



CONTACT INFORMATION

Mining Records Curator
Arizona Geological Survey
1520 West Adams St.
Phoenix, AZ 85007
602-771-1601
<http://www.azgs.az.gov>
inquiries@azgs.az.gov

The following file is part of the

Arizona Department of Mines and Mineral Resources Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

08/02/88

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: GEORGE WASHINGTON

ALTERNATE NAMES:

SABBATH BELL
HAGEY MINING CLAIMS

MOHAVE COUNTY MILS NUMBER: 124C

LOCATION: TOWNSHIP 23 N RANGE 18 W SECTION 13 QUARTER NE
LATITUDE: N 35DEG 23MIN 12SEC LONGITUDE: W 114DEG 08MIN 53SEC
TOPO MAP NAME: CHLORIDE - 7.5 MIN

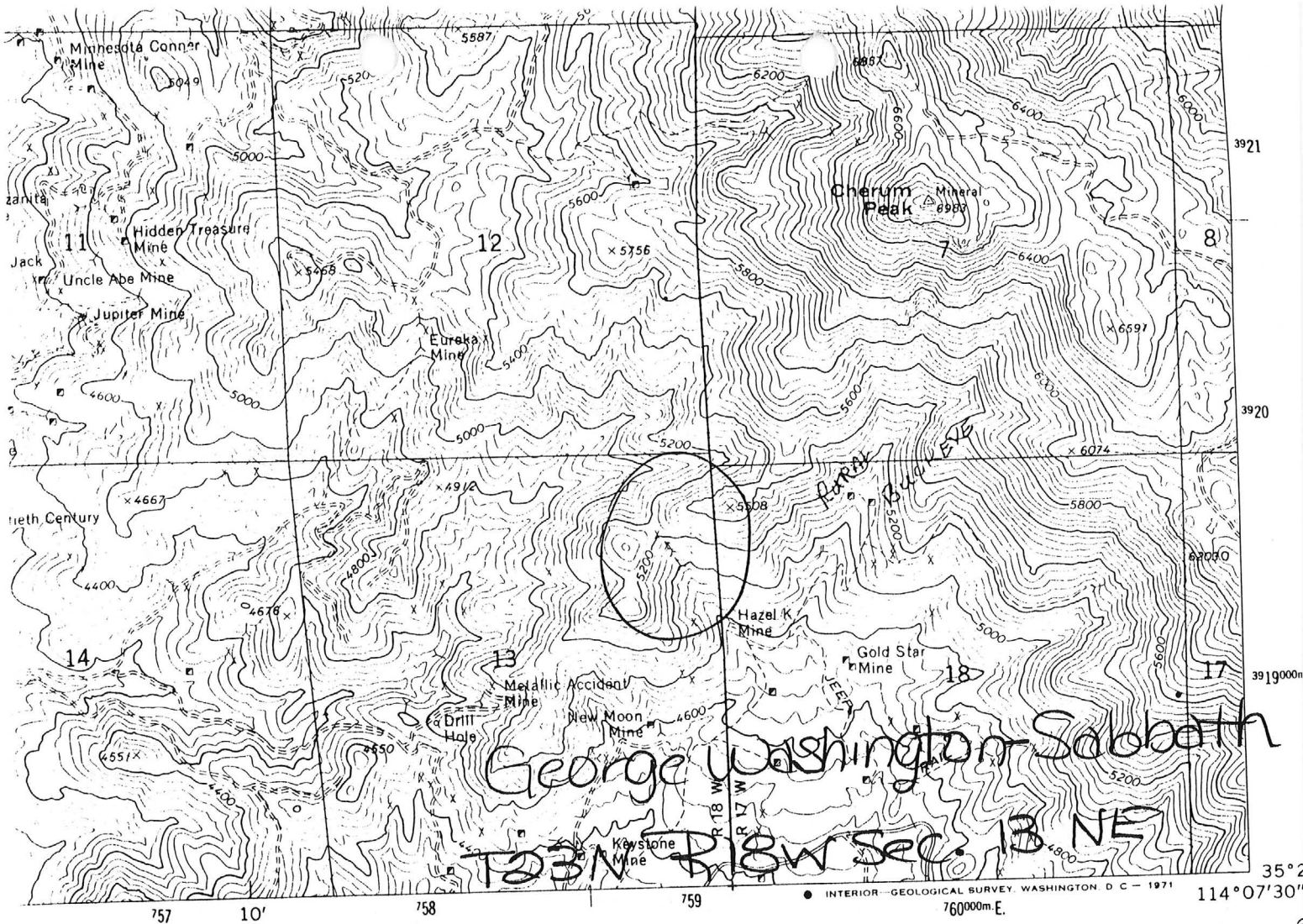
CURRENT STATUS: PAST PRODUCER

COMMODITY:

SILVER	
COPPER	SULFIDE
LEAD	SULFIDE
GOLD	LODE
ZINC	SULFIDE
IRON	SULFIDE

BIBLIOGRAPHY:

ADMMR GEORGE WASHINGTON FILE
ADMMR HAGEY MINE FILE
ADMMR MOHAVE CUSTOM MILL PROJECT
BASTIN, E.S. "ORIGIN OF CRTN RCH SLVR ORES
CHLRDE & KNGMN, AZ" USGS BUL 750-B, P 21-24
DINGS, M.G. "WALLAPAI MNG DIST, CRBT MTN, AZ"
USGS BULL 978-E, P. 147; 1951
AZ. MNG. JRNL. AUG. 1919, P. 21
WEED'S MINES HANDBOOK, VOL. XVI, P. 496
WEED'S MINES HANDBOOK, VOL. XIII, P. 372



1 MILE
7000 FEET
1 KILOMETER



ROAD CLASSIFICATION

Heavy-duty	—————	Light-duty	—————
Medium-duty	—————	Unimproved dirt	=====
U.S. Route		State Route	

CHLORIDE, ARIZ.

NW/4 CHLORIDE 15' QUADRANGLE
N3522.5—W11407.5/7.5

1968

AMS 3154 I NW-SERIES VRRR

DS
INGTON, D. C. 20242
REQUEST

NAME: GEORGE WASHINGTON - SABBATH COUNTY: MOHAVE

CHLORIDE 7 1/2'
T23 N R 18 W SEC. 13 S 200' ? DISTRICT: WALLA WA DISTRICT: MINERAL PARK

3 MI. S.E. CHLORIDE

Mineralization: Vein det strike N40°W 3 1/2' wide max.

Geology:

Type Operation: 300' Tunnel only 80' below surface

Production:

References (USGS 750 Part 1 P24-243)

Mohave County Card File

R/S

REFERENCES

EDWARD J. HOOVER:

Mohave County Miner, Kingman, Arizona.
Our Mineral Wealth, Kingman, Arizona.
Lovin & Withers Company, Kingman, Arizona.
Tarr, McComb & Ware Commercial Company, Kingman, Arizona.
Long Beach Savings Bank & Trust Company, Long Beach, Cal.
Arizona Central Bank, Kingman, Arizona.
Long Beach Hardware Company, Long Beach, California.

LILLIE HOOVER:

Long Beach Savings Bank & Trust Company, Long Beach, California.
Barker Brothers, Los Angeles, California.
Title Insurance & Trust Company, Los Angeles, California.
Long Beach Hardware Company, Long Beach, California.

CARL G. KROOK:

Arizona Central Bank, Kingman, Arizona.
Citizens Bank, Kingman, Arizona.
Arizona Stores Company, Kingman, Arizona.
Arizona Engineering Company.

SABBATH BELL CONSOLIDATED MINES COMPANY:

As the company has been so recently organized, it has not sought nor established any credit, and therefore can not at this time give any financial reference.

SABBATH BELL VEIN: This is a continuation of the Bill Taft ledge of the Washington group. In workings near center of Sabbath Bell, a shaft is sunk 115 ft. and ore stoped to surface for length of 165 ft., which work provided several shipments of high-grade ore. Ore shoot ranges from 12 inches to 24 inches wide and consists of quartz carrying about \$12.00 to \$25.00 in silver and gold besides copper and zinc values. Shaft now re-equipped with hoist and development at this point is a promising undertaking.

EASY STREET VEIN: Probably the southeastern extension of Sabbath Bell and of same size and character though carrying high copper and zinc values where opened by two shafts 100 ft. and 50 ft. respectively. Workings not inspected. A small dump of ore rejected from shipments assays \$2.00 gold and 24 oz. silver per ton with high copper and zinc contents. This portion of the group is of considerable promise.

GENERAL

The several veins have good surface showings and have provided rich shipping ore at almost every point opened in the entire property. The future of the mines depends on deeper development opening up shoots of primary sulphide ore on the several veins. From present showings and an analogy drawn from results of deep development at other mines along the same mineral belt, there are good reasons to expect the opening up of profitable ore bodies and shoots in the properties under review.

- The concurrent exploitation of the several veins is likely to develop, and keep provided, sufficient tonnage for the operation of a central concentrating plant.

Singly or combined, the properties offer a development proposition of sound merit.

C. H. JAMES, E.M.

May 27, 1957

MOHAVE COUNTY
MINERAL PARK DIST.

GEORGE WASHINGTON & SABBATH BELL MINES

No information on this property.

MARK GEMMILL

Copy of original
"1916"

RESUME' OF REPORT

on

THE GEORGE WASHINGTON and SABBATH BELL MINES
MINERAL PARK, MOHAVE COUNTY, ARIZONA.

by

C. H. JAMES, E. M.

- - - -

THE PROPERTY:

The George Washington group comprises six claims and the Sabbath Bell three claims, situated in Mineral Park Basin, Cerbat Range, twenty-four miles north of Kingman, and three and one-half miles from Keystone Siding on the Chloride Railroad. Good auto roads connect the property with Kingman and Chloride. The elevation is from 4000 to 5000 feet.

HISTORY OF THE DISTRICT:

The principal veins were worked for oxidized ore in the early days and provided shipments of high-grade silver, copper and gold ores. The drop in the price of silver and the ores becoming basic and "zincy" in depth, active operations in the district mostly ceased some years ago. Improved metallurgy of mixed sulphide ores and the growing demand for zinc concentrate have resulted in a general re-habilitation of the mines of the district, notably the Golconda, Tennessee, Midnight and La Fontaine, the successful results of which have lead to a keen revival of mining throughout the Cerbat Range, and particularly along the mineral belt in the center of which is situated the Washington and Sabbath Bell groups.

SUMMARY

The George Washington and Sabbath Bell groups comprise 9 mining claims situated in Mineral Park Basin, Cerbat Range, Mohave County, Arizona, and are reached by 24 mile auto road from Kingman, or $3\frac{1}{2}$ miles from Keystone Railway siding on the Chloride Branch of the Santa Fe Railroad.

THE VEINS

Fissures in gneissic granite. General strike N.W.-S.E.; dip vertical to 70 deg. N.E. Veins leached to 70 ft. and over, with irregular secondary deposits of high grade silver-copper ores which have mostly been mined in the early days. Sulphide zone usually carries lower silver and copper values but lead and zinc increasing with depth. The ore shoots have a width of from 12 in. to 48 in. and are fairly continuous so far as developed.

WASHINGTON VEIN: Opened by two tunnels. 350 ft. of drifting on vein. No. 2 Tunnel shows oxidized and secondary sulphide ore of commercial value. About 150 tons selected ore from Washington and Black Vein in Nos. 1 and 2 Tunnels shipped by recent owners reported to have had a net value of over \$130.00 per ton. Deeper development promises the opening up of pay-shoots in the permanent sulphide zone.

No. 3 Tunnel driven for over 200 feet in pyritic quartz ore, ten inches to forty eight-inches wide carrying ruby silver and ranging in average value from \$8.00 to \$50.00 and over per ton. A winze being sunk below tunnel with improving width and values, and a spur vein being drifted on S.W. with similar result. A dump of selected ore assays \$2.00 gold and 71 oz. silver per ton. Deeper work is necessary to prove the vein below this transition pyritic zone.

BLACK VEIN: Runs parallel with Washington vein and 30 to 100 ft. to South-west. Opened by Numbers 1 and 2 Tunnels in oxidized zone where small shipments of high grade ore were mined in the past. Vein is 15 inches to 6 ft. wide and workings show sulphide and oxide ores warranting deeper development.

NOONDAY VEIN: Situated 400 ft. South-west of Washington vein, is from 2 ft. to 6 ft. wide and is associated with a siliceous dike. Prospected in oxidized zone by shafts 100 ft and 30 ft deep and several short tunnels. General appearance and surface values indicate the existence of strong ore-shoots below these shallow workings. Small shipments of very high grade silver ore were mined from the Noonday shaft workings. Bottom of shaft said to have good ore but is inaccessible at present. Deeper exploitation along this vein is an attractive development risk.

The official figures of the Chloride Chamber of Mines show that the mines of the Cerbat District produced over \$3,000,000 during 1915, and this is likely to be largely increased for the current year. Practically all of this output was from primary sulphide ores from the lower levels of re-opened mines that were previously depleted of high-grade secondary silver ores occurring near the surface.

There are fair indications that deeper work on the George Washington and Sabbath Bell veins will open up workable bodies of similiar primary sulphide ore.

TOPOGRAPHY:

The properties occupy the North-western slope and portion of the center of Mineral Park Basin, the George Washington group being on the steep western spur of the Cerbat Range and the Sabbath Bell, adjoining to the South-east, occupies flatter but irregular ground.

GEOLOGY:

The prevailing rock is the pre-cambrian gneissic granite complex of the Cerbat Range, with contained masses of quartz-porphry and cut by dykes of diabase, aplite and other intrusives.

The veins are fissures having a general strike of N. 50° West, and dip vertically or slightly to the North-east. They are usually associated with intrusive dikes of both earlier and later origin to the ore deposition.

The veins are mostly filled with quartz carrying a variable proportion of pyrite, chalcopryite, galena and zinc blende, the lead and zinc increasing in amount as the primary (unaltered) sulphide zone is reached.

Near the surface the veins are honey-combed and contain much iron oxide, with irregular bunches and shoots of secondary ore carrying high silver values in the form of chlorides, antimonial silver and native silver ore, associated with copper glance and secondary chalcopyrite.

Below the secondary surface altered zone the ore becomes more pyritic and carries a little zinc and lead as well as an appreciable amount of antimonial silver (proustite). The present deeper workings are apparently passing from this transition zone into the primary sulphide zone, with increasing zinc and lead contents in the ore. The veins of the district have been found to maintain their size and value as far as followed down in this unaltered zone.

THE VEINS:

The George Washington vein trends north-westerly through the length of two claims and has a width ranging from two to five feet. The ore occurs in short shoots at frequent intervals. About 370 feet of drifting and 150 feet of raising and winzing have been done on the vein. In the No. 2 Tunnel workings several "makes" or shoots of high-grade copper-silver-gold ore have been mined, the present owners having shipped about 150 tons of ore of an average net value of over \$135.00 per ton, extracted from the Washington and Black veins in Nos 1 and 2 Tunnels.

A moderate amount of this secondary ore is showing in these workings and a considerable amount may yet exist below No. 2 Tunnel and above the transition zone, though this secondary ore is of minor importance for the future of the property. No. 3 tunnel, started 920 feet south-east of No. 2 Tunnel and 220 feet below the level of

carrying pyrite, ruby silver ore (proustite) and small amounts of lead and zinc sulphide. The average width of the ore-shoot is about twenty-four inches and the silver-gold values average from \$6.00 to \$25.00 per ton.

This ^{is} concentrating ore but a proportion of the value being in the form of antimonial silver, amalgamation in grinding pans may be advisable in treating portions of the ore, except of course the grades of crude ore having sufficient value for shipment to smelters.

A winze being sunk from No. 3 Tunnel under a seventy foot rise to surface, has attained a depth of eight feet or eighty feet from surface, and the four feet of ore exposed shows increasing zinc and lead, and silver-gold contents.

THE BLACK VEIN:

This is situated thirty feet to one hundred feet south-west and roughly parallel to the Washington vein, and is of similar character at the surface and in No. 2 Tunnel workings, but has not yet been exposed at No. 3 Tunnel level.

NOONDAY VEIN:

This is a strong vein associated with a silicious and porphyritic dike situated 420 feet south-west of the Washington vein and dipping at 80 degrees towards it. The general strike is north 70° West and the vein ranges in width from twenty inches to six feet with indications along the outcrop of much greater widths in places.

The principal openings along this vein are at the Noonday shaft eighty feet deep, which is sunk at a point opposite the No. 3 Tunnel raise and at an elevation of about

Noonday Shaft. This vein is also exposed in a shallow tunnel on the Live Wire Claim, where for over thirty inches wide it carries heavy zinc and copper contents, having apparently reached the primary sulphide zone at this level. (See sections)

Small shipments of high-grade chloride ores have been mined from the Noonday Shaft workings. The rich ore occurring in irregular stringers and bunches. Samples of exposures along the outcrops show gold and silver values ranging from \$1.00 to \$10.00 per ton for widths of two to four feet.

This vein offers encouragement for vigorous development at depth either by stripping and deepening the old Noonday Shaft or drifting north-westerly along the vein after extending the Noonday Tunnel about fifty feet to cut the vein, though it is questionable if the latter work would be deep enough to penetrate the primary sulphide zone upon which the future of the mine depends.

"BILL TAFT" VEIN:

This traverses the south-western portion of the group and is the extension of the Sabbath Bell vein. Its proximity to the Kay vein now being developed with promising results, gives it considerable prospective value.

SABBATH BELL:

The Sabbath Bell vein traverses the Sabbath Bell and East Street claims situated in the center of Mineral Park Basin. It is prospected by numerous surface cuts, shallow tunnels and pits.

A shaft near the center of the Sabbath Bell is sunk on the vein to a depth of 115 feet, and at the 100 foot level is driven twelve feet north-west and 150 feet south-east, mostly on ore which was stoped to surface and shipped.

A dump of rejected ore from this stoping assays twenty-five ounces silver and \$2.00 gold per ton. The workings were

flooded at the time of the writer's visit so the level could not be sampled underfoot, which work would probably show very high values in places. A headgear and hoist have been erected and the proposed development at this point of the property is a good development risk. The ore which has a width of ten to twenty inches, consists of quartz heavily mineralized with pyrite, chalcopyrite, blende and a little galena and is a good concentrating material.

As elsewhere along this mineralized belt, the ore near the surface has been so leached, altered and replaced that depth is necessary to determine the character and value of the permanent ore-shoots, and in this matter it is of note that in the few mines developed to appreciable depth, the ore-shoots are larger and richer than in the higher levels of the partly-oxidized zone.

Near the center of the Easy Street claims, two shafts 100 feet and 50 feet deep, and 50 feet apart, have been sunk on the vein. These workings were inaccessible at the time of the writer's visit but from credible information and sampling of the dumps, the vein here carries ore of payable grade over widths of from ten to twenty-four inches. A sample of a small dump of ore, apparently "culls" from ore shipments, assays \$37.60 in silver and gold, with high copper and zinc contents not yet determined.

Samples by Mr. Hoover of the ore shoot in the 100 foot level assayed: gold 0.24 oz; silver 58.6 oz. (\$34.10) and appreciable copper contents for a width of 12 inches.

The development of the vein at this point appears to offer a good chance of developing shoots of shipping and concentrating ore.

OTHER VEINS:

A strong vein runs through the "Clean Shirt" claim and deserves some attention, as also does the "Bill Taft" and

levels and immediate deeper development is now contemplated by operators. The Kay vein adjoining the Washington group on the west, contains a strong vein, the development of which is opening up bodies of zinc-copper-gold ore.

The Golden Star, credited with considerable shipments of high-grade ore, adjoins the Washington to the east and sinking is now in operation to develop the ground underneath the rich secondary ores mined in the past. Several other properties in the vicinity are being re-opened with the same object in view.

WORKING CONDITIONS:

WATER is obtainable for all purposes from the workings.

POWER: The Desert Power and Water Company's line to Chloride is in the course of erection, but for the near future gasoline or oil power will be used.

LABOR: Wages vary from \$3.00 to \$4.00 per day for skilled and unskilled men.

FREIGHTING from Keystone Siding costs about \$5.00 per ton.

CONCLUSION:

The present showings and general conditions of the George Washington and Sabbath Bell properties fully justify a vigorous development campaign to test at depth and open up this attractively situated mining area. The deep prospecting of the Noondan vein; the sinking of the winze from No. 3 Tunnel on the Washington vein, and the proposed development at the Sabbath Bell and Easy Street shafts together constitute an attractive mining enterprise.

C. H. JAMES

To:

Mining Engineer,

Mr. Edward J. Hoover,
Chloride, Arizona.

Kingman, Arizona,

February twenty-first

1916.