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L O S T B A S I N
G O L D P L A C E R
Mohave County, Arizona

John E. Kinnison

September 6, 1968

3-8-1.1
Gold Placer
Lost Basin (J.E. Kinnison Rep
Mohave County
Arizona

3-8-1.1

LOST BASIN

AMERICAN SMELTING AND REFINING COMPANY
Tucson Arizona

September 6, 1968

TO: Mr. J.H. Courtright

FROM: Mr. J.E. Kinnison

Lost
Low Basin
Gold Placer
Mojave County, Arizona

Summary and Conclusions

The subject placer area, recently reported to run 50 to 75 cents per yard, is north of Kingman and south of the Colorado River. The area is dry, on the east edge of the Mojave desert, and all water is hauled to the placer fields. Gold value of the (-) $\frac{1}{4}$ inch fraction (which constitutes 70% of the gravels), ranges from trace to 28 cents per cubic yard, and appears to be quite "spotty". The gravels on Grapevine mesa are only one to four feet thick, at which depth they become firmly cemented by caliche. Although the caliche is most likely to be a near-surface feature of limited thickness, no specific knowledge is available on this point, or on the gold values which might be contained in the gravels beneath this caliche layer.

The values I obtained do not check the reported higher values, and I conclude the areas are of no interest to Asarco. I see no geological reason to drill beneath the caliche layer on Grapevine mesa.

General Statement

The subject placer prospect was reported to contain more than 500 million cubic yards of gold valued at 50 to 75 cents per yard, according to recent U.S.G.S. sampling of an 8 to 10 square mile area. Accordingly, I briefly examined the possible placer areas, assisted by Sergei Zelenkov, spending two days on the ground following a brief air reconnaissance from Kingman.

The attached sample map shows gold values and other pertinent features. The area sampled by the U.S.G.S., according to local people, was principally on Grapevine mesa, from the vicinity of Hart's Camp south past the King Tut and Lone Jack placers. Their samples were limited, as were those which I took, to the gravel above hard caliche which is everywhere present at a depth of one to four feet. As the map indicates, we also sampled the west side of the Lost Basin Range.

Samples were screened in the field, and the (-) $\frac{1}{4}$ inch fraction fire assayed by Jacobs in Tucson, using duplicate runs of one assay ton each. I panned one sampled in the field which showed no "colors" (fire assay reported "trace") Most samples weighed, after screening, about ten pounds, although some were heavier. Three small holes were dug and measured in taking three of the samples. The measurement, when calculated against sample weight, gave a density of solid rock--which is not possible. I conclude the holes were too small (1 sq. ft. by 1 ft. and also $\frac{1}{2}$ ft. deep) for accurate measurement. Conversion of the assays from ounces per ton to ounces per cubic yard was done using a tonnage factor of 16.8 (1.6 tons/yard). This is the conversion used at Mission, where the gravels are visually very similar to those of Lost Basin.

Additional data are included in the appendix.


John E. Kinnison

BEK:ir

APPENDIX

Sample Descriptions

June 26, 1968

- 1861- Small arroyo on south fan, west side of Lost Basin Ridge. 19 3/4 lb. sample. 13 3/4 lb., screened (+ 1/4"). No large boulders.
- 1862- Second fan north. House. From bank 6'. Hard caliche, 50% boulders with clay and sand, 50% hard.
- 1863- Sand wash adjacent to 1862. 9 lb. screened. 14 1/2 lb. total before 1/4" screen. Soft and no boulders. Taken near curve in wash.
- 1864- North of 1863 on top of fan. 48 1/2 lb. in four sacks= (screened (-) 1/4" from 1' x 1/2' hole. Soft, few 4" boulders.
- 1865- In arroyo 500' south of 1864. Screened portion from sandy bottom behind natural "rock riffles".
- 1866- 21 1/2 lb. total. Screened fines top of ridge SW of watertanks of King Tut. 10 1/2 lb. screened sample. Lots of clay. Not many large frags.
- 1867- Prospect cut 1,500' west of tanks by King Tut. Gravel just above bedrock. Panned-no gold shown.
- 1868- Shovel sample (screened) from pile of muck from prospect cut on road out of Lost Basin.
-

June 27, 1968

- 1869- South of road to Lake Mead and south of Lost Basin. 4' bank above caliche, trenched, and some is apparently dry washed. Soft sand with 25% est plus 1/4" screened.
- 1870- Same. North 200' from 1869. Note: both samples sands partly sorted and some streaks of black sand. Samples are vertical channel cuts, 4" x 3'.
- 1871- Cut bank ± 2 miles south of King Tut. Boulders, caliche layers, and soft sand (moderately). 18 lb. + 1/4". Sample 9 3/4 lb.
- 1872- 32 1/4 lb. screened sample from 1 ft. x 1/4 ft. hole on top of ridge north of narrow guleh which has been worked throughout its bottom, the placer channel being two to five ft. wide only x 1,500 long.

Sample Description (con't)

- 1873- Top of ridge SW two miles from King Tut. No weights. Did screen it but apparently forgot to record. Probably about 30% plus 1/4.
- 1874- 7' "Channel-chip" from hard cgl-sand, bedding well developed. 10% alt. quartz or granite frags. Natural stream cut bank. North of King Tut 1,500' (est. 15% plus 1/4").
- 1875- From pile in front of drywasher 1,000' N of Hart's Camp.

30 So. Main St.
P. O. Box 1839

Jacobs Assay Office

Registered Assayers



PHONE Main 2-0313

DUPLICATE

Certificate No. 58378

Tucson, Arizona,

July 5 1968

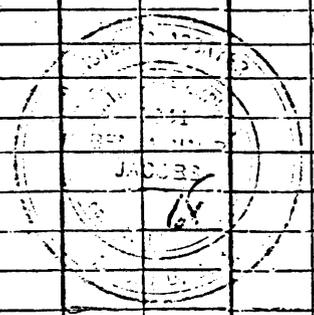
Sample Submitted by Mr.

American Smelting & Ref. Co. Mr. J. E. K.

SAMPLE MARKED	GOLD Ozs. per ton ore	GOLD Value per ton ore	SILVER Ozs. per ton ore	COPPER Per cent Wet Assay	LEAD Per cent Wet Assay	Per cent Wet Assay	Per cent Wet Assay
# 1861	Trace	\$					
62	Trace						
63	0.003						
64	0.005						
65	0.003						
66	Trace						
67	Trace						
68	Trace						
69	Trace						
70	0.005						
71	0.003						
72	0.003						
73	0.005						
74	Trace						
75	Trace						
76	0.003						

J. E. K.

JUL 08 1968



Note - Duplicate - ONE ASSAY TON - CHARGES MADE ON ALL SAMPLES.

* Gold Figured \$35.00 per oz. Troy

Charges \$ 50.00

Very respectfully,

Robert J. Jacobs

Geophysical studies near Fairbanks—Preliminary tests of magnetic and electrical methods as tools for exploration for gold placers and lode deposits were completed in the Fairbanks district.

Resistivity soundings give a reasonably clear picture of bedrock configuration below gravels despite problems posed by permafrost. At Wiseman, about 200 miles north of Fairbanks, resistivity measurements suggest that bedrock is too deep to reach with present-day dredges.

Efforts to detect narrow gold-quartz and sulfide veins on Cleary Dome north of Fairbanks were made using electromagnetic (EM) and induced-polarization (IP) methods. The veins apparently are too small to detect using EM, but both distribution and attitude of sulfide concentrations were established using IP.

Magnetic profiles failed to reveal any concentrations of magnetite such as might be associated with placer gold.

Reconnaissance studies in southern Brooks Range.—Geochemical sampling in the Chandalar and Wiseman quadrangles in the southern Brooks Range of north-central Alaska revealed a silver anomaly that extends the potential silver-bearing area around a known silver prospect. A gold anomaly was found along the Mikado shear zone 0.5 mile west of the Mikado mine at Chandalar Lake. Sampling of apparently favorable areas in the Table Mountain and Coleen quadrangles along the northeast border of Alaska yielded negative results.

Geologic mapping in Wrangell Mountains.—Geologic mapping of six 15-minute quadrangles in the Wrangell Mountains in south-central Alaska has been completed. These maps will provide a sound base for further study of the heavy metal potential of the region.

Gold in gravel of Kougarok River.—Small amounts of gold have been found in gravels of the Kougarok River in the western part of Seward Peninsula. Seismic profiles near the mouth of the river indicate a buried north-trending channel, possibly indicating a pre-gravel drainage direction. These gravels, formerly thought to be of Tertiary and Pleistocene age, are now believed to be entirely of Pleistocene age.

Gold veins at Nuka Bay.—Several quartz-arsenopyrite veins at Nuka Bay, at the southwest end of Kenai Peninsula, southwestern Alaska, contain as much as 10 ounces of gold per ton. The veins are short and discontinuous, and ore shoots are erratic, but small-scale mining may be feasible.

Arizona

Gold deposits of Gold Basin and Lost Basin.—Study of gold lode and placer deposits of the Gold Basin-Lost Basin area south of Lake Mead in northwestern Arizona has shown that alluvial placers of Pliocene(?) and Quaternary age on the flanks of the Lost Basin Range are the most promising. Small veins of quartz, sulfide minerals, and gold are abundant in Precambrian rocks of the region, and some contain coarse gold, but most are

too small to be of economic interest. Placer deposits derived from Pliocene(?) pediment gravels have formed along arroyos on the east side of the Lost Basin Range over an area of 8–10 square miles. On the west side of the range, some placer deposits in Quaternary alluvial fans are being mined on a small scale. Potential resources may exceed 500 million cubic yards of gravel containing 0.01–0.02 oz gold (\$0.35–\$0.70) per cubic yard. A sampling program is being planned with the U.S. Bureau of Mines.

California

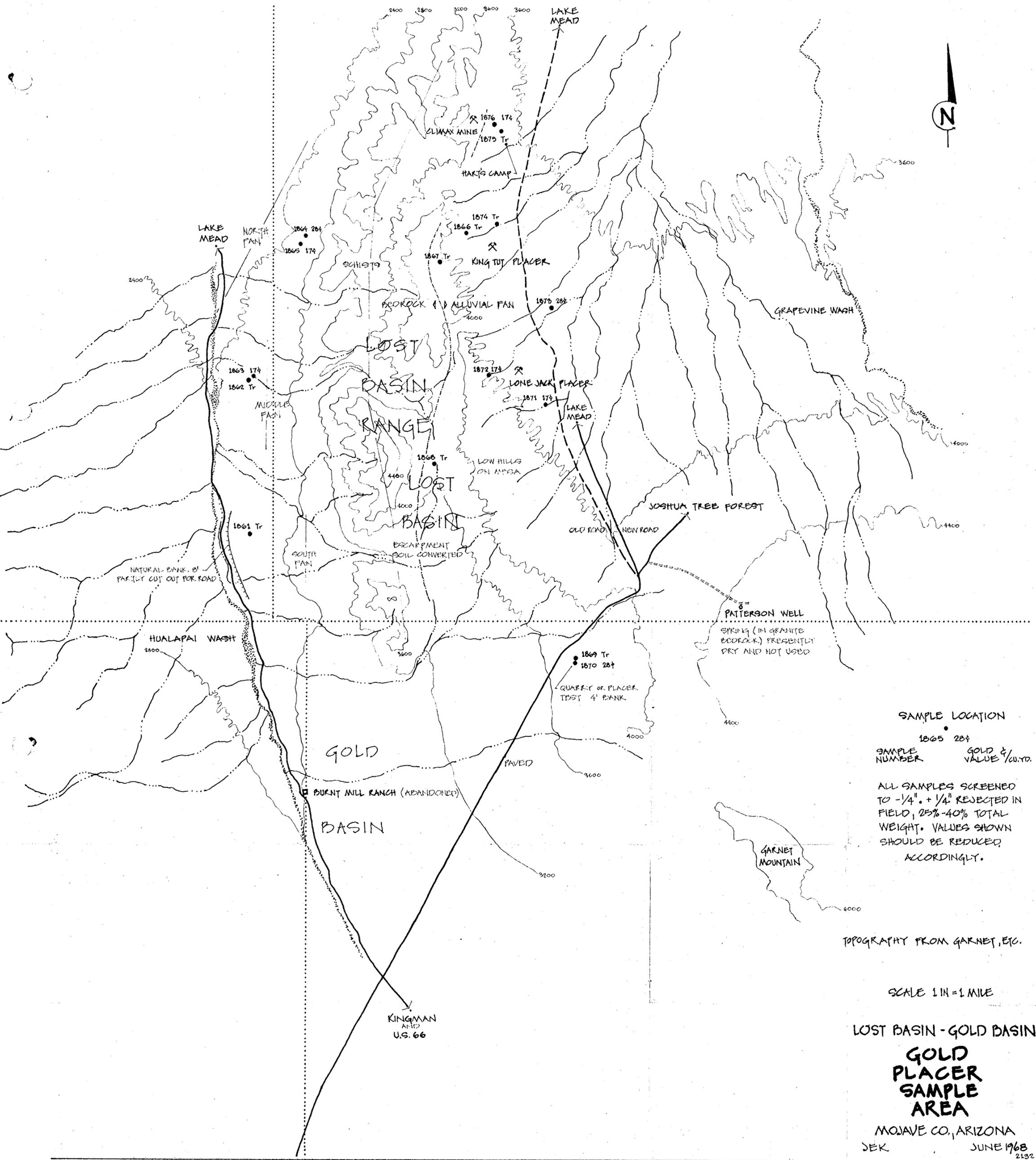
Aeromagnetic map of part of the Mother Lode.—An aeromagnetic map of parts of the Mother Lode gold and Sierra Foothills copper mining districts in Calaveras, Stanislaus, and San Joaquin Counties, together with a geologic interpretation (U.S. Geol. Survey Map GP-561), shows that many of the ore deposits in this region are related to the Bear Mountains and Melones fault zones, which locally are intruded by ultramafic rocks that give rise to magnetic highs. Magnetic evidence suggests a similar buried fault zone 8–9 miles southwest of the Bear Mountains zone. Possible near-surface magnetite- and ilmenite-bearing sands, which elsewhere in the region are known to contain placer gold, also are indicated by the magnetic data.

Aeromagnetic surveys of the Mother Lode-Grass Valley area to the north in the Sierra Nevada have been completed. Some electromagnetic anomalies detected by aerial surveys have been checked on the ground; the conductive units appear to be black slates or phyllites and flat-lying volcanic rocks and gravels.

Tertiary gravels, Nevada County.—As an initial stage in the study of Tertiary gold-bearing gravels in the Sierra Nevada, the San Juan Ridge channel in Nevada County was traced for about 15 miles. The sinuous channel is $\frac{1}{4}$ – $1\frac{1}{2}$ miles wide and along its axis is filled with 200–300 feet of gravel. Paleocurrent data show that the ancient river flowed from east to west. Twenty samples were collected for study and analysis. Much gravel was removed from this channel during hydraulic mining prior to 1885, but a large amount remains.

Field tests of six geophysical methods for studying possible gold-bearing Tertiary stream gravels in the Sierra Nevada were made north of Nevada City and are being evaluated. Seismic-refraction methods supplemented by gravity measurements appear to be best for determining bedrock configuration. Resistivity methods provide knowledge of conductive layers and may be able to locate the productive "blue lead" when other methods fail. Magnetic methods are useful if concentrations of magnetite-rich black sands are associated with gold, and induced polarization may detect disseminated sulfides that in places are associated with gold concentrates. Electromagnetic techniques do not appear promising at this preliminary stage.

Low-level (400 ft above terrain) magnetic, electromagnetic, and radiation profiles were flown across the



SAMPLE LOCATION
 1865 284
 SAMPLE NUMBER GOLD & VALUE /CU.YD.

ALL SAMPLES SCREENED TO -1/4" + 1/4" REJECTED IN FIELD, 25%-40% TOTAL WEIGHT. VALUES SHOWN SHOULD BE REDUCED ACCORDINGLY.

TOPOGRAPHY FROM GARNET, ETC.

SCALE 1 IN = 1 MILE

LOST BASIN - GOLD BASIN
GOLD PLACER SAMPLE AREA

MOJAVE CO., ARIZONA
 SEK JUNE 1968
 2132