234	.075	157,351.64	1,208,965.80
569,821	.120	68,378.52	851,042	.0825	70,210.97	983,280.91
429,837	.120	51,580.44	801,729	.0825	66,142.62	968,068.48
326,270	.120	39,152.40	1,052,487	.0825	86,830.18	1,216,136.34
404,047	.120	48,485.64	1,602,004	.0825	132,165.32	1,032,479.96
406,885	.150	60,984.48	1,666,754	.0881	146,846.18	952,088.02
274,864	.213	58,410.23	1,327,400	.1050	139,377.12	1,169,256.74
336,966	.225	75,694.58	829,017	.1430	118,567.09	1,262,914.97
415,345	.187	77,832.34	1,152,109	.1171	134,942.10	1,326,975.39
658,476	.219	144,592.21	1,731,943	.1384	239,752.16	1,558,890.98
1,046,216	.245	256,322.57	1,838,877	.1799	330,722.10	2,029,599.84
1,062,855	.245	260,399.44	1,523,520	.1608	244,871.03	1,655,434.09
21,040.027		$ 2,618,822.61	22,544,957		$2,223,294.70	$ 26,281,449.35

SHENANDOAH-DIVES MINING COMPANY

GRADE & TONNAGE OF ORE EXCAVATED, 1942 thru 1952
FROM SHENANDOAH-DIVES, 3220, 3490 & 4177 VEINS

MINE ASSAY RECORD OF ORE EXCAVATED

(NOTE: $ Value is 60% of the gross market price)

Shenandoah-Dives

Year	Tons	Au	Ag	Pb	Cu	Zn	$/Ton	$ Value Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	86,441	.127	1.75	1.15	.16	--	4.63	400,107	11,109.711	153,275.79	1,008.7735	138.0445	--
1943	110,528	.170	2.17	2.64	.18	--	6.82	753,691	18,850.654	240,104.68	2,915.6922	195.6629	--
1944	116,887	.134	1.30	1.60	.09	--	4.85	566,666	15,715.371	151,628.52	1,870.5335	108.9620	--
1945	109,439	.100	1.10	1.81	.09	--	4.11	449,806	10,971.210	120,291.26	1,976.7005	95.1850	--
1946	126,365	.109	1.06	1.12	.06	.97	3.71	462,571	13,810.375	133,420.03	1,417.9135	79.0345	1,228.7776
1947	145,850	.111	1.86	1.26	.07	.57	5.40	787,990	16,221.023	271,306.12	1,843.4997	99.1970	828.0015
1948	152,750	.063	2.45	1.38	.10	.59	5.02	766,913	9,557.391	374,111.16	2,113.0955	159.9208	901.3675
1949	147,229	.048	2.39	1.14	.12	.56	4.38	644,869	6,998.657	353,147.40	1,671.8059	179.1227	828.4659
1950	96,621	.050	2.85	1.40	.12	.42	4.66	450,724	4,881.550	275,052.53	1,357.0929	118.0890	406.6288
1951	19,099	.041	2.02	2.72	.11	.66	6.48	123,744	791.219	38,627.52	519.1183	21.7528	125.4986
(Drifting) 1952	1,732	.039	.56	1.01	.06	1.13	2.85	4,939	67.805	961.44	17.4896	1.1149	19.6022
	1,112,941	.098	1.90	1.50	.11	.63	4.86	5,412,020	108,974.966	2,111,926.45	16,711.7151	1,196.0861	4,338.3421

1946 - 1952 689.646 Tn This Tonnage Assay For Zn.

3220 Vein - Silver Lake

Year	Tons	Au	Ag	Pb	Cu	Zn	$/Ton	Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	15,387	.087	1.93	.76	.52	--	4.07	62,611	1,344.588	29,769.21	112.2090	79.6910	--
1943	22,645	.092	2.24	1.51	.67	--	5.03	113,993	2,088.700	50,802.50	340.9852	151.3959	--
1944													
1945													
1946													
1947	4,892	.058	1.06	.47	.41	.99	3.46	16,910	285.167	5,207.64	22.9090	19.9129	48.5472
1948	12,988	.104	2.72	1.63	.45	1.19	7.19	93,363	1,356.460	35,367.80	212.2870	59.1236	154.4236
1949	30,369	.048	1.96	1.48	.39	.98	5.14	156,183	1,457.044	59,569.07	450.3346	119.3374	298.1481
1950	59,088	.064	1.66	1.68	.43	1.18	5.27	311,285	3,757.757	98,198.79	994.0463	251.8937	699.6772
1951	70,871	.055	1.33	1.91	.36	.77	5.74	406.913	3,928.788	94,410.53	1,350.7880	256.8213	544.7406
1952	58,447	.055	1.14	1.82	.30	.86	5.31	310.458	3,206.880	66,404.79	1,066.4660	172.5952	504.9253
	274,687	.063	1.60	1.65	.40	.82	5.36	1,471,716	17,425.384	439,730.33	4,555.0251	1,110.7710	2,250.4620

1947 - 1952 236,655 Tn This Tonnage Assayed for Zn

3490 Vein

Year	Tons	Au	Ag	Pb	Cu	Zn	$/Ton	Total	Au Oz.	Ag Oz.	Pb Tons	Cu Tons	Zn Tons
1942	26,473	.092	1.71	.90	.38	--	3.99	105,534	2,441.550	45,373.84	238.4640	102.0395	--
1943	16,942	.097	1.86	.60	.40	--	3.88	65,693	1,637.006	31,504.61	101.8450	67.9189	--
(Raising) 1952	867	.014	.13	.04	.02	.11	0.50	432	11.809	116.62	.3229	.2113	.9549
	44,282	.092	1.74	.77	.38	.11	3.88	171,659	4,090.364	76,995.07	340.6319	170.2197	0.9549

1952 867 Tn Assayed For Zn

MINE ASSAY RECORD OF ORE EXCAVATED

4177 Vein

Year	Tons	Au	Ag	Pb	Cu	Zn	$ Value $/Ton	$ Value Total	Au Oz.	Ag Oz.	Pb Tons.	Cu Tons	Zn Tons
1942	8,263	.091	1.94	.40	.41	--	3.71	30,671	753.466	16,028.17	33.2800	33.8295	--
1943	33,936	.055	1.87	.57	.45	--	3.05	103,496	1,871.334	63,549.64	193.1546	152.0167	--
1944	35,902	.103	3.16	1.16	.83	--	5.74	205,968	3,705.772	113,356.04	417.4910	298.0995	--
1945	36,924	.084	2.40	1.66	.88	--	5.34	197,218	3,087.600	88,736.53	613.4200	326.6645	--
1946	30,111	.081	2.71	1.37	.81	.61	5.08	151,510	2,436.631	81,735.04	413.2900	242.8465	183.2083
1947	17,015	.079	2.35	.51	.71	.29	5.36	91,194	1,345.719	40,036.45	87.4882	120.2534	49.6411
1948	2,150	.058	2.04	1.03	.27	.64	4.48	9,639	125.116	4,391.12	22.0662	5.8500	13.6666
1949	7,663	.044	1.48	1.90	.50	.87	5.46	41,829	338.416	11,307.69	145.9520	38.0794	66.9309
1950	61,519	.055	1.92	2.40	.56	.68	6.36	391,423	3,409.968	118,394.72	1,478.4895	342.2075	418.0311
1951	65,418	.048	1.76	1.90	.48	.56	6.08	397,806	3,149.995	114,941.29	1,245.7959	312.6235	367.9586
1952	53,474	.047	1.58	0.90	.41	.45	4.23	226,224	2,538.436	84,447.52	483.3284	216.9239	240.0968
	352,375	.065	2.09	1.46	.59	.56	5.24	1,846,978	22,762.453	736,924.21	5,133.7558	2,089.3944	1,339.5334

*1946 - 1952 237,350 Ton. Tonnage Assayed for Zinc

TOTAL ALL MINED

Year													
1942	136,564	.114	1.79	1.02	.26	--	4.35	598,923	15,649.315	244,447.01	1,397.7265	353.6545	--
1943	184,051	.133	2.10	1.93	.31	--	5.63	1,036,873	24,447.694	385,961.43	3,551.6770	566.9944	--
1944	152,789	.127	1.73	1.50	.21	--	5.06	772,634	19,421.143	264,984.56	2,288.0245	407.0615	--
1945	146,363	.096	1.43	1.77	.29	--	4.42	647,024	14,058.810	209,027.79	2,590.1205	421.8495	--
1946	156,476	.104	1.38	1.17	.21	.90	3.97	614,081	16,247.006	215,155.07	1,831.2035	321.8810	1,411.9859
1947	167,757	.106	1.89	1.16	.14	.55	5.34	896,094	17,851.909	316,550.21	1,953.8969	239.3633	926.1898
1948	167,888	.066	2.46	1.40	.13	.64	5.18	869,915	11,038.967	413,870.08	2,347.4487	224.8944	1,069.4577
1949	185,261	.048	2.29	1.22	.18	.64	4.55	842,881	8,794.117	424,024.16	2,268.0925	336.5395	1,193.5449
1950	217,228	.056	2.26	1.76	.33	.76	5.31	1,153,432	12,049.275	491,646.04	3,829.6287	712.1902	1,524.3371
1951	155,388	.051	1.60	2.00	.38	.67	5.98	928,463	7,920.002	247,979.34	3,115.7022	591.6726	1,038.1978
1952	114,520	.051	1.33	1.37	.34	.67	4.73	542,053	5,824.930	151,930.37	1,567.6069	390.8453	765.5792
	1,784,285	.086	1.89	1.50	.26	.68	4.99	8,902.373	153,303.168	3,365,576.06	26,741.1279	4,566.9462	7,929.2924

*1946 - 1952 1,164,515 Ton Assayed for Zinc

Metal Prices

Year	Au	Ag	Pb	Cu
1942 - 1946	$ 35	.7111	.065	.12
1947 - 1948	35	.90	.1255	.195
1949	35	.90	.131	.173
1950	35	.90	.105	.17
1951 - 1952	35	.90	.13	.20

		Tons	Au	Ag	Pb	Cu	Zn	$/ton	$	Au Oz.	Ag Oz.	Pb Ton	Cu Ton	Zn Ton
Melville Fills	1952	4,941	0.053	1.33	2.00	0.31	0.68	5.70	28,149	264.330	6,593.63	98.6070	15.2735	33.3890

4 - C

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

LETTER "G" VEIN
Chip samples from back of drift on
the Silver Lake Main level (Adit level)

NOTE—Copy to Be Forwarded Daily to the Home Office

DATE 23 August 1951

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
5772	S. L. Main Level 270W Unity Shaft 7' 0 to 4.3' from HW (Robison) Altered rock & gouge	4.3'	—	0.8	0.7	0.1	0.3	$ 2.54	$ 1.52
5775	S. L. Main Level 100W Unity Shaft 7' 0 to 5.0' from HW (Anderson) altered rock & gouge	5.0'	—	0.2	0.7	—	0.5	$ 2.00	$ 1.20
5776	S. L. Main Level 55W Unity Shaft 7' 0 to 5.5' from HW (Robison) Altered rock, qtz, gouge & few sulfides	5.5'	0.03	2.4	1.0	1.0	1.0	$ 9.81	$ 5.89
5777	S. L. Main Level 10W Unity Shaft 7' 0 to 11.0' from HW (Holmgren) Altered rock, qtz, gouge & few sulfides	11.0'	0.03	1.6	3.4	0.7	6.7	$14.17	$ 8.50
5778	S. L. Main Level 300E Unity Shaft 7' 0 to 6.0' from HW (Anderson) Altered rock with gouge & sulfides	6.0'	0.02	3.0	2.1	0.8	2.1	$12.06	$ 7.24
5779	S. L. Main Level 10E New York X-Cut 7' 0 to 5.0' from HW (Holmgren) Altered rock, qtz, gouge & few sulfides	5.0'	0.02	1.4	2.4	0.8	1.2	$11.44	$ 6.86
5780	S. L. Main Level 75E New York X-Cut 7' 0 to 6.5' from HW (Robison) Altered rock, qtz, gouge & sulfides	6.5'	0.03	1.2	3.8	—	0.4	$12.01	$ 7.21
5781	S. L. Main Level 185E New York X-Cut 10' 0 to 4.3' from HW (Holmgren) Altered rock, qtz, gouge & sulfides	4.3'	0.03	1.8	4.6	011	0.5	$14.63	$ 8.78
5782	S. L. Main L. HW X-Cut by Access Rae 7' 0 to 8.5' from HW (Holmgren & Anderson) Altered rock & CR	8.5'	—	0.1	0.3	—	0.3	$ 0.87	$ 0.52

Nothing Follows

SAMPLER

ASSAYER S — J. W. Cole

4 - C

SHENANDOAH-DIVES MINING COMPANY

MINE DAILY ASSAY REPORT

NOTE—Copy to Be Forwarded Daily to the Home Office

Buckeye Dump

DATE 15 August 1950

SAMPLE NO.	SOURCE OR DESCRIPTION OF SAMPLE	Thickness or Tonnage Represented	GOLD OZ.	SILVER OZ.	LEAD %	COPPER %	ZINC %	GROSS VALUE PER TON	NET SMELTER VALUE PER TON
847	Buckeye Dump sample #1 ~~0 to 25.0' from NE side (Holmgren, Turner & Robison)~~ Top of Dump	25.0'	0.12	12.5	10.5	2.0	3.4	$42.85	$25.71
848	Buckeye Dump sample #2 ~~25.0 to 55.0' from NE side~~ Top of Dump	30.0'	0.58	1.2	1.0	0.5	1.0	$24.98	$14.99
849	Buckeye Dump sample #3 ~~55.0 to 90.0' from NE side~~ Top of Dump	35.0'	——	0.1	2.8	——	0.9	$ 5.69	$ 3.41
850	Buckeye Dump sample #4 (height- ~~37.0' height~~ Face of small North Dump	37.0'	0.02	3.0	2.1	0.5	1.0	$ 9.20	$ 5.52
851	Buckeye Dump sample #5 (height- ~~65.0' height~~ Face from toe of larger dump (Center)	65.0'	——	0.1	0.3	——	0.9	$ 0.69	$ 0.41
852	Buckeye Dump sample #6 (height- ~~27.0' height~~ Face from toe of small South Dump	27.0'	——	0.1	0.2	——	0.4	$ 0.49	$ 0.29
853	Dandy Drift (face 32' in) 4' ~~0 to 3.5' from HW~~ CR & qtz	3.5'	——	0.2	0.2	——	0.3	$0. 58	$ 0.35
854	Vein (Disc. Cut) Stephen's Report on ~~SE of the Lake~~ 0 to 8.5' from HW CR with qtz & few sulfides	8.5'	——	0.2	0.3	~~0.1~~	0.1	$ 1.53	$ 0.92

——Nothing Follows——

SAMPLER

ASSAYER S —— J. W. Cole

DRIFT SAMPLE ASSAYS

-MELVILLE VEIN-

SHENANDOAH-DIVIS MINING CO.

4177 - 370 level Coordinates 2300 - 3207

4177 - main level Coordinates 2202 - 2425

Net smelter $ values are 60% of following quotations:

Au-	$35.00 per oz.	Pb-	$0.13 per lb.
Ag-	0.90 " "	Cu-	0.20 " "

(zinc not included in $ value)

4177 - 370 level 23 block (Block Average - 7.8', $6.89)

width	$ value	Au	Ag	Pb	Cu	Zn
8.0'	$ 0.13	---	0.2	0.1	---	0.3
8.0	3.74	0.09	0.7	0.2	0.5	0.3
8.0	2.46	---	0.6	0.6	0.5	0.1
8.0	9.02	0.18	1.8	1.2	1.0	0.4
8.0	1.88	---	0.4	0.6	0.3	0.1
8.0	0.84	---	0.4	0.4	---	0.1
6.5	33.99	0.13	5.9	12.3	3.7	0.1
8.0	9.99	0.16	2.8	1.9	0.9	0.1
8.0	3.84	0.02	1.6	0.1	1.0	0.4

24 block (Block Average - 6.9', $4.93)

8.0'	$ 0.05	---	0.1	---	---	0.1
8.0	0.13	---	0.2	0.1	---	0.3
8.0	0.13	---	0.2	0.1	---	0.3
7.5	9.15	0.11	1.9	2.8	0.6	1.9
7.0	11.28	0.11	2.3	2.8	1.4	2.5
3.0	18.13	0.03	6.4	7.0	1.3	6.1

25 block (Block Average - 7.9', $3.95)

7.0'	$13.44	0.04	4.0	5.0	1.1	5.3
8.0	0.32	---	0.6	---	---	0.3
8.5	7.15	0.04	1.6	1.8	1.1	1.4
8.0	0.32	0.01	0.2	---	---	0.1
8.0	10.40	0.35	5.2	---	0.1	0.3
8.0	6.16	0.04	1.4	2.0	0.6	2.0
7.5	5.66	0.03	1.4	1.2	1.0	0.7
8.0	0.22	---	0.4	---	---	0.2
8.0	0.05	---	0.1	---	---	0.1
8.0	0.38	---	0.4	0.1	---	0.1
8.0	0.42	---	0.2	0.2	---	0.1

26 block (Block Average - 8.4', $2.34)

8.5'	$ 6.35	0.03	1.0	2.4	0.6	0.5
8.0	1.39	---	0.4	0.1	0.2	0.2
8.5	0.86	---	0.4	0.1	0.2	0.2
8.5	0.92	0.03	0.1	---	0.1	0.1
8.0	1.61	0.05	0.6	---	0.1	0.2
8.5	4.15	0.16	0.4	0.1	0.3	0.3
8.5	1.10	0.05	0.5	---	0.2	0.1
8.5	1.56	0.01	0.6	0.2	0.3	0.2

27 block (Block Average - 7.9', $2.82)

8.5'	$ 1.62	0.02	0.6	0.1	0.3	0.2
8.5	2.42	0.01	1.0	0.3	0.5	0.7
5.0	0.35	---	0.2	---	0.1	0.1
8.5	0.21	---	0.1	0.1	---	0.2
8.5	2.02	---	0.2	0.3	0.6	0.3
8.5	9.26	0.05	2.5	2.4	1.3	0.4

28 block (Block Average - 7.7', $17.69)

8.5'	$20.06	0.09	6.1	8.0	1.0	1.1
8.5	15.54	0.21	2.4	4.3	1.3	1.3
3.0	45.59	0.95	4.6	11.0	2.5	2.2
7.5	2.38	0.02	0.4	0.5	0.4	0.3
8.5	30.26	0.09	3.1	16.5	0.4	1.9
8.5	26.26	0.07	4.5	13.1	0.8	1.2
8.5	15.29	0.11	3.7	5.5	1.0	2.0
7.5	15.20	0.03	5.2	6.0	1.0	1.3
8.0	16.36	0.06	4.5	7.2	0.6	2.6
8.5	6.60	0.02	2.6	1.9	0.8	2.2

29 block (Block Average - 8.0', $10.80)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$21.92	0.08	6.5	9.8	0.6	2.3
8.0	6.70	0.02	2.6	1.9	0.8	0.2
8.5	3.23	0.01	0.6	0.5	0.8	0.8
8.5	0.42	----	0.2	0.2	---	0.6
7.5	0.52	----	0.1	0.3	---	0.1
8.5	8.86	0.14	2.3	1.0	1.3	0.5
6.0	18.03	0.34	2.7	4.2	1.2	2.5
5.0	8.70	0.04	1.0	3.0	1.1	1.7
8.0	16.99	0.07	1.5	8.2	0.8	3.4
8.5	29.58	0.02	2.2	16.7	0.8	1.1
7.5	9.15	0.08	2.1	3.6	0.3	0.6
7.5	5.77	0.04	0.6	0.8	1.4	3.8

30 block (Block Average - 8.6', $10.86)

width	$ value	Au	Ag	Pb	Cu	Zn
8.0'	$ 2.28	0.02	0.2	0.2	0.6	0.1
8.0	5.89	----	0.8	3.5	---	0.3
8.5	0.47	----	0.3	0.2	---	0.3
8.5	3.90	0.05	1.5	1.0	0.2	1.0
8.5	6.79	0.03	2.0	3.0	0.2	2.2
8.5	9.81	0.04	1.4	4.8	0.3	2.2
10.5	29.66	0.08	1.5	16.8	0.4	2.2
8.0	15.79	0.04	1.8	8.5	0.3	2.2
8.5	6.59	0.06	1.3	2.2	0.5	2.9
8.5	1.18	0.01	0.2	0.4	0.1	0.6
8.5	12.47	0.13	1.7	5.5	0.1	1.5
8.5	28.92	0.03	3.5	16.0	0.6	5.1
9.0	14.73	0.25	1.7	4.1	0.9	2.9
9.0	14.59	0.06	1.9	6.5	0.9	3.0
9.0	4.00	0.07	0.9	1.0	0.2	1.2
9.0	12.80	0.06	2.7	6.0	0.3	1.8
8.5	9.51	0.04	1.4	4.3	0.5	4.0

31 block (Block Average - 8.8', $1.54)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 0.35	----	0.2	---	0.1	0.3
9.5	0.35	----	0.1	0.2	---	0.3
8.5	0.94	0.01	0.2	0.4	---	0.3
8.5	1.71	0.03	0.4	0.4	0.1	0.4
8.5	0.27	----	0.2	0.1	---	0.5
8.5	3.43	0.01	0.6	1.4	0.3	0.5
9.5	0.05	----	0.1	---	---	0.3
9.0	0.21	----	0.1	0.1	---	0.1
8.5	0.52	----	0.1	0.3	---	0.1
9.0	5.24	0.08	0.5	1.8	0.2	0.6
9.0	3.90	0.15	0.2	0.1	0.2	1.0

32 block (Block Average - 8.0', $1.10)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 1.17	0.02	0.2	0.1	0.2	1.0
9.0	1.84	----	0.2	0.8	0.2	0.5
8.5	0.42	----	0.2	0.2	---	0.6

370 Level Average
-All Samples-

width	$ value
8.1'	$7.28

4177 - Main Level

22 block (Block Average - 9.1', $0.43)

width	$ value	Au	Ag	Pb	Cu	Zn
8.5'	$ 0.05	tr	0.1	---	---	0.1
9.0	0.05	tr	0.1	---	---	0.1
8.5	0.05	tr	0.1	---	---	0.2
8.5	0.05	tr	0.1	---	---	0.1
8.5	1.31	0.06	0.1	---	---	0.2
8.5	0.05	tr	0.1	---	---	0.6
8.5	0.21	---	0.1	0.1	---	0.2
9.5	0.72	0.01	0.2	0.1	0.1	0.6
9.0	0.75	---	0.2	0.1	0.2	0.3
10.0	0.27	---	0.2	0.1	---	0.1
10.0	0.42	0.01	0.1	0.1	---	0.1
9.5	1.05	0.02	0.6	0.2	---	0.2
10.0	0.58	---	0.2	0.3	---	0.1

23 block (Block Average - 9.0', $1.04)

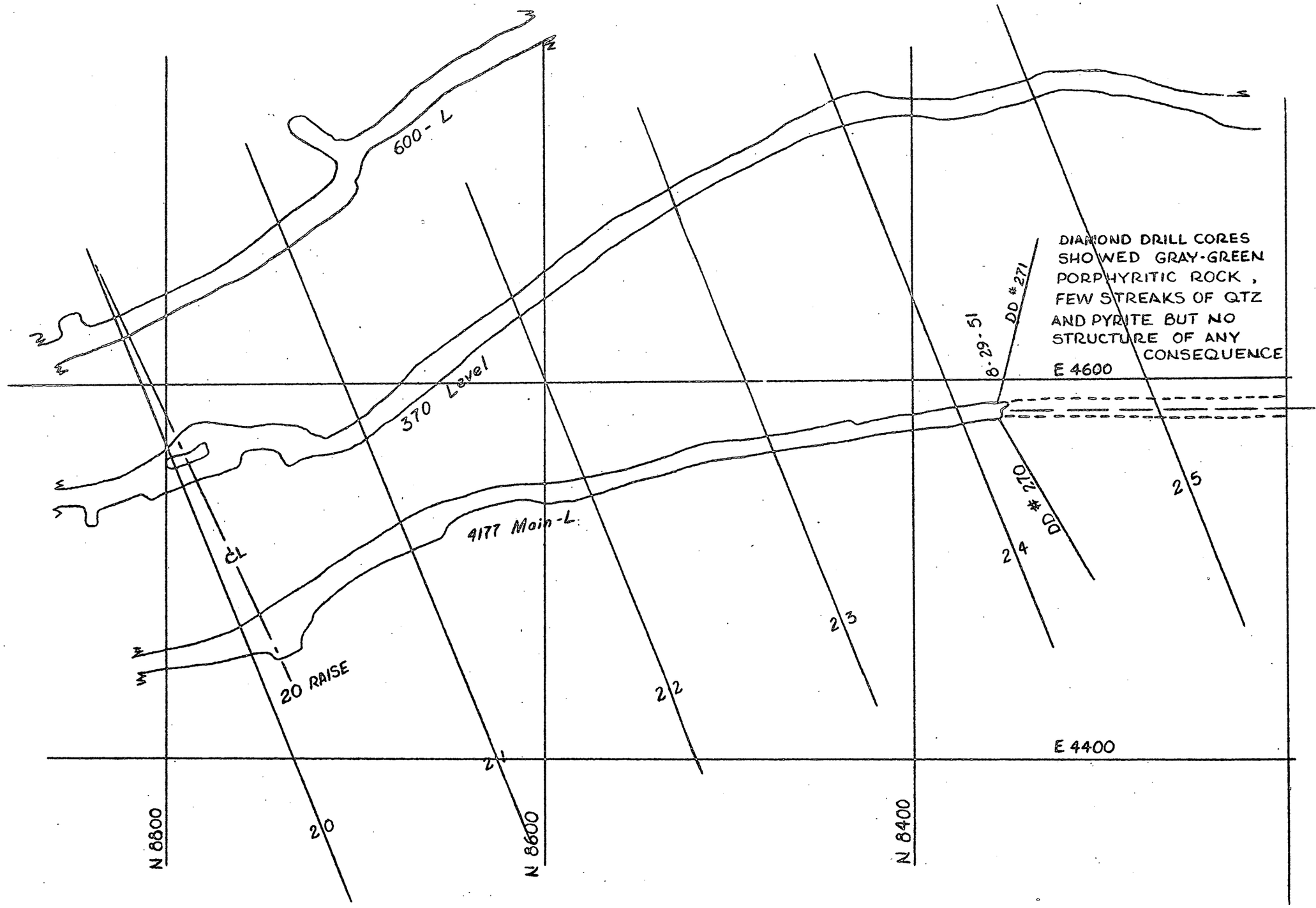
9.0'	$ 0.27	---	0.2	0.1	---	0.1
10.0	0.69	0.01	0.6	0.1	---	0.1
9.5	0.21	---	0.1	0.1	---	0.1
9.5	0.21	---	0.1	0.1	---	0.3
9.5	0.38	---	0.4	0.1	---	0.3
9.0	1.14	---	0.1	0.7	---	0.1
10.0	0.42	0.01	0.1	0.1	---	0.1
9.0	0.26	0.01	0.1	---	---	0.1
9.0	0.26	0.01	0.1	---	---	0.1
8.0	11.08	0.04	2.4	4.5	0.8	0.8
8.5	0.42	0.01	0.1	0.1	---	0.1
8.5	0.42	0.01	0.1	0.1	---	0.1
8.5	0.27	---	0.2	0.1	---	0.1
9.0	0.27	---	0.2	0.1	---	0.1
8.5	0.36	---	0.1	0.2	---	0.1
9.0	1.14	---	0.1	0.7	---	0.1

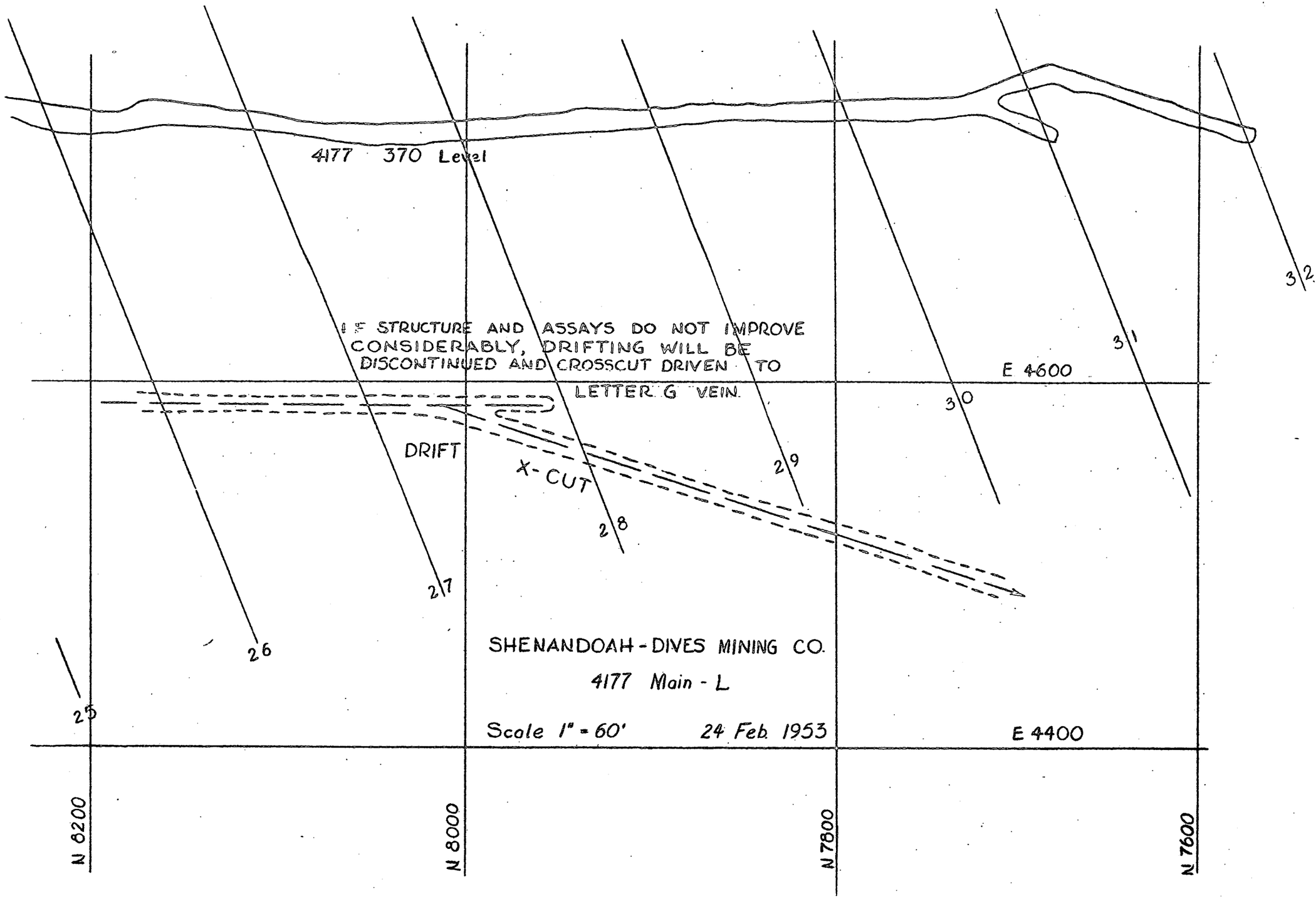
24 block (Block Average - 9.1', $0.24)

8.5'	$ 0.52	---	0.1	0.3	---	0.1
9.0	0.05	---	0.1	---	---	0.1
9.0	0.05	---	0.1	---	---	0.1
10.0	0.36	---	0.1	0.2	---	0.1

Main Level Average
-All Samples-

width	$ value
9.1'	$0.70


600 - L
370 Level
4177 Main-L
20 RAISE
℄L
DIAMOND DRILL CORES SHOWED GRAY-GREEN PORPHYRITIC ROCK, FEW STREAKS OF QTZ AND PYRITE BUT NO STRUCTURE OF ANY CONSEQUENCE
8-29-51
DD #271
DD #270
E 4600
E 4400
N 8800
N 8600
N 8400
20
21
22
23
24
25


4177 370 Level
IF STRUCTURE AND ASSAYS DO NOT IMPROVE
CONSIDERABLY, DRIFTING WILL BE
DISCONTINUED AND CROSSCUT DRIVEN TO
LETTER G VEIN.
E 4600
DRIFT
X-CUT
25
26
27
28
29
30
31
32
SHENANDOAH-DIVES MINING CO.
4177 Main - L
Scale 1" = 60'
24 Feb. 1953
E 4400
N 8200
N 8000
N 7800
N 7600

A FRAGMENT OF COLORADO MINING HISTORY

A first exhibit is in excerpts from an expression by Mr. Edward G. Stoiber of August 2, 1899, reciting a story of human achievement in twelve years that is astonishing as measured by extent of mineral property acquired, by miles of mine workings opened, and by completeness of plant and equipment provided to make the property productive. The altitude of the major work was above 12,000 ft, the approaches were forbidding: much of the heroic was in the work.

A second exhibit is in excerpts from a report from Mr. Clapp, of February, 1913, on the same property, 11 years after its sale by Mr. Stoiber, in which three comments arrest attention:

A "——the rate of 200 tons per day, the maximum that can be handled through Unity tunnel (the outlet)":

B "——the former company and Mr. Stoiber before them, both fought a losing battle in the attempt to keep their reserves of $9.00 or $10.00 ore in advance of their consumption."

C "Of lower grade ore there is perhaps 100,000 tons already exposed and the prospective tonnage is almost unlimited,——."

A third exhibit lists the production of the mine 1902-1918 inclusive. (The record of large production 1890-1901 is not available.) In parallel is shown the contemporary production of Liberty Bell mine at Telluride.

I present the material because it confirms so strikingly my conviction of the ruling importance of human temperaments in the industry. Mr. Stoiber presented for sale in 1899 an organized property producing some 200 tons daily, with miles of access workings and great reserves. Liberty Bell mine was then in its first few months of production, with 2800 ft of drifting on ore, and minimum plant and equipment; it approached production of 100 tons daily.

Silver Lake ore was better. Fourteen years later Mr. Clapp reviewed an unhappy history, saw that production in larger volume could change the picture for the future, and reported great reserves of ore in range of $6 that might be profitable. He gave 200 tons daily as the capacity of the outlet of the mine. At that time Liberty Bell was reaching 500 tons daily, and was organized to live on ore yielding less than $5 per ton; in the end the average yield from ore sales was $6.55 and dividends approached $3 million. Volume was critical (Incidentally, I never thought of any low limit of capacity of a mine level of normal size.), but, back of volume at Liberty Bell, were timely completions of two strategic developments, one in the upper area in 1906, and one in the lower area in 1910. They were key projects, for ready access for men and supplies, and efficient outlets for ore, that were never paralleled in the other mine despite crying needs; they meant so much in the final result as to dwarf the penalties of normal human error through the twenty years.

The Liberty Bell was founded, and given character, by Arthur Winslow, but the organization of its production was mine in large part.

C. A. C.

Silverton, Colorado
22 February, 1949

EXHIBIT 1

E X C E R P T S

GENERAL REPORT UPON THE SILVER LAKE MINES

By

Edward G. Stoiber
1899

1. Location, Ownership and History of the Property:

This Property, known as The Silver Lake Mines and owned by Edward G. and Lena Allen Stoiber, is situated near Silverton, in the Animas Mining District, San Juan County, Colorado, it has been under the management of Edward G. Stoiber, since February 1887, to date.

At the time of the purchase of the property in 1887, probably not over 500 feet of work had been done on same, and there were but two claims in the group; to-day the underground workings may reach a total length of 35000 feet, and the group embraces about 100 claims.

3. Purpose of Owners in the acquisition of large acreage:

It has been the special aim of the Owners, to get together a grouping of Mineral Claims, capable of being worked advantageously as one large mining enterprise, and whose life would unquestionably be a very long one; by the judicious location of protecting claims, possible litigation has been carefully guarded against.

It is claimed for this property that it is a low grade Concentrating proposition, with the premises of practically unlimited vein area to draw from.

4. Estimated length of Vein Croppings, covered by this Property:

The Property covers about 20000 running feet of the Silver Lake Vein croppings; about 5300 running feet of the Titusville-Buckeye vein and probably a further 5000 feet of "Royal", "Professor Stelzner"

and "Whale Rochester" veins; other vein croppings known to exist, but less explored, are ignored in this estimate.

5. Vein Systems:

There are upon this property, two mineralized vein systems: The "Silver Lake" and the "Titusville-Buckeye" veins belonging to the North-West and South-East system, and the "Royal", "Stelzner" and "Whale-Rochester" veins belonging to the North and South system, and running between the "Silver Lake" vein on the North, to the "Titusville-Buckeye" vein on the South, thus making it possible to connect these vein systems by underground workings upon the veins themselves.

9. The Mine Workings and Ore Reserves:

A glance at the maps will be sufficient to show a present large underground development, representing probably in the neighborhood of seven miles of Drifting and Crosscutting, without including the Unity or Blair Mountain Tunnel workings.

Regarding ore reserves, it may be stated that a conservative measurement and estimate recently made by Mr. R. W. Hollis, places same at about 510000 Tons, equivalent to about seven years of running of the present Concentrator, which annually handles about 70000 Tons of mill ore. Mr. Hollis, having been connected with this enterprise for some 8 years or more past, as Engineer and lately as Assistant Manager, is perhaps the best possible person to pass upon this matter of ore reserves.

20. Concluding Remarks:

The "Titusville-Buckeye" vein, although showing excellent croppings, and some underground workings with ore reserves on the "Buckeye" claim, has barely been referred to; The "Nevada" claim has been mentioned only; and the territory N.W. of same on the "Silver Lake" vein, has not been referred to except by the expressed expectation of having the Blair Mountain Tunnel strike and develope it near the Animas River.

Just so the territory on the "Silver Lake" vein to the South East of Arastra Lake, i.e., the "Royal Tiger" #1, the "Homestake" and "Emma" claims, which should have an excellent future.

EXHIBIT 2

EXCERPTS

REPORT ON SILVER LAKE MINES
BY
LAWRENCE R. CLAPP, SUPERINTENDENT

FEBRUARY 12, 1913

In order to continue beyond this preliminary period other ore bodies on the Unity level must have been opened up in that time. Assuming then that the entire program of prospecting is carried out, and, that after an expenditure of $20,000.00 we have available 117,000 tons of $9.40 ore which we will assume, will be worked out at the rate of 200 tons per day, the maximum which can be handled through the Unity tunnel, we will have

	Daily tons.	Life Mo's.	Cost	Profit
13000 tons @ $9.30	50	8.5	$4.35	$.90
117000 " @ 9.40	200	19.5		

Total Profit $117,000.00

The above outlook is decidedly discouraging, particularly as from present knowledge this evidently constitutes the entire amount of pay ore in the Silver Lake Mines above the Unity Tunnel. Of lower grade ore, of say, $6.00 value, there is perhaps 100,000 tons already exposed and the prospective tonnage available is almost unlimited, probably the entire Letter "G" vein from the Scranton City to the Buckeye, a distance of nearly two miles, averaging at least that value.

The future of the Silver Lake Mines in my opinion, lies wholly in the solution of the problem of making this material profitable and not in the search of better grade ore; the former company and Mr. Stoiber before them, both fought a losing battle in the attempt to keep their reserves of $9.00 or $10.00 ore in advance of their consumption. In so doing they exposed a very large tonnage of lower grade material and indicated where a still larger tonnage was probable. If this can be made available, the property has a big future still ahead of it.

To make $6.00 ore profitable, will require a total cost of not more than $4.75 per ton and a mill extraction of at least 80%. Neither of these are beyond possibility. A $4.75 cost would mean a big tonnage, the avoidance of an expensive tram, an adequate modern equipment and a high concentration ratio. An 80% mill extraction on ore of only $6.00 gross value means considerably more than our present mill is capable of. Recently, I was attracted by the remarkable success of the Minerals Separation Co's froth flotation process at the Braden Copper Company and at the Butte & Superior. I made some tests in a very crude way with a home-made laboratory size flotation apparatus. From the results obtained, it is apparent that an 80% extraction combined with a high ratio of concentration is not at all an impossibility with the method. If this is possible on a commercial scale and indications apparently point that way, to judge from the results obtained at Braden, it will mean over $1.00 per ton of difference on our present prospects, and would change a probable loss into an almost certain profit, besides making available a considerable tonnage of lower grade ore. From what I can gather from other plants, the purchase and erection of the necessary apparatus for the installation of the process at this property would not exceed $3,000.00, which would be repaid within one month of operation by the expected increase in saving.

EXHIBIT 2

CONSOLIDATED RECORDS OF MAJOR PRODUCTIONS OF TWO MINES. SHOWN: TONS, OUNCES AND/OR TONS OF RECOVERED METALS: FINAL NET SMELTER

SO MER LAKE MINES

Year	Tons	Au Oz/T	Au Tot. Oz.	Ag Oz/T	Ag Tot. Oz.	Pb %	Pb Tons	Cu %	Cu Tons	$/T Gross	$/T Rec.	$/T N.S.
1899												
1900										12.10		8.76
1												
2	83,496	.161	13,470	3.20	267,574	.922	768.822	1.068	889.548	8.30		5.83
3	98,076	.168	16,513	4.72	446,118	1.750	1,718.473	1.003	982.532	10.24	8.12	6.93
4	89,863	.162	14,612	6.20	543,608	2.255	2,025.787	1.130	1,016.386	11.38	9.34	7.94
5	69,950	.112	7,817	6.23	435,397	2.995	2,095.883	1.068	746.561	11.25	8.80	7.44
6	18,720	.102	1,574	6.17	115,809	1.770	330.763	.740	138.565	10.49	8.73	7.13
7	52,716	.117	6,161	5.80	305,406	1.870	985.075	.982	516.907			
8	58,915	.129	7,612	4.95	291,928	1.294	762.607	.885	521.106			
9	5,301	.170	900	4.71	24,972	2.922	154.927	1.140	60.544			
10	4,540	.213	967	4.92	22,354	2.160	98.216	1.200	54.563			
1	9,381	.091	858	3.88	36,418	1.146	107.635	.602	56.456			
2	20,398	.107	2,182	4.18	84,386	1.608	327.885	.558	113.841			
3	12,179	.212	2,581	4.44	54,049	7.630	928.043	.439	53.460			
4	14,133	.227	3,207	4.73	66,927	4.240	599.235	.483	68.281			
5	29,652	.147	4,371	1.72	50,907	1.130	334.863	.408	120.934			
6	29,190	.126	3,683	1.98	57,805	1.082	315.967	.558	162.677			
7	18,069	.096	1,744	1.74	31,485	2.133	385.421	.461	83.198			
8	16,066	.083	1,340	1.77	28,425	2.035	327.125	.463	74.324			
19												
20												
1												
Totals,	630,645	.142	89,892	4.52	2,868,563	1.94	12,266.727	.896	5,659.883			

All From U. S. Bureau of Mines

These Data From Incomplete Office Records.

1901 } 1906 }	360,105	.147	54,286	5.03	1,813,501	1.92	6,939.728	1.045	3,773.592
1907 } 1919 }	270,540	.132	35,606	3.90	1,055,062	1.97	5,326.999	.697	1,886.291

LIBERTY BELL MINE PRODUCTION FROM MINING IN COLORADO, U.S.G.S. PROF. PAP. 138, GPO, PAGE 225

Tons	Au/T	Ag/T	$ Per Ton Recov.	$ Per Ton N.S.
17,800	.156	0.77	4.01	3.45
21,300	.235	1.18	5.31	5.02
54,387	.240	1.28	5.76	5.58
67,439	.299	1.68	7.15	6.72
83,373	.288	1.89	6.97	6.44
45,811	.395	2.35	9.52	8.93
27,379	.306	1.79	7.87	7.50
92,900	.315	2.21	7.98	7.73
102,104	.270	2.21	7.13	6.88
116,353	.285	2.43	7.26	7.02
125,681	.222	1.52	5.59	5.38
133,899	.290	2.07	7.17	6.85
155,950	.377	2.12	8.97	8.66
175,340	.279	1.79	6.87	6.59
179,216	.205	1.61	5.24	5.05
173,840	.191	1.82	4.96	4.86
174,100	.138	1.81	3.80	3.58
165,300	.185	1.55	4.79	4.59
143,100	.218	1.83	5.92	5.69
90,700	.517	2.19	12.71	12.38
110,700	.355	1.18	8.58	8.53
56,100			10.08	
55,285			9.83	
2,368,067	.267	1.91	6.80	6.55

Tonnage 1899 Corrected, and Columns 2, 3, and 5 Supplied from Company Reports.

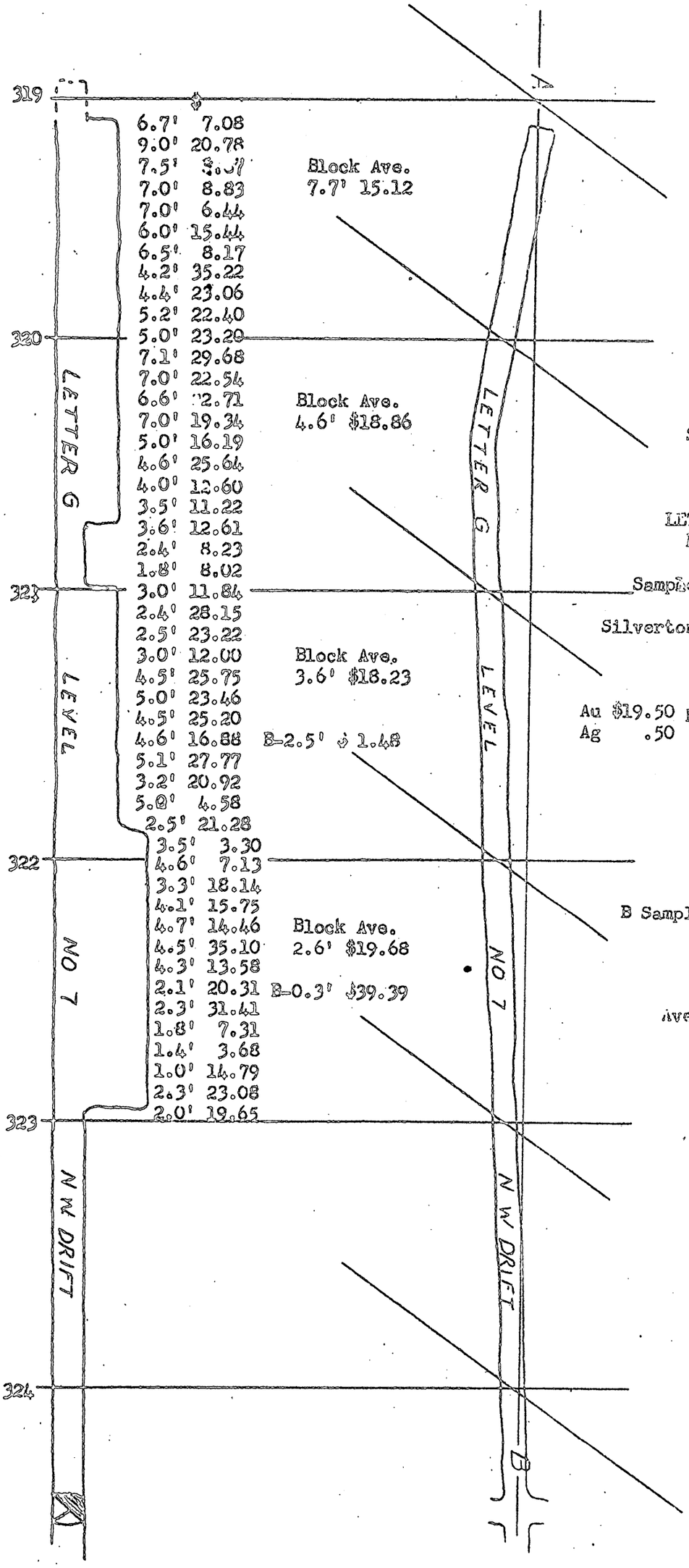
Shenandoah-Dives Mining Company,
Silverton, Colorado

4-C-1

SILVER LAKE MINES

ASSAY PLAN MAPS
of
LETTER "G" VEIN

No.	Level	Coordinates	Scale	Date
76	No.7	319 - 325	1"=30'	Oct. 1903
77	"	317 - 324	"	Dec. 1903
78	"	316 - 318	"	Jan. 1904
79	No. 6	322 - 323	"	Feb. 1904
95	No. 4	289 - 294	"	July 1903
180	No. 7	293 - 301	"	Feb. 1905
181	"	301 - 309	"	Feb. 1905
182	No. 8	316 - 321	"	Jan. 1905
186	No. 6	318 - 323	"	June 1905
187	No. 7	285 - 290	"	June 1905
189	No. 8	309 - 315	"	June 1905



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 319-325

Samples Taken Oct. 1903

Silverton, Colo. Scale: 1" = 30'

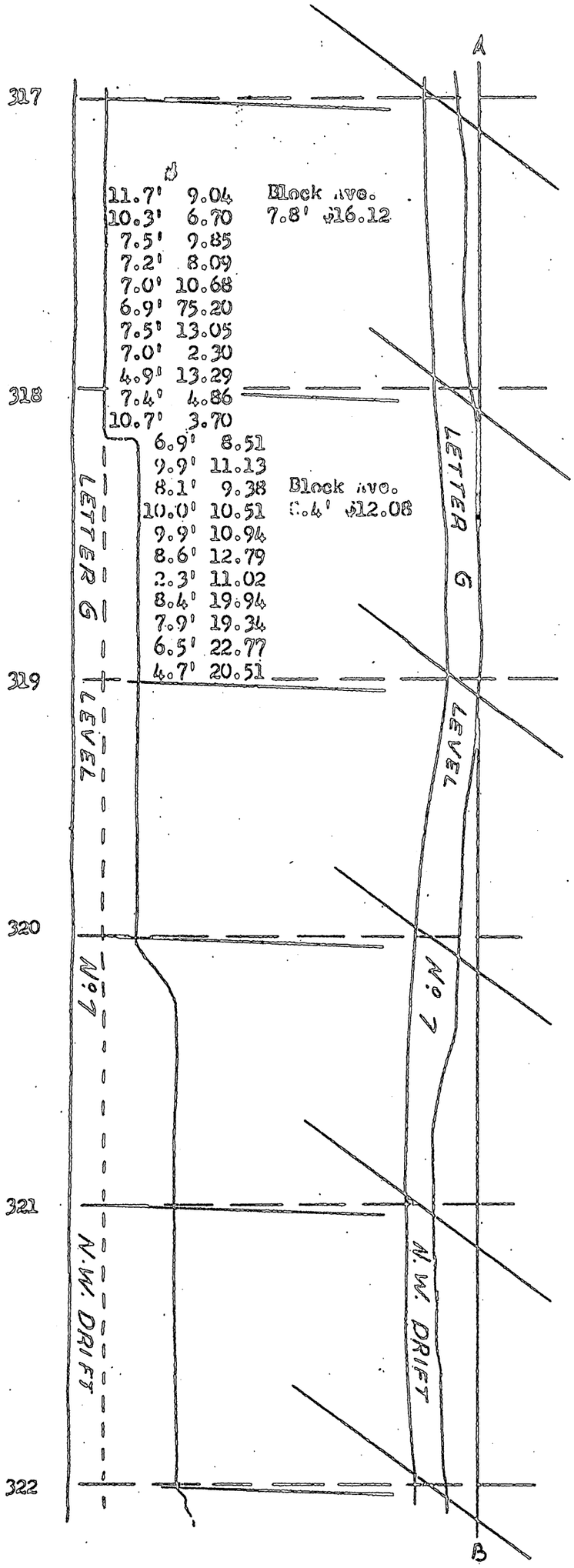
-Quotations-

Au $19.50 per oz. Pb $ .40 per unit
Ag .50 " " Cu 1.50 " "

B Samples From HW streak

Average - All Samples

4.7' - $16.17



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 317-322

Samples Taken Dec. 1903

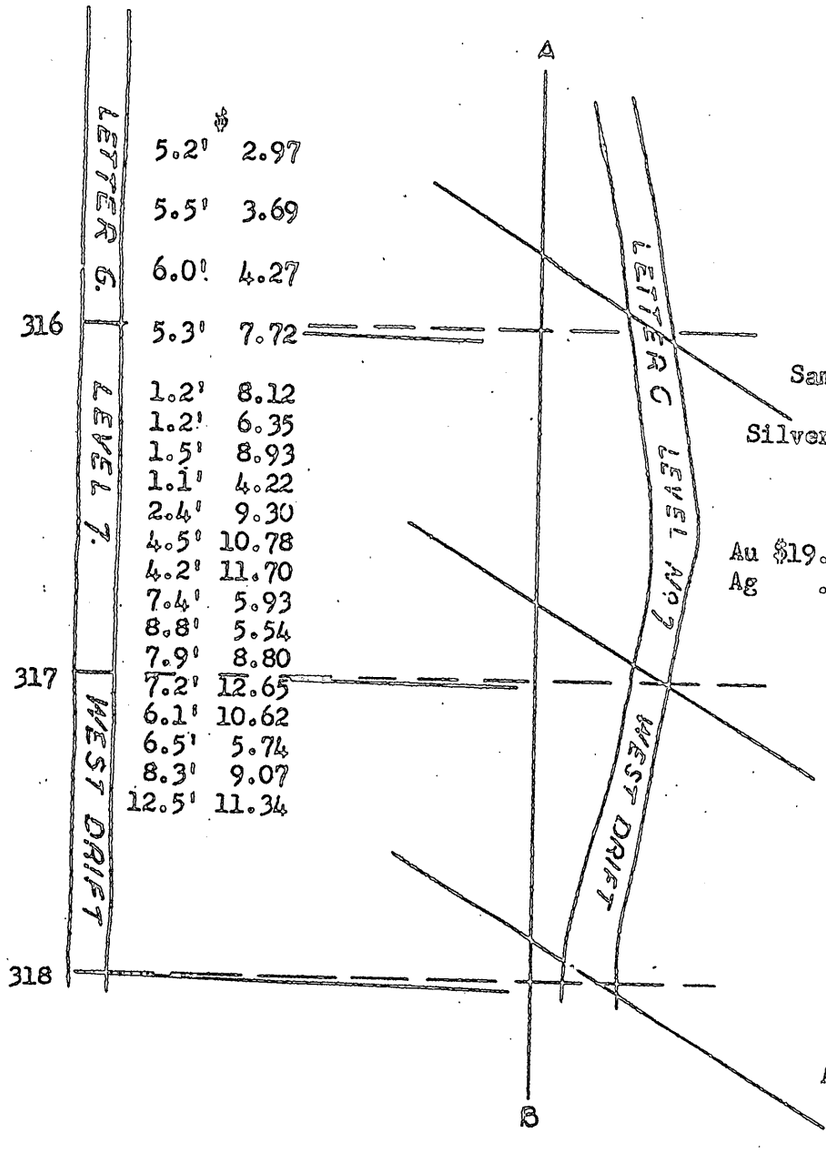
Silverton, Colo. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.30 per unit

Average - All Samples

8.2' - $13.66



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 316-318

Samples Taken Jan. 1904

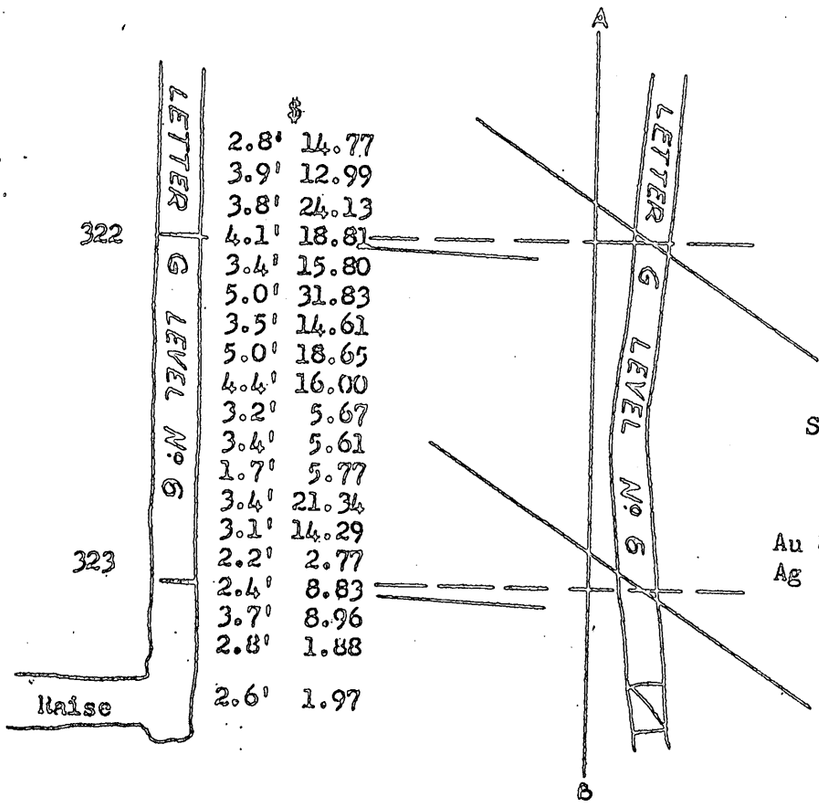
Silverton, Colo. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.30 por unit

Average - All Samples

5.4' - $ 8.07



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 6
PARALLELS 322-323

Samples Taken Feb. 1904

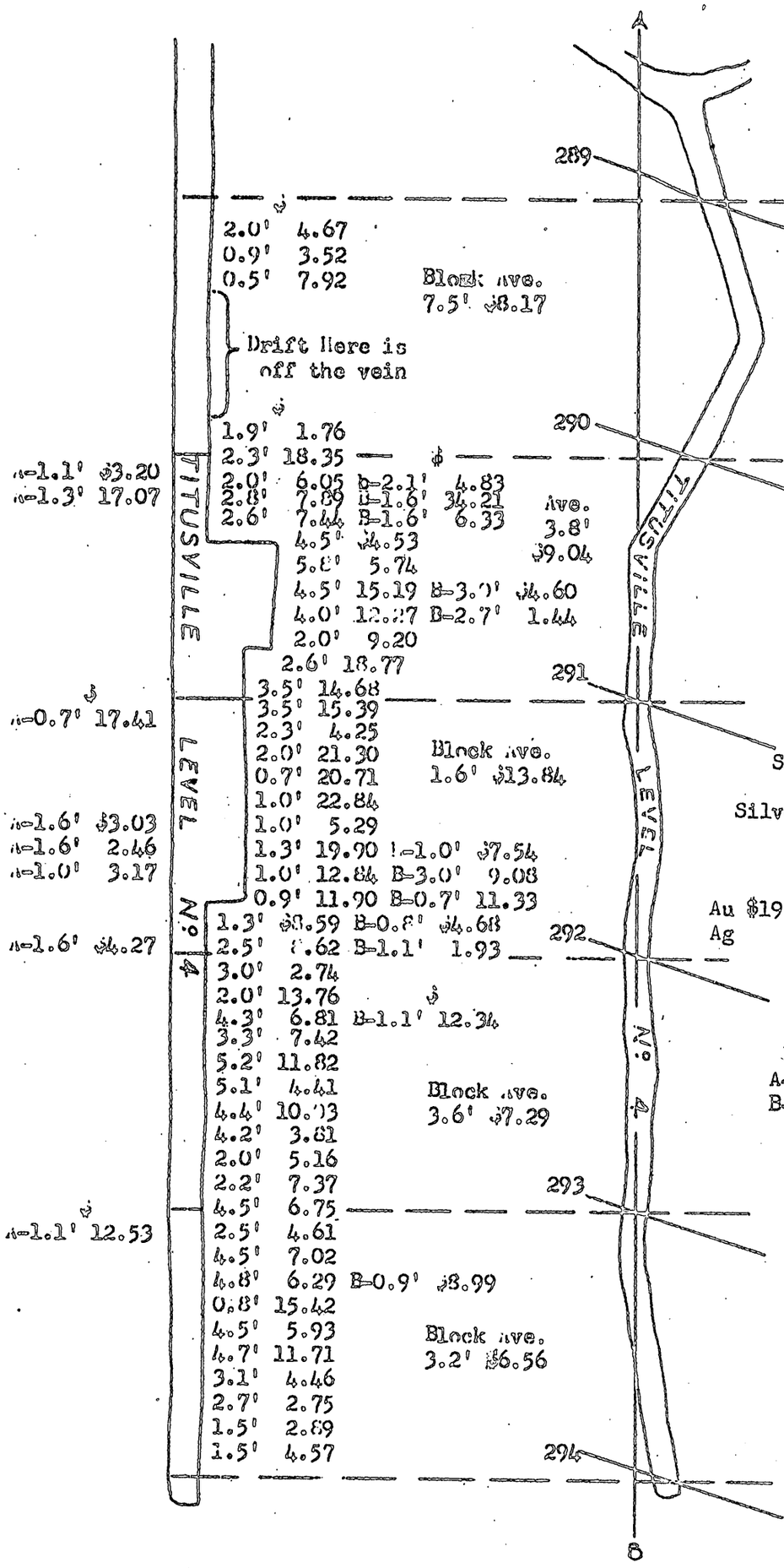
Silverton, Colo. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.40 " "

Average - All Samples

3.4' - $13.10



SILVER LAKE MINES

ASSAY PLAN

TITUSVILLE LEVEL NO. 4
PARALLELS 289-294

Samples Taken July, 1903

Silverton, Colo. Scale: 1" = 30'

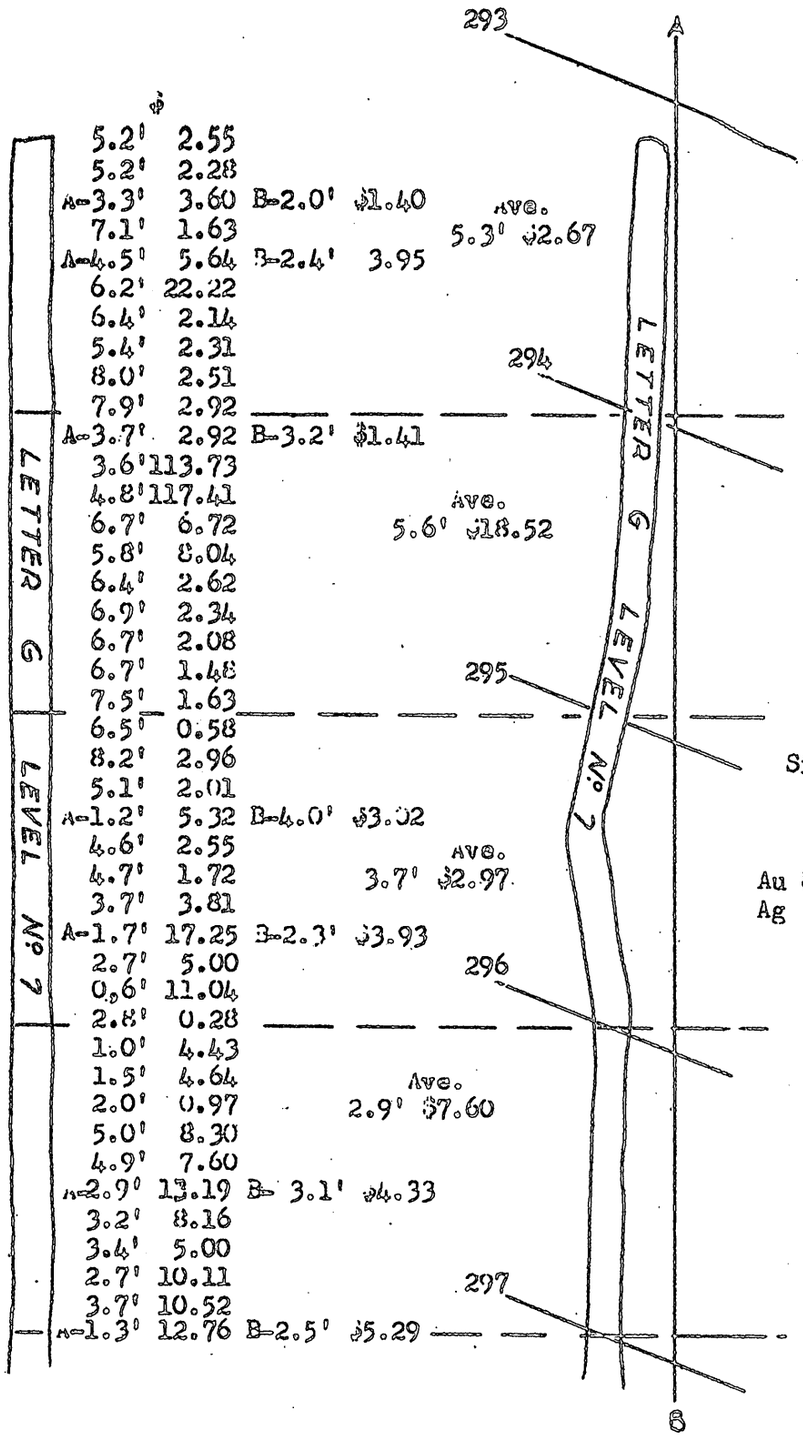
-Quotations-

Au $19.50 per oz. Pb $ .40 per unit
Ag .50 " " Cu 1.50 " "

A- Samples from FW streak
B- Samples from HW streak

Average - All Samples except A & B

2.8' - $8.48



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 293-297

Samples Taken Jan-Feb. 1905

Silverton, Colo. Scale: 1" = 30'

-Quotations-

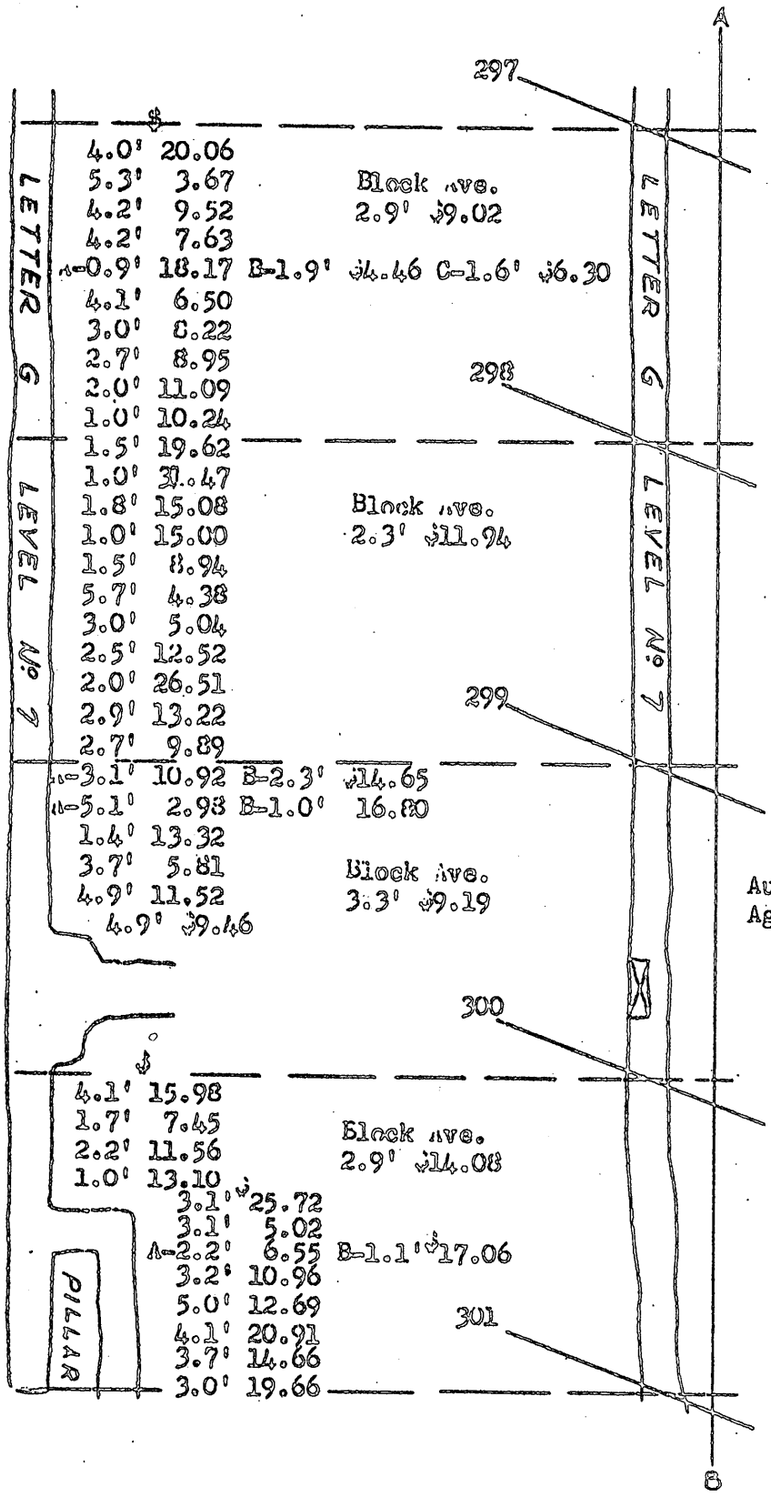
Au	$19.50 per oz.	Pb	$ .35 per unit
Ag	.55 " "	Cu	1.45 " "

A - Samples from FW streak
B - Samples from HW streak

Average - All Samples

4.3' - $8.27

P. 180-A



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 297-301

Samples Taken Jan-Feb. 1905

Silverton, Colo. Scale: 1" = 30'

-Quotations-

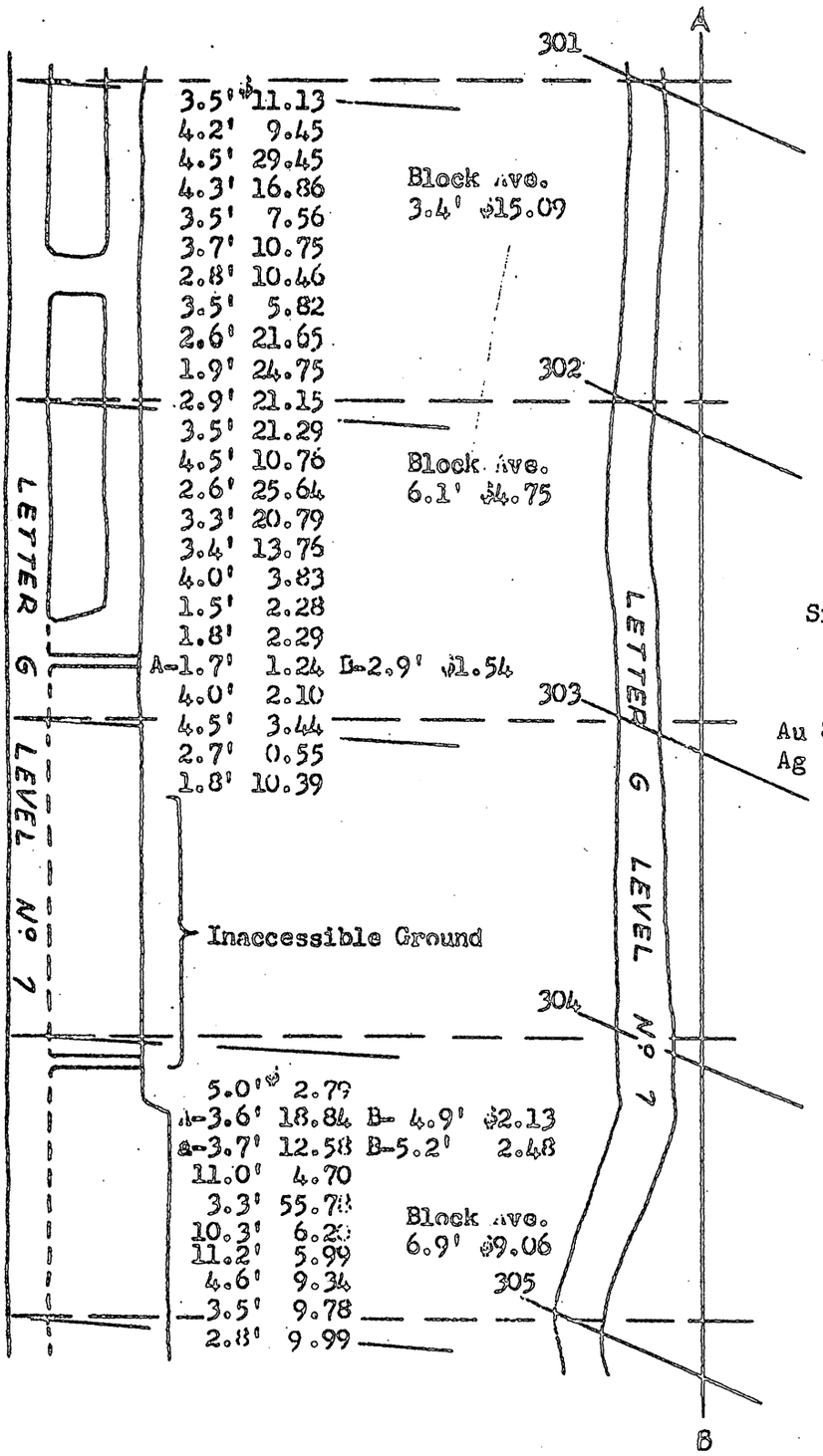
Au	$19.50 per oz.	Pb	$ .35 per unit
Ag	.55 " "	Cu	1.45 " "

A - Samples from FW streak
B - Samples from HW streak
C - Samples from Center streak

Average - All Samples

2.8' - $11.18

P. 180-B



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 301-305

Samples Taken Jan-Feb. 1905

Silverton, Colo. Scale: 1" = 30'

-Quotations-

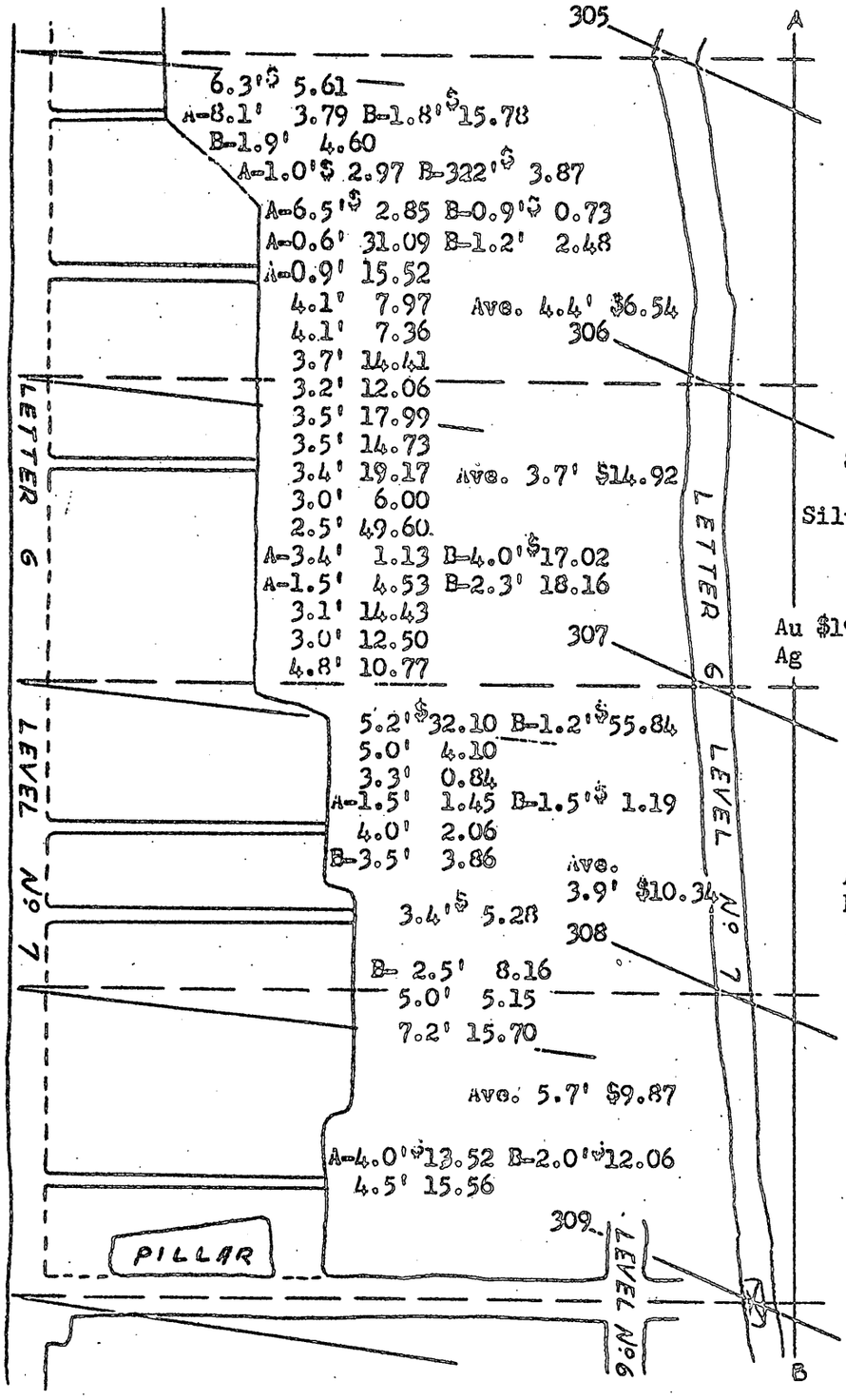
Au	$19.50 per oz.	Pb	$ .35 per unit
Ag	.55 " "	Cu	1.45 " "

A - Samples from FW streak
B - Samples from HW streak

Average - All Samples

5.5' - $8.43

P. 181-A



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 305-309

Samples Taken Jan-Feb. 1905

Silverton, Colo. Scale: 1" =30'

-Quotations-

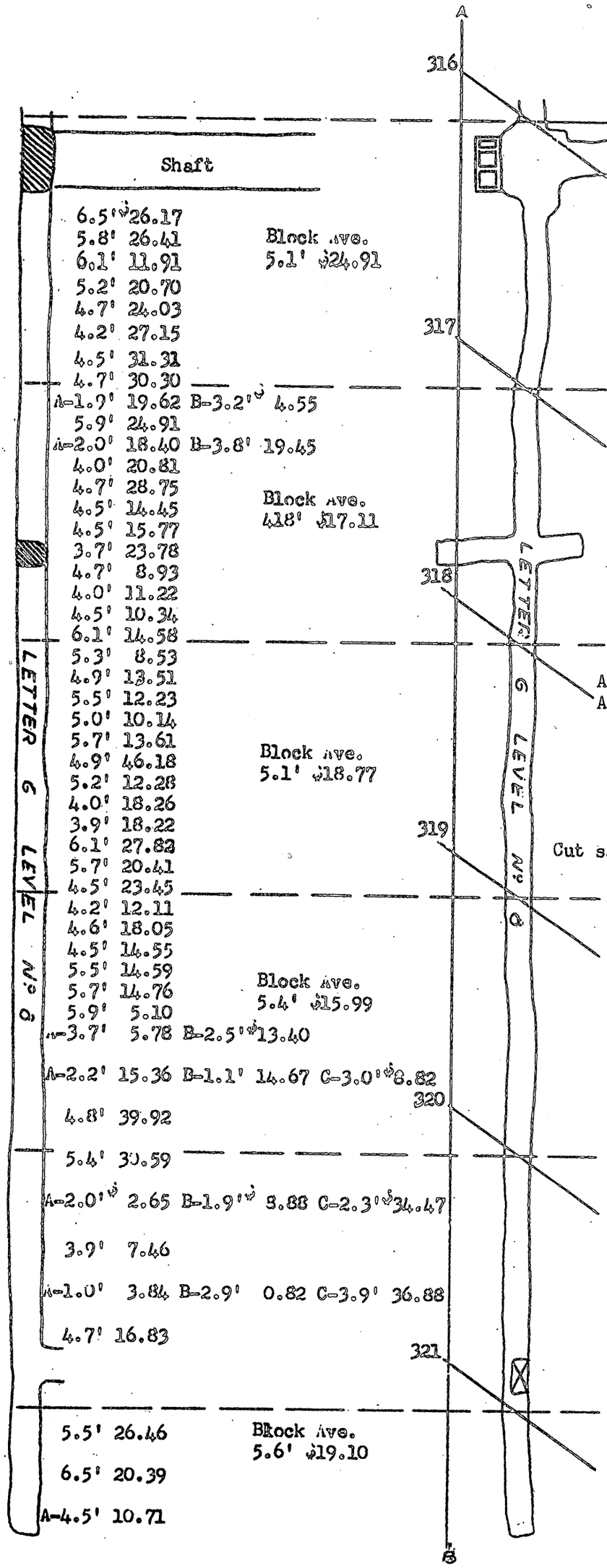
Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.45 " "

A - Samples from FW streak
B - Samples from HW streak

Average - All Samples

4.2' - $10.41

P. 181-B



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 8
PARALLELS 316-321

Samples taken Jan. 1905

Silverton, Colo. Scale: 1" = 30'

-Quotations-

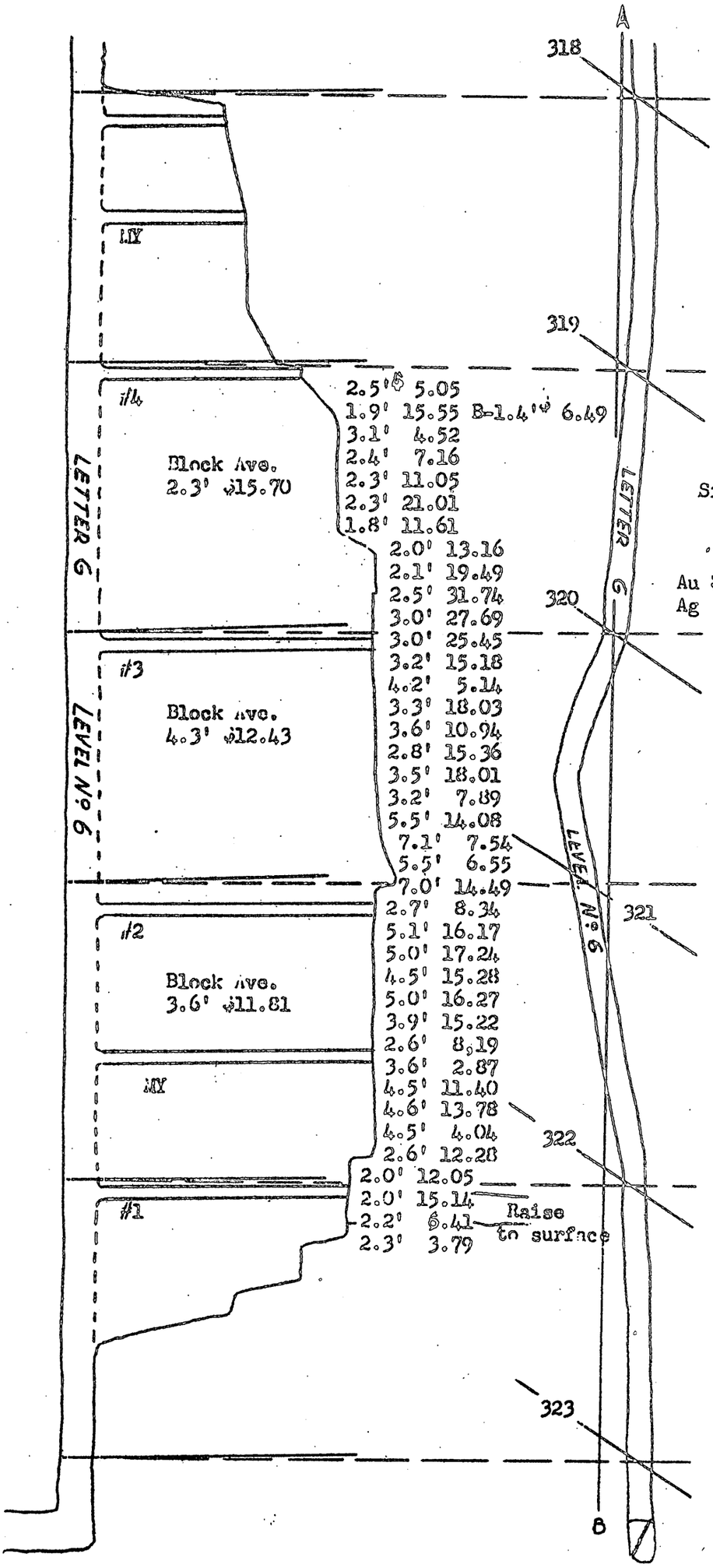
Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.45 " "

NOTE
Cut samples of ore streak taken with a moil.

A - Samples from FW streak
B - Samples from HW streak
C - Samples from Center streak

Average- All Samples

5.2' - $18.73



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 6
PARALLELS 318-323

Samples Taken May-June 1905

Silverton, Colo. Scale: 1" = 30'

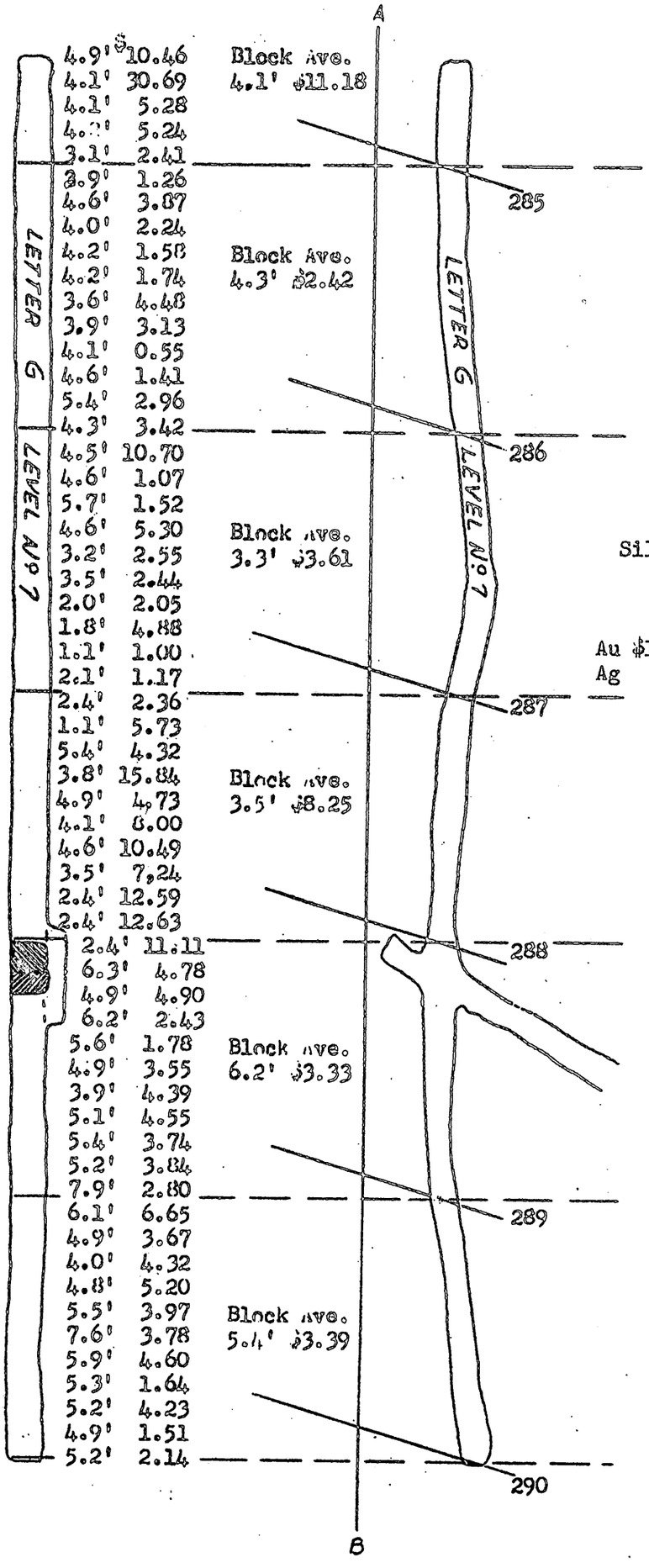
-Quotations-

Au	$19.50 per oz.	Pb	$ .35 per unit
Ag	.53 " "	Cu	1.55 " "

B - Samples from HW streak

Average - All Samples

3.5' - $12.80



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 7
PARALLELS 285-290

Samples Taken June 1905

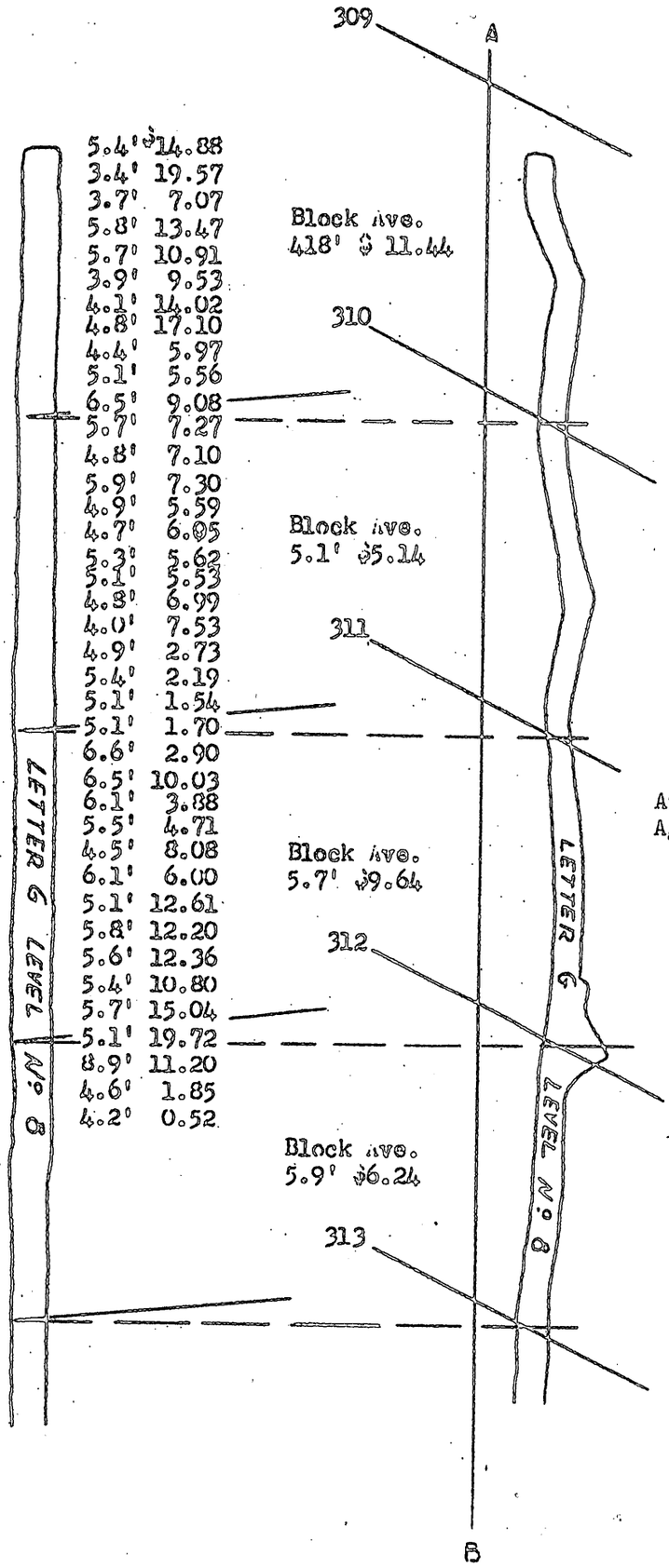
Silverton, Colo. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag .55 " " Cu 1.50 " "

Average - All Samples

4.5' - $4.48



SILVER LAKE MINES

ASSAY PLAN

LETTER G LEVEL NO. 8
PARALLELS 309-313

Samples taken June 1905

SILVERTON, COLO. Scale: 1" = 30'

-Quotations-

Au $19.50 per oz. Pb $ .35 per unit
Ag 155 " " Cu 1.50 " "

Average - All Samples

5.2' - $8.36

FIGURE 3 - MAP SHOWING EXPLORATION COMPLETED UNDER CONTRACT Idm-E558, SHENANDOAH-DIVES MINING CO., SAN JUAN COUNTY, COLO. DMEA 2991

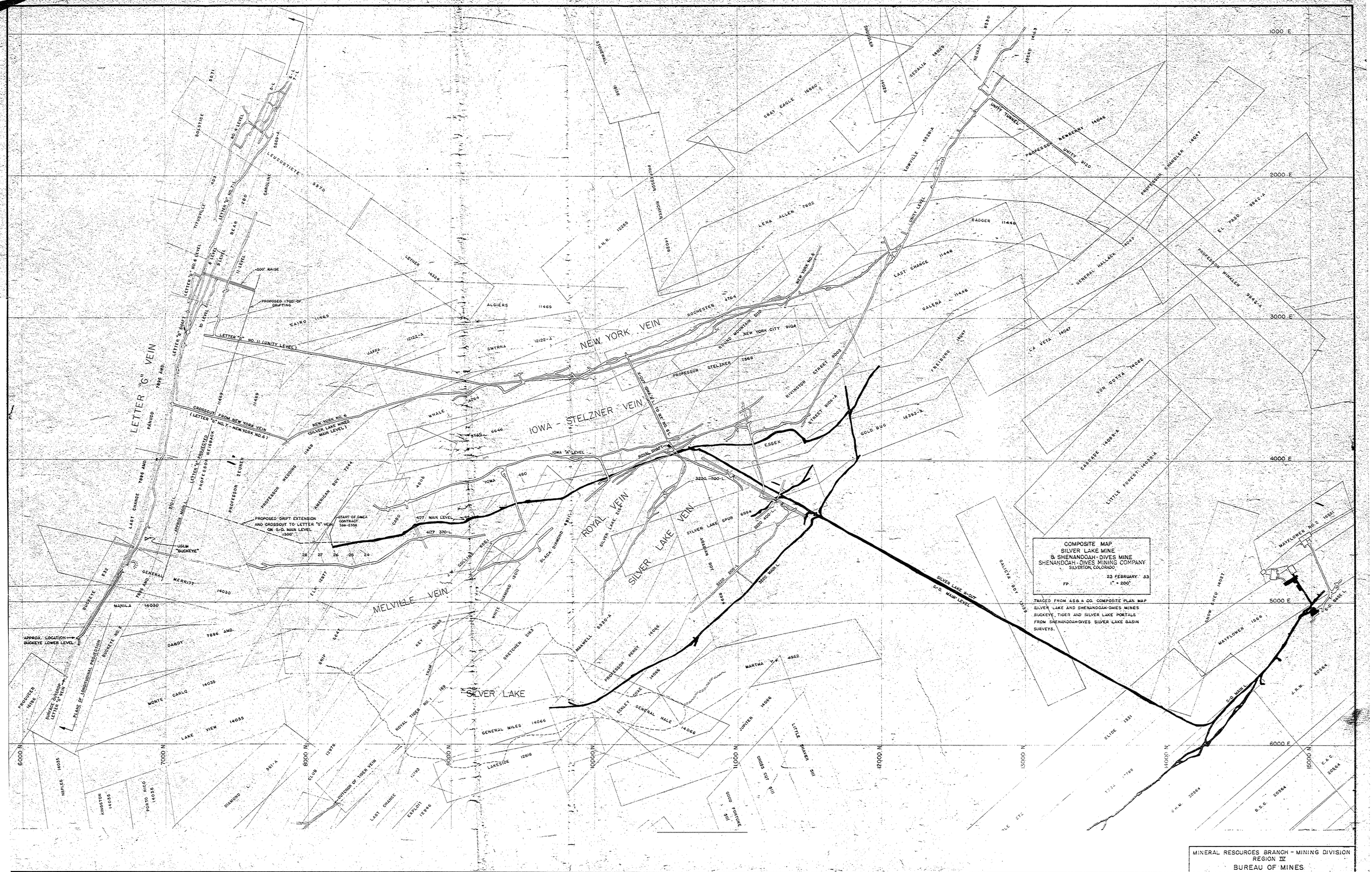


FIGURE 2 - PLAN AND CLAIM MAP SHOWING PROPOSED EXPLORATION, SHENANDOAH-DIVES MINING CO., SAN JUAN COUNTY, COLO. (DMEA 2991)