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August 9th, 1941.

Mr.R.G.Follis,
Standard Oil Building,
San Francisco, Calif.

Dear Sir:

Pursuant to your request, I have examined your holdings in San Luis Obispo County, west of Paso Robles, from the standpoint of their value as potential quicksilver ground. Although the Cypress Mountain prospect, which your holdings partly cover, lies along one of the major productive fault zones of the region, I find the chances for ore too speculative to justify exploration of such an inaccessible prospect.

Yours very truly,

Edward Wisser

# REPORT ON THE CYPRESS MOUNTAIN QUICKSILVER PROSPECT, SAN LUIS OBISPO CO.,CAL.

Edward Wisser.

## INTRODUCTION.

The following report is based on a visit to the property and the surrounding region, July 30th to August 2nd, 1941; on a recent publication,"Quicksilver Deposits in San Luis Obispo County "etc., U.S.Geological Survey Bulletin 922-R (1941); and on information furnished the writer by Dr. N.L.Taliaferro, Chairman, Department of Geological Sciences, University of California.

While the appearance of the Cypress Mountain prospect is not attractive, it lies along the same fault zone as the Little Bonanza and Libertad quicksilver mines, producers in the past. The Cypress Mountain property was for that reason studied with some care, lest some chance for ore not immediately apparent be overlooked.

## LOCATION. ACCESSIBILITY.

The Cypress Mountain prospect lies some 14 miles airline almost due west of Paso Robles, and about 8 miles airline northeast of Cambria on the coast and on State Highway 1. It lies in Section 1, Township 27 S, Range 9E, Mt.Diablo Base & Meridian. The Follis holdings, to which particular attention was paid, are shown on the accompanying map.

The property is difficult of access. It lies on a north spur of Cypress Mountain, on the very crest of the Santa Lucia range; the spur reaches an elevation only 100' lower than that of Cypress Mountain itself. Leaving the car near the road from Paso Robles to Cambria via the Klau mine,the property is reached by a very bad trail 2.5 miles long, involving an ascent of nearly 1700'. The country is so

rugged that an automobile road could be built to the prospect only at prohibitive cost. Inaccessible mines,to which supplies must be taken by pack animals, may be operated if they are rich enough; but showings must be far better in an inaccessible place than close to a highway to justify the risk of exploration.

HISTORY.

The two tunnels, now caved, on the north slope of the mountain and shown on the map,were evidently driven prior to 1903, for Forstner ( Quicksilver Resources of California, State Mining Bureau,Bull. 27,1903, p. 156) mentions them, and says that in one of them an ore body 10' wide was cut, in a black clay gouge with sandstone bowlders; it was not plain at the time whether this was a regular ledge or merely a lens, but since Forstner says also that here the croppings are not very plain, and scattered, it is highly probable that this was merely a lens. Forstner mentions the Columbia tunnel, near the northwest corner of Section 1,and says the material taken from this tunnel prospects very fairly for cinnabar. Search was made for this tunnel (although it would lie well off the Follis holdings) without success.

Apparently no work has been done on the property since these very early days. In 1939 or 1940 it was visited by U.S.Geological Survey geologists,and in Bulletin 922-R appears the following:

Very little can be ascertained as to the amount of work done or conditions encountered underground, for the workings are completely caved. No cinnabar was found by the present party either in place or on the dumps...

GENERAL GEOLOGIC SETTING.

The property lies within the Adelaide-Oceanic quicksilver district, in the Coast Range west of Paso Robles. The district has been only moderately productive, yielding about 69,000 flasks from

1876 to 1939, for a total value of about $3,900,000. Seventy percent of this production came from the Oceanic mine, 3 miles airline southwest of the Cypress Mountain prospect, and the Klau mine, 3 miles east of the prospect.

The chief rocks of the region are Franciscan (upper Jurassic) shale, sandstone, chert and conglomerate, with interbedded basalt flows and intruded masses of serpentine of nearly the same age. Overlying the Franciscan in many parts of the region, but not near the Cypress Mountain prospect, are shale and sandstone beds of Cretaceous age. Tertiary shale, limestone and sandstone in places overlies directly the Franciscan, in places the Cretaceous. Several bodies of intrusive Tertiary rhyolite occur in the region, notably one of considerable size at the Cypress Mountain prospect and shown on the accompanying map.

The Franciscan rocks are intricately folded and faulted, the younger rocks progressively less so. The folds in general trend northwest. The most striking structural feature however is a great series of northwest fault zones, most strongly developed in the Franciscan rocks, but in many cases traversing younger rocks as well. These fault zones are zones of sheared and brecciated rock from a few feet to several hundred feet in width. The stronger zones are many miles long; most of the faults are steep.

These great fault zones were seats of movement from the close of the Jurassic practically to the present day. During the period of quicksilver mineralization (probably Pleistocene) minor tensional fractures (open fissures) were formed in places along most of these zones, and quartz, carbonate, pyrite, cinnabar and other minerals deposited. The so-called silica-carbonate rock may be found along nearly all these fault zones, together with cinnabar in minute quan-

tities. Only in a few favored localities were conditions right for the concentration of cinnabar in workable ore bodies.

The northwest faults localized the ore bodies in a way rather remarkable. Starting on the northeast edge of the district, the Klau, Mahoney and Capitola mines lie strung out along the Klau fault zone. On the next zone to the southwest lie the Ocean View, Buckeye, Pine Mountain and Little Almaden mines, in the northwest part of the district. This zone is probably continuous to the southeast with the Cypress Mountain-Madrone zone, part of which is shown on the map, and along which lie, from northwest to southeast, the Cypress Mountain prospect, and the Kismet, Little Bonanza, Libertad and Madrone mines. The Marquart mine lies on the next fault zone to the southwest, and on the fault zone nearest the coast lie the Cambria, Wittenburg, Oceanic and Fitzhugh mines.

Nearly all the mines are in Franciscan rocks; the country rock at the Oceanic however is Tertiary sandstone and diabase.

The ore deposits are of two types: disseminations in sandstone and serpentine close to a fault zone (Oceanic and Cambria) and irregular veins (Little Bonanza, Libertad). The veins range from a few inches to 20 feet in width, and are steeply-dipping irregular pod-like lenses. They are mostly silica-carbonate rock, with irregular bunches of cinnabar within the vein matter. Many such lenses trend transverse to the strike of the fault zones (usually roughly east-west).

In prospecting, the presence of silica-carbonate rock is the best guide to ore, even where, as at the Klau and Mahoney mines, silica-carbonate rock is not directly connected with the ore bodies. Another ore guide is the presence of a sharply-defined rather than a weak, diffuse fault zone.

CYPRESS MOUNTAIN PROSPECT.

Refer to accompanying map. The salient feature is the rhyolite mass that caps the ridge. It is apparently a plug or intrusive body that came up along the Cypress Mountain fault zone and spread out, at the horizon of the present surface, umbrella-like, as a sill. A dike-like offshoot makes away from the plug-sill, to the east, and another, the start of which is shown on the map, to the north.

The Madrone-Cypress mountain fault zone in this vicinity is far from well-defined, although it is a very definite, strong zone farther southeast, at the Little Bonanza and Libertad mines. Except that it can be traced to Cypress Mountain by silica-carbonate rock, it would hardly be recognized in itself on that mountain, for the Franciscan beds seem as contorted away from the zone as in it.

The chief country rock around the rhyolite plug is Franciscan sandstone; but there are several horizons of chert, and at least one of coarse conglomerate and one of pillow basalt. These beds are sharply folded along northwest axes, as suggested on the map.

Evidences of mineralization are widespread but on the whole, weak. In the northeast corner of the area is a short tunnel and winze full of water, driven on an old hot spring. Abundant iron and other sulphates were deposited, but apparently no cinnabar. Between here and the caved tunnels to the west, there are a number of scattered, weakly mineralized areas not mapped.

Both the northeast and the southwest margins of the rhyolite mass show weak mineralization, a feeble approach to silica-carbonate rock. On the southwest side there is a 30' tunnel and a pit. The tunnel shows a rather strong but barren silica-carbonate vein near its portal, and another inside. The sandstone here is silicified, and some

marcasite (iron sulphide) was deposited. The pit shows only silica and carbonate mineralization, decidedly weak.

On the northwest side, two tunnels were driven; both are now caved. The upper tunnel shows a cut above its portal, probably the cropping under which the tunnel was driven. The cropping as now visible shows only iron-stained to ochreous Franciscan sandstone with feeble carbonatization. The dump shows largely sandstone also, some of it serpentinized, with chunks of near-silica-carbonate rock. No cinnabar colors were seen. A picked sample of this rock gave only ;0.10 a pound of quicksilver per ton.

The dump of the lower tunnel shows much less mineralization, and consists mainly of chert, sandstone, shale. Mineralization is limited to carbonate veinlets in chert and sandstone.

In spite of these poor showings, one possibility suggested itself: the sill or umbrella character of the rhyolite mass may have acted as a trap above quicksilver solutions rising from below, and may have effected a concentration not visible from the surface. It is true that at the two caved tunnels on the northwest side of the mass, the rhyolite is a cover; this may be seen in the cut above the upper or southern tunnel, and deduced from the fact that the lower tunnel started in rhyolite and entered Franciscan rocks as shown by the dump. Study of the rhyolite mass suggests strongly, however, that this rhyolite cover is only a small projecting flange from a body essentially plug-like, with steep sides. No ore of course may be expected within the rhyolite itself, and since it is only to a small degree a capping or cover, chances for ore in its vicinity are thought poor.

Near the northwest corner of Section 1, and outside the Follis

holdings, it is not so certain that the rhyolite mass is steep-sided and plug-like. It may have spread out as a cover here, and since the Columbia tunnel, supposedly in this area on the southwest side of the rhyolite mass,is said by Forstner to show cinnabar,this northwest area has some speculative promise. The ground is marked vacant on the land map shown me, and if it is not it could probably be cheaply acquired.

CONCLUSIONS.

The Cypress Mountain prospect looks unattractive to me, and I am unable to recommend its exploration. If it lay close to a highway I should be tempted to suggest reopening of the lower tunnel. The dike-like mass making off to the north from the main plug lies just west of this tunnel, so there is little hope of getting under the possible cover to the northwest by driving a drift on any ledge cut in the tunnel. But if the face of the tunnel is still in Franciscan, driving the tunnel farther southwest as a crosscut might be indicated, because the steep northwest side of the rhyolite plug probably acted as a channel for the rising mineralizing solutions, and the rhyolite flange or cover projecting out from the main mass above the tunnel might have acted as a trap to concentrate ore.

In addition to this work, the Columbia tunnel might be found and reopened, provided this area can be aquired.

These are merely suggestions to anyone desirous of reopening the property. I think the Cypress Mountain prospect too long a shot to justify its exploration in such an inaccessible locality.

San Francisco, August 9th,1941.

Edward Wisser
Mining Geologist.

August 9th, 1941.

Mr.R.G.Follis,
Standard Oil Building,
San Francisco, Calif.

To Edward Wisser, Dr.

| | |
|---|---|
| To professional services,examination of Cypress Mt. prospect, 4 days @ $50.00 | $200.00 |
| Mileage, 533 miles @ $0.05 | 26.65 |
| Room and board | 8.45 |
| Meals en route | 3.00 |
| Paper, white print etc | 2.45 |
| Preparing report | 5.00 |
| Quicksilver assay | 2.00 |
| | $247.55 |

101C Bacon Hall
University of California
Berkeley, California
August 2, 1941

Dear Mr. Wisser:

The following is a list of expenses incurred during the quicksilver investigation on the Follis Ranch at Templeton:

| | |
|---|---|
| 4 field days @ $15.00 per day . . . | $60.00 |
| Mileage: 533 miles @ .05 per mile | $26.65 |
| Room and board . . . . . | 8.45 |
| Maps, etc. . . . . | 1.93 |
| | $97.03 |

Yours truly

A. L. Repecka

Payment Rec'd
8/20/41
A.L.R.

Wm.Forstner: The Quicksilver Resources of California. Bull.27, Calif. State Mining Bureau, 1903, p.156.

Cypress Mountain Group.-Adelaide District. In Secs.1 and 2,T.27S, R. 9 E. J.H.Follis,of San Francisco,and E.Smith and W.S.Forrington,of Paso Robles, owners. This group of mines is located near the only exposure of igneous rocks appearing in this district,and near the prominent serpentine exposure of Cypress Mountain. The dike of rhyolite,about three quarters of a mile long and 800 feet wide,runs about N.30°W. On the west side lies a readily traceable line of croppings,which however, only been superficially opened at one point,in the northwest corner of section 1, by the Columbia tunnel;the material taken out of this tunnel prospects very fairly in cinnabar. Most of the work has been done on the northeast side of the rhyolite dike;on this side the croppings,are not very plain, and scattered. In one tunnel an ore body has been cut about 10 feet wide, in a black clay gouge with sandstone boulders;whether a ledge or a lens of ore cannot be stated. On the hangingwall,but apparently belonging to the ledge filling,is a stratum of chert quartz about 12 inches thick.

Kismet Group.- From USGS Bull.922-R (1941):Quicksilver Deposits in San Luis Obispo County and Southwestern Monterey County California. E.B.Eckel, R.G.Yates and A.E.Granger. p.561. Little known, practically undeveloped. On the Madrone-Cypress Mt. fault zone,near a small rhyolite plug. "It contains outcrops of silica-carbonate rock, but very little cinnabar has been found in them." 1.25 SE of Cypress Mt.group.

Little Bonanza Group.- p.564 Just NE of the summit of the Sta. Lucia range. Good roads to Paso Robles and Cambria. The Little Bonanza among 6 most important mines in county;first to be discovered. Ore associated with silica-carbonate rock. From report by Evan Bennett, Dec.10,1930: Main operations 1900-1910, two 12-pipe banks ofretorts. No serious work since then. 8-10,000 tons ore from the two main stopes. Production probably 1500-2000 flasks. Outcrops of ore-bearing veins sponge-like mass of ochreous quartz. Below oxidized zone veins are hard white quartz or silicified chert with veinlets and stockworks of cinnabar. Silicification confined to nearly vert. east-west fault zones. 3 mi.SE C.P.group.

La Libertade. - Possibly 1000 flasks.Main vein in silica-Carb. rock,trends W at acute angle with main fault. (See Little Bonanza). 4 mi.SE C.M. group.

Madrone mine.- 4.5 mi.SE. Low grade, small production.

# CYPRESS MOUNTAIN QUICKSILVER PROSPECT

SAN LUIS OBISPO CO., CALIFORNIA

Section 1, T. 27S, R. 9 E, M.D. B. + M.
Scale: 1" = 400'.

LEGEND

ROCK FORMATIONS
Rhyolite (Tertiary):
Sandstone, chert, shale, conglomerate (Franciscan):
MINERALIZATION:
FAULT ZONE BOUNDARIES:
DIP & STRIKE OF SEDIMENTS:
FLOW-BANDING IN RHYOLITE:

SEC. 36
SEC. 1
SEC. 2
SEC. 6
SEC. 12
R 9 E
R 10 E
T 26 S
T 27 S
1/4 corner
VACANT
FOLLIS
MAYFIELD
VACANT
MAYFIELD
MAYFIELD
DELLAGANNA
2100
2200
2300
2400
2500
2600
2700
2000
Dump: chert, SS., Shale, Serp. SS. Mineralization = mainly carbonate veinlets in chert & SS.
Caved Tunnel
Dump: SS. some silicified, Fe. Oxide, Volcanite etc.
2520
Caved Tunnel
Thin bedded Fe-stained SS.
chert
Horizon
knob
Pit
Tunnel
Massive brecciated Serpentine
knob
Conglom erate
Chert
Former hot spring iron oxide sulphate etc.
Madrone - Cypress Mt. Fault zone
N