CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

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April 2, 1971

Mr. & Mrs. Dick Singer
Gold Bug Mine
Box 21
Glamis, Calif. 92248

Dear Mr. and Mrs. Singer:

Thank you for your letter of March 28, 1971 with attached information on the Mesquite Diggings.

As Essex International, Inc.'s primary interest is copper, the Mesquite Mining District does not fit into our present exploration program. I will mention the district to professional colleagues in the Tucson area.

Very truly yours,

Paul I. Eimon
Manager of Exploration

ESSEX INTERNATIONAL, INC.

PIE:td

Note
The quality of a report is not indicative of the quality of the prospect. Time also can enhance a dog property. This is now a producing Gold Mine

EGH
1986

SXM
MAR 31 1971
RECEIVED

March 28, 1971
Mesquite Diggings, Cal.

Paul I. Eimon
Continental Exploration, Inc;
Grant Road Indutrail Center
1704 West Grant Rd.
Tuscon, Arizona

Dear Mr Eimon:

We would like to bring to your attention that we have several mining properties that we would like to lease or sell.

I am enclosing a Report that we have compiled of our entire mining district. Several years ago, we organized all claim holders in our area, into a group called the Gold Diggers of Mesquite Diggings and affliated with the Western Mining Council to better the development of our mining district. Since then, there has been some aerial photographs taken, field mapping by geologists, self-potential mapping, magnetometer surveys, drilling and much bulk sampling. There has been several leases on individual mining properties with the sole purpose of consolidating the mining properties into one whole but this failed when two individuals asked too high a price. This has been resolved and would no longer be a problem.

At this time Tipperary Mining Company has leased the Burslem-Kelly gold property. And there are several small oil companies checking and one large mining company. We have a group of geologists testing a dry bulk sampler for possible use as an evaluation tool for desert properties like ours who are firmly convinced that there is a good possibility for a large low grade gold open pit mine in Mesquite Diggings. And why it hasn't materialized as yet is bedause the sampling in the district has been faulty. The gold here is coarse and erracticly distributed.

But as yet, we have no firm committment of any kind.

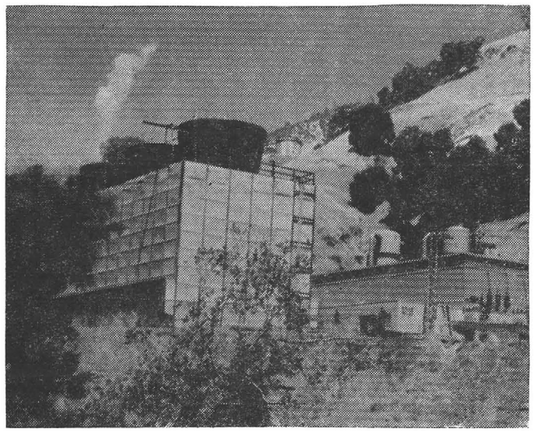
We would like very much to show you our mining properties. I have enclosed a report and other information. You can contact us either by writing at least five days in advance of your arrival or calling the Glamis Toll Station out of El Centro between eight and nine o'clock each morning. There is no telephone number.

sincerely

Ann Singer

Dick and Ann Singer
Gold Bug Mine
Box 21
Glamis, Ca. 92248

U.S. CHAMBER ACCUSES "TRADE RESTRICTIONISTS" — Lack of confidence in U.S. ability to compete in a changing world has been charged by the U.S. Chamber against proponents of trade restrictionist policies and specifically against the AFL-CIO. National Chamber position is the U.S. can compete in the changing world and at the same time preserve an atmosphere of fair competition among the trading nations. "Trade restrictionists" are viewed as proponents of a 'devil theory by which critics of U.S. investment abroad see the conscious and deliberate practices of a few men as responsible for the development which they disapprove." Such positions conceal the facts needed for decision by business and government. Executive, Arch N. Boots, labeled the controversy surrounding American firms establishing plants abroad as one of the most important issues of the 1970's. The U.S. Chamber strongly supports continued free trade and continuation of Tariff Items 806.30 and 807.00 all of which are vital to the growing U.S.-Mexico Border Industrialization Program. Present AFL-CIO policies force labor costs up, freeze out foreign competition and can result in the same situation that exists in the Soviet Union where it takes several months wages to buy a suit of clothes and television sets and other amenities are beyond reach of the average working person.



GEATHERMAL ELECTRIC PLANT at The Geysers in Northern California run by Pacific Gas & Electric Co., Sonoma County. Photo taken August, 1970.

IMPERIAL VALLEY DEVELOPMENT AGENCY

1097 Airport Road, Imperial, California 92251
Telephone (714) 355-2457

J. V. Logan, General Manager; W. C. Dickey, Industrial Development Coordinator.

Board of Supervisors

Les H. Dowe, Dist. 1 — Cliff Hurley, Dist. 2 — Tom Boley, Dist. 3 — Tunney Williams, Dist. 4 — Ray Langley, Dist. 5

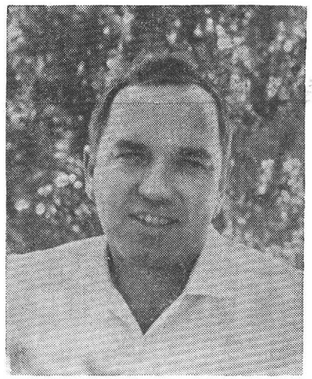
IMPERIAL COUNTY ECONOMIC INDICATORS —

FINANCIAL	SEPTEMBER 1970
New Businesses Licensed (cities)	28
Dollar Volume of Loans (secured)	$854,780
UTILITIES	
Telephones in Service	34,245
Electric Power Sales (IID kilowatt hrs.)	99,374,800
Gross Revenue from power sales (IID)	$1,528,689
Total Customers (Imperial & Coachella)	39,448
Total Customers (Imperial Valley)	24,961
MILITARY PAYROLL	
Naval Air Facility Military (est.)	$118,000
Naval Air Facility Civilian (est.)	$151,000
REAL ESTATE	
Number of Transfers (County)	389
Building Permits (Cities)	23
Building Valuation (Cities)	$123,680
Building Permits (County)	60
Building Valuation (County)	$179,814
Notices of Mining Location	77
EMPLOYMENT	
Civilian Labor Force	27,700
Unemployed	2,300
Percent Unemployed	8.3
Unemployed (seasonally adjusted)	9.6
EMPLOYED	25,400
Agriculture	4,350
Construction	650
Manufacturing	1,600
Stone, Clay and Glass	400
Food Processing	600
Other Manufacturing	600
Transp., Communication & Utilities	1,300
Trade (Wholesale)	1,250
Trade (Retail)	5,350
Financial, Insurance & Real Estate	650
Services	4,200
Government (Federal)	900
(State and Local)	5,150
VITAL STATISTICS — COUNTY	
Estimated Population	80,000
U. S. Border Crossings in Calexico	1,020,874
Births	163
Deaths	50
Marriages	370

IVDA
IMPERIAL COUNTY ECONOMIC and BUSINESS NEWS

NOVEMBER 1970 **Published by Imperial Valley Development Agency**

MEET YOUR SUPERVISOR



CLIFF HURLEY, 2ND DISTRICT

Supervisor Cliff Hurley was elected to the Imperial County Board of Supervisors in 1968. He represents District 2 which includes most of the City of El Centro.

A graduate of Cal-Poly at Voohries (Pomona) where he majored in General Agricultural Crops, Mr. Hurley and his wife, Marilouise, have been residents of Imperial County for 17 years. For the past 11 years he has been engaged in the real estate business under the firm name of Cliff Hurley Ranch Realty. Prior to being elected he served as President of the Imperial County Taxpayers' Association, was elected to the Imperial County Republican Central Committee and served as a board member on the Imperial County General Hospital Lay Board.

During the present year Supervisor Hurley is serving on committees concerned with Agriculture and the University of California Extension Service, Budget and Finance, Information, Education and Civic Center Departments, Law Enforcement and Veterans Service, Legislative, and Roads and Bridges. Mr. Hurley's business phone number is 352-8441, and his mailing address is P.O. Box 1318, El Centro, California 92243.

CONGRATULATIONS TO H. M. (Red) SPERBER who was elected Supervisor of District 5 on November 3rd. He will replace Ray Langley of Holtville who is retiring after 3 terms in office.

ROHR CORPORATION has selected Imperial County as the site for its Aerotrain Tracked Air Cushion Vehicle Test Facility. Aerotrain Systems, Inc., a subsidiary of Rohr, will build a three mile test track in the desert east of Holtville at the site of the Holtville County Airport. The completely automated 150 miles per hour vehicle will be built under a license agreement with Societe de l'Aerotrain of France which originally designed and built the Aerotrain in 1958.

The Aerotrain, which rides on a cushion of air over specially-designed tracks, appears to be the solution to providing high-speed, high-volume people moving service between urban centers. Supported and guided by a cushion of air, Aerotrain vehicles may be propelled by quiet, pollution-free electric power. Prototypes in France have also been propelled by jet turbo-prop engines. Passengers enjoy a ride that is smooth and quiet in spacious, comfortable surroundings. Elevated guideways occupy a minimum of groundspace and are designed to blend well with virtually every environment.

Rohr Corporation, Aerotrain Systems' parent corporation, is building 250 advanced technology vehicles for San Fancisco's Bay Area Rapid Transit District (BART) as well as Aerotrain systems. Construction of the new test facility will begin as soon as final details are worked out with government agencies.

APOLOGIES to Imperial Valley National Bank with branches in Brawley and El Centro. In the October issue we mistakenly referred to the First National Bank of Holtville which has been purchased by Wells Fargo Bank, as the last independent bank in Imperial County. It isn't. Imperial Valley National Bank is. What we meant to say was the Holtville Bank was the oldest independent in the County. Of course, the County also has other fine banks —namely the Bank of America, United California Bank, Security Pacific National Bank, and the Federal Land Bank Association plus Imperial Savings and Loan Association.

GEOTHERMAL NEWS —

STATE GEOTHERMAL RESOURCES BOARD and the State Legislature's Joint Committee on Atomic Development and Space held fact-finding hearings October 22 and 23 on the status and potential of Geothermal Resources in Imperial County and the West. About 200 witnesses and interested persons attended the hearings. Particularly noticable in the crowd were representatives of industry and public utilities. Public utilities are under strong pressure to develop new pollution-free sources of electrical energy. Geothermal resources could be the answer to that particular problem.

Private industry is primarly interested in drilling the wells, selling the Geothermal water and steam, and in supplying the equipment needed for drilling, electrical generation and water desalinization.

DESALINATED WATER as a product of Geothermal development is drawing increasing interest from the arid areas and water-short metropolitan areas. This interest is resulting in new methods of desalination being proposed by researchers and industry. Some advanced methods would be able to utilize the existing Geothermal wells in the Calipatria-Niland Salton Sea area which are presently considered too briney for power generation or desalination. Other advanced designs would permit more efficient utilization of the resource and eliminate mineralization of the well casings and pipe systems. It would also allow the Geothermal power resource (300°-400° water) to be transported long distances under its own pressure.

Desalinated water would certainly solve Imperial County's problem of increased salinity from the Colorado River which threatens the very existence of agriculture as the primary economy. Further, since Geothermal areas are wide-spead thoughout Western America, successful large scale desalinization of Geothermal water in Imperial County would lead to developing new fresh water sources throughout the arid western States and Mexico.

MAGMA ENERGY, INC., a subsidiary of Magma Power, Inc., has announced a new method of utilizing high-brine Geothermal water for generating electrical energy. The new Magma Pawer Process utilizes a system whereby Geothermal water is kept under pressure and not allowed to flash into steam. This keeps the minerals in solution thus allowing highly saline wells to be used.

A substance with a low boiling point of around 135° is piped through the super-heated Geothermal brine (300° 400°F). The substance then flashes to steam and turns turbines to generate electricity. It is then condensed back to a liquid and re-cycled. The Geothermal brine is returned to the earth. Desalinization and mineral recovery prior to returning it to the earth is possible.

A design study by Rogers Engineering Company, Inc. of San Francisco was so promising that orders were placed for the turbo-expanders with York Division of Borg-Warner Corp. and for the electric generator with Allis-Chalmers for delivery in the spring of 1971. Construction of the first Magmamax Power Process Plant will be at Brady, Nevada, 50 miles east of Reno.

Magam Power holds leases on several thousand acres of Geothermal lands in Imperial County. It, along with Union Oil, were pioneers in Geothermal development in Imperial County ten years ago. Magma Power, in partnership with Union Oil, is the prime developer of the Geothermal wells at the Geysers in Sonoma County, California where Pacific Gas and Electric has electric power plants.

NEW VISITORS' RECREATION GUIDEBOOKS are off the press and available at no cost from the Imperial Valley Development Agency, 1097 Airport Road, Imperial, California 92251. Telephone 355-3457. The visitor season has begun so all hotels, motels, restaurants, service stations, and Chambers of Commerce should have some on hand.

The new "Gems and Minerals" pamphlet will also be available by mid-November.

GOLD, COPPER IN GLAMIMS-QUARTZ PEAK AREA of eastern Imperial County is receiving more attention since Geothermal news has brought Imperial County to the national spot light as a mineral rich area.

Past large scale development of the apparently high yield Mesquite Gold Diggings Mining District has been hampered by a few claim holders who wanted exorbitant royalties. Since then some 52 claims owners have united into an organization called the "Gold Diggers of Mesquite Diggings." Their purpose is to coordinate the development of the mineral rich area and provide a central clearing house for interested developers. Additional information is available from this organization in care of Dick and Ann Singer, Box 21, Glamis, California 92248.

The Messuite and Quartz Peak Mining District lies at the southeasterly tip of the Chocolate Mountains and extends into the Picacho area. The highly fractured, decomposed granite assays very high in gold. The gold occurs in granite, quartz and black sand (magnatite or high grade iron ore.) Assays of $1.10 per cubic yard are common.

Assays made by American Smelting and Refining Company gave $509 per concentrated ton of 400-1 ratio bank run after the free gold was removed with a dry washer. It is estimated there are over 25 million cubic yards of gold bearing gravels at this site.

Gold certainly excites the imagination and it is always a thrill to dry wash gold from the desert sands for the first time. However, the question of the economies of large scale development should be investigated by a reputable firm.

COPPER deposits under Black Mountain have assayed an average of .5 to 6.05%. Large amounts of gold and silver also occur in these formations. Removal of the basaltic lava covering has revealed this large copper deposit which was overlooked during the first 60 years of mining in this area. One problem with developing this copper deposit is that the nearest smelter is some 300 miles away. The advent of enormous amounts of inexpensive electricity from Geothermal power could permit the construction of a pollution-free electric smelter near the site.

Serious investigation of the gold, copper, silver, iron and other rare metal resources in Imperial County could well lead to major new industries providing hundreds of new jobs.

EMPLOYMENT UP FOR SEPTEMBER. Employment in Imperial County totaled 25,400 in September, 1970, up by 600 from the August figure of 24,800. One year ago, total employment was 24,500. Three-fourths of the over-the-year difference in the number of jobs was in the agricultural sector.

AGRICULTURE. The number of employed farm workers increased by 450 between September and August, reaching 4,350 in the latter month. All of this net gain was in field activities other than major seasonal work. Total farm employment was up 650 since September 1969. Over-the-year employment gains were divided between major crop activities and minor crops or year-round work.

NONAGRICULTURE. There was a total of 21,050 workers employed in non-farm industries in September. This number was up 150 from the August level, with seasonal gains in the trade sector being partly offset by an over-the-month decline in food procesing employment. Payrolls in other non-farm sectors remained steady btween August and September. There were 250 more nonagricultural workers employed in the current month than in September 1969. Hiring by local government, transportation, manufacturing, and construction employers accounted for the over-the-year increase.

UNEMLPOYMENT. The number of jobless workers remained unchanged between August and September. Unemployed workers represented 8.3 percent of the workforce in September. Seasonally adjusted, the current rate of unemployment was 9.6 percent, compared with an adjusted rate of 9.3 percent in August. One year ago, the adjusted jobless rate was 8.7 percent. Total unemployment rose by 300 since September 1969.

OUTLOOK. The number of jobs should rise sharply in October, and continue increasing through the end of the year. The cotton harvest, plus major pre-harvest work, will get underway next month, spurring hiring in both the farm and non-farm sectors. The influx of seasonal workers into the local labor morket will push up the level of unmployment over the month by about 300.

CALENDAR OF EVENTS FOR 1970-71

NOV. 7-8 — Cattle Call Parade and Rodeo, Cattle Call Arena, Brawley.

NOV. 7-8 — *S.C.C.A. Regional Races, Holtville Airport

NOV. 7 — Swiss Schutzenfest, Swiss Club, Holtville.

NOV. 8 — Swiss Swingfest, Swiss Club, Holtville.

NOV. 15 — I. V. Timing Association (Drags), Holtville County Airport

NOV. 21-22 — Mary's Men Motorcycle Road-E-O, Cattle Call Arena, Brawley.

NOV. 21-22 — Southwest Indian Pow-Wow, Winterhaven

NOV. 26-29 — Glamis Turkey Day Meet, Osborne Park, Glamis

NOV. 29 — I. V. Kennel Club Dog Show, Lion's Field, Brawley.

DEC. 4 — Christmas Parade, El Centro

DEC. 12 — Christmas Parade, Calexico

DEC. 20 — I. V. Timing Association (Drags), Holtville County Airport.

*Non-spectator events.

TARRIF COMMISSION REPORT RECEIVED — The U. S. Tariff Commission has submitted its report to President Nixon resulting from its studies and hearings on U.S. Tariff schedules Items 806.30 and 807.00. In summary its report includes the following conclusions (1) The bulk of the trade is with industrially developed nations and in the opinion of the Commission the savings resulting from the duty free status of U.S. components is not a major factor in decisions to create and maintain foreign manufacturing operations. (2) These rules are a factor in decisions to locate manufacturing plants in underdeveloped foreign countries, but repeal of the two tariff advantages would not slow down the development of foreign manufacturing in developing countries. (3) Repeal would adversely affect the U. S. balance of trade by reducing the value of U.S. exports between $180 and $250 million and would reduce total U.S. imports between $30 and $50 million leaving the U.S. with a net loss of $150 to $200 million trade balance. It is estimated that the two Tariff Items create 121,000 jobs in foreign plants, but repeal of the tariff rules would result in a negligible number of new jobs in the U.S. Approximately 37,000 people are employed in the U.S. in the manufacture of components used under Tariff Items 806.30 and 807.00 and repeal of the two sections would result in a net loss of jobs in the U.S. The Tariff Commission study is a landmark report that will have strong influence on future U.S. policy.

Mesquite Mining District
Report
by
Ann and Dick Singer
1970

California

Mesquite District, Imperial Co., Calif.

SOMETHING ABOUT THE AUTHORS OF THIS REPORT

This information is given so that the Report can be better evaluated.
Dick and Ann Singer are prospectors, miners and self- taught geologists.
Dick is a disabled veteran of World War Two. His poor health dis not allow him to make a pornament living in the cities, so he turned to the mountains and the desert.
They first came into the Chocolate Mt area in 1947.
They came and they went. During the coming and the going,Dick helped strip off the overburden at the old Ruth Copper Pit near Ely, Nevada.Mined cerussite out of Lane City. Silver out of the Diamond Range. Hauled ore out of the Mizpah Mine of Tonapah fame. The Tybo. And the Gilded Age out of Oceola.
He roamed the mountains of Nevda and California and the hills of southeastern Imperial County. As did Ann Singer.
In 1957, they came to the conclusion that their best oppourtunity to make a good life lay in and around Mesquite Diggings.
Where there still lay much untapped bodies of gold,,silver and copper ore.

September, 1968 they organized the mining claim owners of the Mesquite Mining District into a chapter that was named the Gold Diggers of Mesquite Diggings and then affliated into the Western Mining Council. This was done so that information gained from developing the individual mining claims could be put togther like the pieces of a jig saw puzzle and eventually form a picture that could aid any mining company interested in exploring the Mesquite Mining District.

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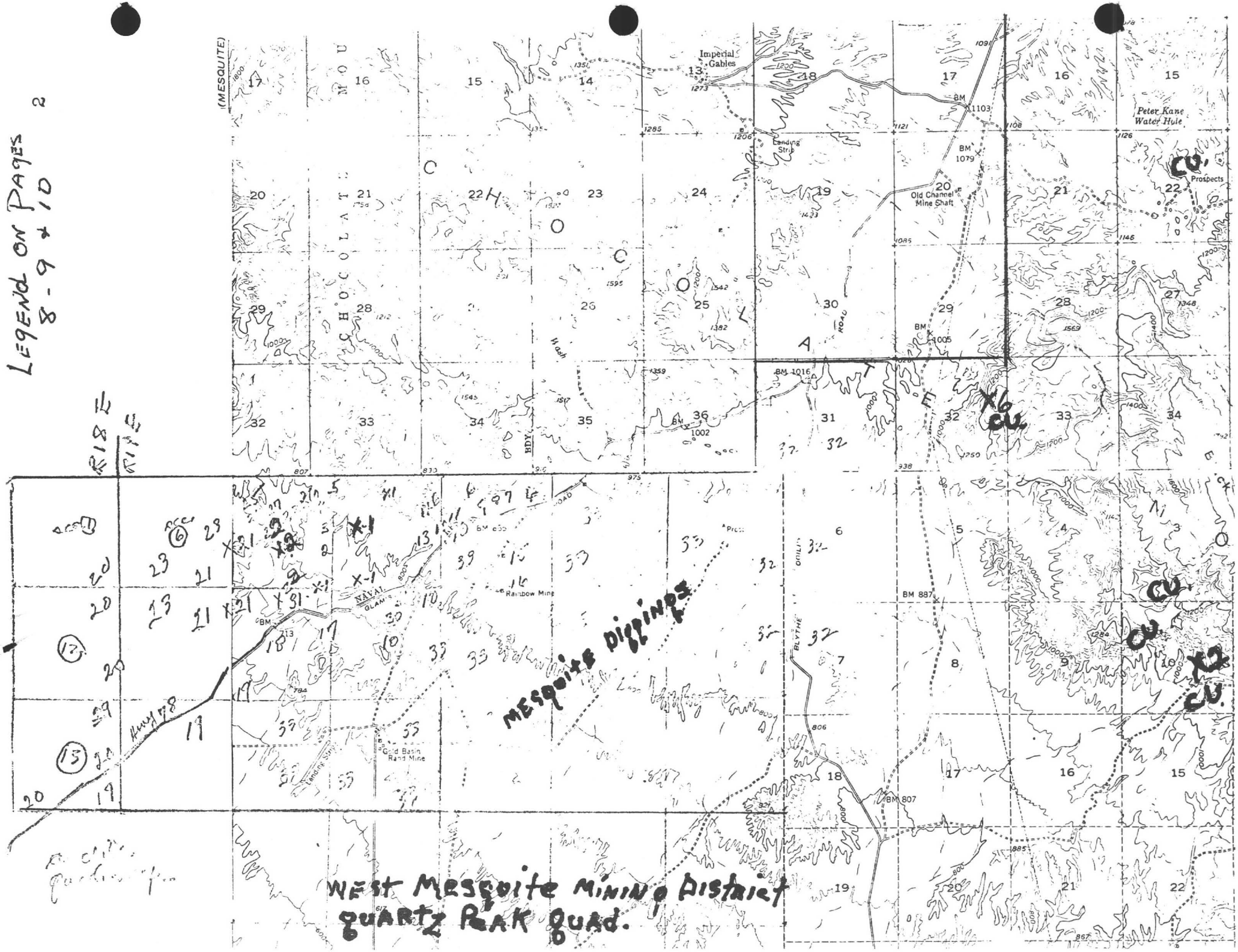

WEST MESQUITE MINING DISTRICT
QUARTZ PEAK QUAD.

MESQUITE MINING DISTRICT
A REPORT BY
ANN AND DICK SINGER
1970

The Mesquite Mining District lies in the southeastern section of Imperial County, California. It is composed of Mesquite Diggings and the Quartz Peak Copper District in and around Black Mt, an isolated hogback, about five miles long and part of the Chocolate Mt range. The whole district lies in the Quartz Peak Quadrangle. A general geological mapping has been done by the California Division of Mines and Geology and has been issued as the Salton Sea Sheet- 1967.

Mesquite Diggings lies south and west of a break in the mountain range called Chocolate Pass, in sections 3,4,5,6,7,8,9,10,11,12, T13S, R19E, and Sections 5,6,7,8, T13S,R20E,SBBM. It is about seven miles northeast of the Southern Pacific Railroad at Glamis. State Highway 78 runs through the center of Mesquite Diggings.

Felisarro Parra discovered the gold placers of Mesquite Diggings back in 1876. Mexicans and railroad workers worked the shallow dry gulches down to false bedrock of caliche in sections 3,4,5, 7,and 8. It is said that the dry placer miners averaged eighty and ninety dollars a day with their small dry washers in those early days. Later, a few hard rock miners came and sunk some shallow shafts on narrow but rich stringers and worked out some pockets of free gold. During the depression more than three hundred jobless worked the dry placers. The gold that was recovered was sold or traded to A.F. Sanguinetti, a merchant of Yama, Arizona.

Report of State Mineralogists, V.14- 1913-14- pg. 94-. " The persistence of this gold belt zone, through a distance of many miles, is very marked----."

Except for snipers and small placer operations netting a few dollars a day, the only known production in the area by a mining company was Reese Production Company, 1941. These former mining operators of Seattle, Washington, prospected their leased ground with airplane drill. Some 52 holes were dug, from 16 to 50 feet. Average value of gold placers was $ 1.07 a cu. yd. Bank run gravels were sent through a trommel, then hauled five miles down to the well. It was then put through a crusher, ball mill and then over amalgamation tables. A recovery of ten dollars a ton was reported. 200 tons were processed daily. World War Two shut down the operation.

RECONNAISSANCE GEOLOGY OF THE MESQUITE MINING DISTRICT
BY MARK LATKER, GEOLOGIST, JUNE 1970

The investigation reported here was carried out during February and March 1970. The purpose of the investigation was to outline the geologic framework of the Mesquite Mining District and to make a reconnaissance study of mineralization within the district. The scope of the investigation included geologic mapping on aerial photogrpahs, with the primary emphasis on determining the extent and structure of the gold- bearing rocks. The main product of this investigation is the geologic photo map that accompanies this report.

The area covered by this report and the accompaning geologic map lies about six or seven miles northeast from the Glamis station, along Highway 78. In particular, this report concerns the Singer Big Brother group of mining claims, the Burslem Big Chief Group and the Collins Jilda Group. These claims are located These claims are located in the northwest corner of Township 13S, R.19E, SBBM, an unsurveyed township; and the claims lie adjacent to the southern border of the Chocolate Mountains U.S. Gunnery Range . The southeast border of this group of claims lie adjacent to Hwy. 78, a paved road which extends from Brawley, California(about 38 miles to the south east to Palo Verde and Blythe on the Colorado River. Access to the individual claims is provided by well graded unsurfaced roads.

TOPOGRAPHY

The claims area is essentially a gentle southwesterly dipping plain, dissected by shallow, broad, mainly southwesterly trending dry washes. The plain rises to the north to form a series of gently rounded hills, knobs, and ridges, and topographic relief in the area does not exceed 300 ft. Elevation of the claims ranges from about 700 to 1000 feet above sea level.

Geology

The Mesquite mining district lies at the south edge of the Chocolate Mountains, a northwest- southeast trending range bordering the Imperial Valley east of the Salton Sea. The Chocolate Mountain comprises an ancient sequence of rocks, mostly pre-Cambrian igneous and metamorphic rocks and Mesozoic granitics. These rocks are broken by a series of northwest - southeast trending faults paralleling the nearby southern branch of the San Andreas fault zone. At the south end of the range granite and pegmatite invaded the pre-existing metamorphic rocks to form the mineralized zone of the Mesquite District.

The Singer, Collins and Burslem claims lie in an area of steepling

steeply dipping , alternating beds of granite, gneiss and biotite schist. These beds are generally only a few feet thick and so intimately interbedded as to be called migmatite. Dikes of quartz pegmatite have been injected into this complex and increase in number toward the north and northwest, with the rocks becoming extremely pegmatitic at the northwest corner of the claims area. The pegmatite is hard and much more resistant to erosion than the enclosing migmatite, and occassionally forms low ridges. The migmatite is generally soft and deomposed, locally brecciated and intensely fractured. Iron staining is prevalent in the migmatite, particularly in the granite and schist and quartz fills many of the fractures and occurs frequently as euhedral crystals in small vugs. Locally overlying the migmatite is an ancient alluviaum, possibly of upper Tertiary age, which is sometimes capped by a thin layer of basalt boulders. This ancient alluvium is sometimes in fault contact with the migmatite, and is always found standing high as hills, ridges or, in the southermost area, as a disected terrace. Erosion has stripped much of the ancient alluvium from the present drainage system, which has been subsequently filled with alluvium of Quaternary age. Much of the migmatite is directly overlain by a thin layer of quaternary alluvial fill(refered to as ancient alluvuim on the map) which contains sufficient gold to classify the fill as a placer deposit. Towards the south, the alluvium thickens and, just north of Hwy 78, may locally be as much as fifty feet thick.

Major faulting in the area trends northwest- southeast, and the faults are generally dteeply ddipping. However, a low angle southward dipping fault- a thurst fault- cuts the ancient alluvium and is exposed in the hills near the west edge of the mapped area. This fault appears to have moved in the very recent past, causing disruption of the present drainage pattern. The zone of weakness represented by this thrust fault may be an important factor in the distrubution of the coarsely crystalline gold found in this area. At the north edge of the map a large west-northwest trending fault zone, probably reflecting lateral movement, brings the migmatite facies into contact with altered rhyolitic and andesitic intrusives, tuff, and ash of probable pre- Cambrain age. This fault terminates the migmatitic gold- bearing rocks on the north edge of the claims area, and served as a convenient northern border for geolggic mapping.

Occurence of Gold

The Mesquite Diggings district is primarily a gold mining district. Gold occurs throughout the migmatitic rock in irregular disseminated form, particularly in the granitic and schistose rocks, and to a lessor degree in the pegmatite and some of the gneiss. The gold appears to be related to the emplacement of the granite and pegmatite into the preexisting schist and gneiss. As an end phase of this intrusion ,silica-rich fluids invaved the migmatite,filling the frastures in the shattered rocks and sometimes forming veins

Migmatite - = composite rock produced by injection of granitic magma into schist in lit par lit manner. Also loosely used for gneiss of "mixed appearance" - composite gneiss - injection gneiss

and vug linings of euhedral quartz crystals. The granitic rock appears to have been the most susceptible to this silica invasion; and it is here, often in the presence of considerable limonite and hematite staining, that coarsely crystalline gold was deposited. The coarsely crystalline gold occurs in the central part of the claims area, along a band extending easterly from near the mapped portion of the thrust fault. Surface exposures of this band has been prospected by numerous shallow workings.

GROUND WATER

The thiness of the alluvial cover lying above bed rock in the claims area precludes this area from being a source of ground water. The underlying bedrock, while it may contain ground water at depth, does not appear to be porous and permeable enough to provide for wells with more than a small yield . However, the bed rock near near the large lateral fault at the north edge of the mapped area could be shattered enough to provide a ground reservoir with sufficient permeability to provide for moderaltely large well yields.

THE BIG BROTHER GROUP OF CLAIMS

The Big Brother claims group lies within the area colored on the photo map. There are both lodes and placers claims. The lode claims are in the areas of migmatite outcrops, though their western parts are frequently covered with ancient (upper Tertiary) alluvium. Some old workings can be found on the Big Brother group. The placer claims are both in ancient and recent alluvium and have not been extensively worked to date.

Big Brother Group of Lode and Placer mining claims- sec. 5,6,7,8,T13S. Ten placer claims over which has been located 12 lode claims. Big Brother Lode # 1, #2, Jimmy Lode, Angel Lode, Patrick Lode, Buddy Lode # 1,2,3,4, and #5. Big Brother Placers # 1,2, Angel Placer, Jimmy Placer, Buddy Placers # 1,2,3,4,5. Patrick Placer. Claims are contiguous.

Locators and Owners . Richard L. Singer and Anna M. Singer ,Gold Bug Mine, Mesquite Diggings, Cal.- Box 21, Glamis, Ca. 92248.

LODES . Testing over area 200 ft by 200 ft- averages $10.00 a ton. Overall assay values- from a 248 ft open trench eight ft deep assays from $1.79 to $ 21.00 a ton. Mill tests and lab tests indicated easy and very economical milling ore . Assays by registered assayers and Owners dry impact mill and wet panning. Gold free from coarse to very fine. Much crystaline gold specimens sold by Owners to collectors and San Diego Musuem of Natural History.

Placers. Over ten million cubic yds. Tested with dry washer and wet pan recovery. Average $1.25 a cu. yd. About $1.00 contained in black sands per cu. yd., besides $1.25 free gold recovery. Estimated by dry washer. Recovery of dry washer about sixty per cent.

GOLD BUG PLACERS AND LODES

Gold Bug Group- II placers claims over which has been located I3 lode mining claims. Located in secions, 4,5,8, and9, TI3S,RI9E, Sbb. , Les quite Diggings. Claims are contiguous.

Locators- Owners-. Richard L. Singer and Anna M. Singer, Box 2I, Glamis, Ca. 92248.

Power, Water ,Railroad . No power on property. Nearest power line about ten miles to the east. One well on property. 470 ft. Twenty stage Juccazzi pump- maximum I5 gals. a minute. True water level in area 7 0 to 800 ft. Three exploratory holes down to 440, 470, 5I0. Drillers encountered several small and large cavities. At 440 Driller lost tool in one well. Well layered into twenty feet of gold bearing gravels, fifteen ft of grey clay, schist dike, blue clay, decomposed andesite and granitic rocks. Free gold brought up and panned down to 400 ft where a blue grey quartz monzonite with alterations minerals and sulfides were panned out. Sulfies were pyrite, arsenopryite, chalcopyrite and others not identified. Sulphies panned and assyed carried $ 8 a ton in gold. Possible gold, silver copper ore body at depth. Number 4 well I500 ft to the west of the wells went down into I74 ft fo gravels before a metamorphic granite was brought to the surface. Here at this point the bedrock is dipping steeply to the south. Water in un determined amount in all wells.

LODES . Uncovered as worked with dozer and dry washer. Breccia and migmatite lode zones. Average in small open pit - $ 5.90 a ton., Pit 100 x 150' at Surface. Pit area stained heavily with iron oxides., and manganese stains. Tested in small dry impact mill on claims and by registered assayers. Wet panned and colors counted. Large (on north) crystalline dike that resembles quartzite cuts claims into two and can be traced for several miles . It trends northwest and south-east and in places is heavily stained with iron and manganese oxides. Also partly decomposed sulfides. It has been explored by several shallow shafts and several trenches. It has been apparently leached of most minerals and then reflooded with silica. Assays values in gold, silver ,copper and zinc. Singers believe it is related to the copper deposits on Black Mt and there can be a large sulfide ore body underlying the gold lodes and placers. Free gold has been dry washed from all directions up to this large crystalline dike, lying on a fault zone. Chalcocite is found in some of the barren bull quartz veins on the property and here and there some oxides of silver and copper. Cinnabr crystals and native mercury is also found on the riffle boards of the dry washer at times.

Placer- Shallow clay surface from a few inches to about a foot on some parts of the claims with underlying gold bearing gravels averaging with dry washer- $ I.I0 a cu. yd in free gold. Much black

Gold Bug Placers and Lodes

black sands about fifty pounds to a cubic yard . Assays made by American Smelting and Refining Company gave $509.00 a concnetrate ton of 400 to one ratio of bank run after free gold was removed with dry washer. Estimate of over twenty five million cubic yards of gold bearing gravels .
Surface assays by Norman Whitmore, Eisenhauer Lab., Jacobs of Tuscon, etc. Geological study by Mark Latker . Self- potential by Allen White.
Since 1965 two attempts have been made by a group of associates to commercially mine the gold bearing gravels. But internal company problems, lack of experience, lack of money produced two gravel plants that were inoperative. No production ever achieved.

Mesquite Diggings -Owners of Mining Claims

1- Gold Bug Placers and Lodes
II placer claims and 13 lode minung claims.
Owners- Richard L. Singer and Anna M. Singer
Gold Bug Mine, Box 21, Glamis, Ca. 92248

2- Big Brother placers and Lodes
10 placer and 12 lode mining claims
Owners- Richard L. Singer and Anna M. Singer
Gold Bug Mine ,Box 21, Glamis, Ca. 92248

3- Nugget Trap - two placer claims over which are located two lode.
Owners- Richard L. Singer and Anna M. Singer

4- Big Chief Group- encludes original W.L. Land ten claims and approx. 57 lode mining claims.
Owners - Golden West Securities-Virgil Kelly, George Burslem,etc.
Oldtimers worked placers around mineralized hills, that contain lodes. Headframe over Big Chief .Depth about 110 ft. with two levels. Worked for pockets of coarse crystalline gold during depression. Shallow open pit around headframe with several deep trenches. Free coarse crystalline gold in narrow veins have been worked and is being worked at the present time for specimens.
Incline shaft on Prince lode. Free milling gold . 1968 about fifty holes were drilled into the lodes by Alaskan Mining and Exploration Co. of Juneau ,Alaska. Indicated low grade commercial ore body suitable for open pit . Option terminated.Agreement could not be reached between promotor and owners of mining property..Owners now in full control of property and will agree to fair and just royalty and end price. Bajada placers around lodes.

5- Keystone Lode - 1 claim
Owners- James and Irene Foti
302 West Q St. Wilmington ,Cal.

6- Jilda Placers and Lode
16 mining claims .
Owners - Paul T. and Jilda Collins , 173 N. Hill, Pasadena, Ca.

7- Purgatory Flat- 2 claims -placer and lode
Owner- Dan Saylor , Mesquite Diggings, Ca.

8- Butler Group- 12 placers
Owner- Harold Butler, 226 Hamilton, El Centro, Ca.

9- Johnson Group- 5 placers
Owner- Floyd Johnson, 914 I St. Brawley, Ca.

I0- Turner Group- 6 placers
Owners - Jim and John Turner 434 West C St, Brawley, Ca.

II- Slater Group- ?
Owner- Ray Slater I644 East I St, Bralwey, Ca.

I2- Rugged Gold Group- 6 placer claims
Owner- George Burslem & Associates
60I West Main St, Brawley, Ca.

I3- Bayhorse Group- 4 lode claims
Owner- George Burslem & Associates
60I West Manin St, Brawley, Ca.
This was worked before and after the depression days. Decomposed granitic rock formation in direct contact with basalt and quaternary alluvium. Old shaft and tunnels with several collasped drifts and raises. Worked for narrow stringers and rich crystalline pockets of free gold.

I4- Snuffin & MacDonell Group- Jac-Mac claims - II claims .
Owners -Jack Snuffin I4632 Halldale Ave, Gardena ,Ca. and Mac MacDonell I4708 S. Denker Ave, Gardena Ca. Contains some of the old worked placer grounds . Some unworked surface highly stained with manganese and iron oxides. Easternmost border in contact with rhyolite.Old prospect holes on contact areas.

I5- Bar-None- I placer claim
Owner- Jack and Margaret Snuffin,I4632 Halldale , Gardena. Ca.
Deep wash on claim worked by Oldtimers.

I6- Mac-Ellen - 3 placers
Owners - Mac and Ellen MacDonell, I4708 S.Denker, Gardena Ca.
Fault zone with large dike of irona and maganese stained - crosses this claim. Shallow prospect holes on dike.

I7- Cherokee Strip- I placer claim
Owners- Allen and Pearl Hobbs I4703 Kingsley Drive, Gardena, Ca.
Narrow wash on west border worked by Oldtimers.

I8- Try Again- I placer
Owner- Andy Anderson, Mesquite Diggings, Ca.
Small hill and ba inworked by Oldtimers. Approx. fifty ft. deep shaft at west end on lode.

Mesquite Diggings

I9- Bear Cat Group - 4 lodes and placers
Owners- A.C. Riggs, C.E. Ham I326 Grove, San Diego, Ca.
Old Placer grounds formerly known as the "Poppys " by the men of depression days. Formerly the site of several old buildings-now gone. Remains of rock foundation of Mexican miners on Singer Riffle Board claims adjoins this group. Present owners test with small placer mill and loader.

20- Reeser - I placer claim
Owner- Jerry Reeser 23I6 Charles Way, El Cajon, Ca.
Residual gold bearing gravels eroding from migmatite hill.

2I- Gold Hill -2 lode claims
Owners - Don and Betty Blumtack Box 2I3, Sugarloaf ,Ca.
Migmatite hill worked by Oldtimers. Deep shafts and prospect holes into granitic dikes .

22- Biscuit Shooter Group- 8 lode and placer claims.
Owners - Elmer and Martha West. Mesquite Diggings, Ca.
Prt of old Mesquite Placer grounds. During depression days West & Associates worked and processed several thousand yards of gold bearing gravels with dry processing plant. Deep shaft worked for scheelite during war years. Granitic gold bearing formation in contact with metamorphic rocks carrying scheelite values. Production unknown. South end of claims in contact with basalt.

24- Copenhagen , Automatic Group - 4 placers
Owners- Doug, Mary and Paul Morrison ,4907 Lantana Dr. San Diego.
Formerly McKettrick Group. Part of Old Mesquite Placer ground. Placer gravels worked by Reese Production Company, Seattle Washington prior to World War Two. (See page I-only production, commercially in district) Deep gravels. Old timers worked gravels by drifting close to bedrock.Part of ancient river bed crosses these claims. Old workings consist of - open pit, several drifts ,partially caved. Bedrock pre-Cambrian rocks into which has intruded granitics.

25- Rainbow - I placer claim
Owner- Arthur Hedrick, 3928 West I57 , Lawndale, Ca.

26- Thedford Group- 2 lodes
Owner- Tom Hedford 762 Woodward, El Centro, Cal.
Located on Bayhorse hill worked by the Oldtimers.

27- Lena and Lucky Strike - 2 lodes
Owner- Russell Slye 202II Nelson Ave, Redonda Beach, Ca.
Several deep trenches across granitic formation. Small dry impact mill . Free gold recovery between five and ten dollar a ton.

28- Main Claim- I placer
Owner- Otis Main I33 S. Clark, Ornage, Ca. Tested with dry washer.

29- Stokes claim- I placer.
Owner- Stanley Stokes.

GEOLOGY OF IMPERIAL MINING COMPANY PROPERTY
BY JAMES C. SHIELDS, GEOLOGIST

Bed rock in area is a thick series of brown to black mica schist locally graduating through gneiss to rocks showing advance granitization. Gravels from a few feet to over 700 ft. at the well. Basalt flows west of pit. The principal intrusive igneous rock is herein termed quartz porphry, being a mixture of quartz, alkali feldspar and minor amounts of ferro-magnesian minerals as biotite and hornblende. Intrusive dikes and irregular bodies of similiar composition but more coarsely crystalline are present in the schist. In vicinity of the open pit the bedrock has been flooded by quartz with lessor amounts of iron pyrites, carbonates, henatite, magnetite and a manganese mineral containing the silver known to be present. No other sulfides or their oxidized remnants have been identified although a small nugget of finely crystalline galena was caught in the mill bowl. Gold is free milling and occuring here principaly on fracture planes and localized quartz and porphry. Since ankerite crystalizes on fracture planes, especially along the northwest edge of the pit where the better gold values lie, this carbonate may be a guide to ore.

Mesothermal mineralization produced an extensive alteration in the entire pit area of the propylitization type(formation of epidote, sericite, and pyrite). Alteration of this type commonly envelope ore bodies in the Western United States and the size of the affected area is often related to the size and location of the ore body; the epidote and chlorite are prominently developed in the hard porphry; the serecite and liminite(altered iron sulfides and carbonates) in the more highly fractured and weathered areas. These latter zones have the highest gold values and represent an inner halo of alteration.

Pit area- Mesquite Diggings, section IO, TI3S, RI9E, SBBM

Well, five miles southwest of pit. 700 ft deep. 350 gallons a minute. I2 inch casing.

Office buildings, etc, section I6.

Recent drillings by Gold Placers, Inc; : over ten million cubic yards of gold bearing gravels averaging - $ I.50 a cu. yd.

Owners - Imperial Mining Co. Box 5I, Glamis, Ca.
50 association placer claims.

10 B

The San Diego Union

SAN DIEGO, CALIFORNIA, THURSDAY MORNING, AUGUST 6, 1970

QUARTZ PEAK SECTION OF MESQUITE MINING DISTRICT

MUCHO LABOR GROUP OF COPPER MINING CLAIMS

Locators- Owners - Richard L. Singer and Anna M. Singer ,Gold Bug Mine, Box 2I, Glamis, Ca. 92248. Singers discovered these claims.

There are 42 contiguous lode mining claims in this group. Located in the Quartz Peak Quadrangle area of sections 27,34,35,TI2S,R20E, and sections I,2,II and I2, TI3S,R20E,SBBM. I[illegible] and on around an isolated hogback called Black Mt, a part of the Chocolate Mt. range of southeastern Imperial County, Ca.

The names of the claims are: Mucho Labor # I and # 2. Pack Burro #I,2,3,4,6,7 and 8.Lucky Find # I,2,3,4,5,6,7 and 8. Mule Shoe # I, 2,3,4,5,6,7 and 8. Gringo # I,2,3,4,5,6,7,8,9,I[illegible],II,I2, I3, I4, I5, I6, and I7.

Richard L. Singer and Anna M. Singer are the original locators of commercial minerals of copper, silver and gold ; by monumentation, by development and by complying with all the Federal, State and County laws and regulations.

Elevation. From 750 to 2, I64 ft. The first of the mining claims listed lies approx. two and half miles southeast of paved State Hwy 78. A good gravel road leads to Mule Shoe # 8. Owners have built good jeep roads to various parts of the claims. Four wheel drive needed to main body of claims.

Power, water, Railroad. Power line to Mucho Labor # I. No well on property. But drill hold #2- 98 ft deep had twenty feet of wet mud on end of hole. Colorado River seven miles east. Several deep wells about ten miles to the southwest. Soundings by oil company indicate large pool of water in basin west of Black Mt. Recent geothermal studies by Dr. Robert W. Rex indicate immense volume of water in nearby basins and possible cheap energy supply.(Check article encluded in Report on Geothermal Project of Imperial County.)

Geology. The above listed mining claims lie on top and across eastern and northern slopes of Black Mt. Black Mt is broken into two segments, together the mountain is about five miles long. It is isolated from the rest of the Chocolate Mt range. The top and western slopes which dip steeply to the south are covered with a flow of basalt and volcanic rubble from a mere few inches to over I50 ft deep. Underlying the basalt cover are pre-Cambrian sedimentary and metamorphic rocks into whch has intruded granitic rocks, rhyolite, andesite ,ashes and volcanic tuffs. A top of a laccolith is exposed on the west end of the claims . Numerous dikes and sills of andesitic porphry intrude and cross across the bedded formation of schist. The schist is red with iron oxides ;some ares silver with serecite micas and grains of hematite. Badly fractured and faulted. Veins of quartz carrying values of copper, silver and gold cut across the bedded formations. The red schist in some areas assays .50 or more per cent in copper. In contact with the schist and some places over 900 feet wide is a dark grey-black crystalline matamorphic formation of undertermined origin. It carries grains of magnetete and hematitie around whci are rings of copper oxides. It is highly fractured and recemented with silica and liminote . Assays values run from .90 to 3 perecnt in copper, .30 in gold and from one ounces to seven in silver.and minor amounts of moly.

quartz Peak quad.

East Mesquite Mining District

Black Mountain

Indian Pass

Wash

Canyon

ROAD CLASSIFICATION

Light-duty

Unimproved dirt

U.S. Route

State Route

4 MILES

5 KILOMETERS

QUADRANGLE LOCATION

1954

QUARTZ PEAK, CALIF.

N3300—W11445/15

1953

STANDARDS

OLORADO OR WASHINGTON 25, D. C.

AILABLE ON REQUEST

MAP FILE

sec. 3 & 33 v. Ogilby quad.

Picacho - ariz - cal. quad.

Mucho Labor Copper Claims

geology.
Above this dark crystalline metamorphic rock is a granitic rock resembling gneiss. Quartz veins outcropping in this carry values from 5.5. to I7.5 percent in copper and high values in gold and silver. The quartz veins range from a few inches to over five feet in width. There are more than nineteen such veins in an area about a thousand feet with the country rock beteen carrying low values of copper and silver. A phylite, vuggy and silvery green caps the outcrops of the quartz veins. Wherever in the district such phylite is found there is usally copper oxides and silicates beneath it.
Large areas in the formations except the red schist is discolred by epidote ,chlorite and other alteration minerals and look green.
A bleached and white looking granite with much oxidized pyrite lies on the northwest edge of the claims and ahighly faulted rhyolite on the east. Dolomite and limestone and pre- Cambrain granite complex to the north.
The Dos Hombres group of copper claims which is described on another page is really a part of this group. But is treated a s a seperate body of ore because much of the copper mineralazation is on the west flanks and canyon floors of Black Mt. The quartz copper veins in the Mucho Labor claims strike almost vertically across the south dipping formation . The Dos Hombres quartz copper veins are mostly exposed on the canyon walls and floor striking in all directions, and cutting across one another.

Development work . Jeep roads making claims accessible. Open cuts and trenches. Five drill holes- deepest II0 ft. deep. Much assaying by registered assayers. Self- potential study by Allen White indicating anomalies, in studied areas. Study limited because of lack of capitol. Self -potential map encluded in Report.

Guy copper claims . I4 lodes
Owners-(Min- Con) Mineral Concentrates ,Inc; Bakersfield. Ca.
John Manning , President. geologist.
These claims border on the west and south end of Mucho Labor and the north end of the Dos Hombres Group. Drill hole # I- On Guy claim # 3. I54 ft. deep. Highly fractured and faulted into basalt with alteration minerals and zeolites. Drill hole # 2 on Guy claim # II is 370 ft. deep into red schist. Faulted and had to be cemented over I50 ft before core could be drawn. Heavy with iron and minor cuprite stains. Self- potential study by Allen White. Geological study by John Manning and his associates.

Assays
Mucho Labor and Dos Hombres Group of Copper claims

Assayer	claim	cu.	au.	ag.	
Eisenhauer	Pack Burro# I	.I0	trace	.38	
"	Green Rim	trace	.05	.40	
"	porphry. P.B. #4	trace	trace	.56	
"	red schist	3.30	.0I	.42	
"	Mucho Labor # I	I4. 75	.024	.54	
"	P.B. #6	.72	.04	.52	
"	P.B. #3	.77	trace	.83	
"	P.B #4	5.80	trace	I.I6	
"	M.L. # 2	6.50	.I4	.78	
"	leached porp.	.08	trace	.42	
Jacobs-Tuscon					
"	lucky Find #3	.55	.02	.30	
"	L.F. Porp.	.I4	.0I	.20	
"	Dos Hombres # I	4.02	.0I	.90	
"	L.F. # 6	.30	.52	.55	
"	M.L # I	6.05	.I5	.I[illegible]	
"	M.L. # 2	5.50	.33	I.09	
"	L. F. # 5	.32	.I0	.20	
"	L. F. Porp/ # 6	.02	.0I	.I0	
Eisenhauer					
	M.L. #2	5.I0	.I0	.I5	
"	P.B. #2	.72	.04	.40	
"	P.B. # 7	5.80	trace	.30	
"	L.F. porp.	I.70	.02	.77	
"	D.S. # I	4.20	.90	.02	
"	D.S. #2	4.70	.77	.0I	
"	M.L. # I	5.05	,I5	.20	Moly. 0I
"	M.L. #I	I5.I0	.54	. o25	
"	P.B. #2	6.50	.I8	.78	
"	P.B. #2	.72	.12	.77	
"	P.B. # 6	5.80	.04	.40	
"	P.B. # 6	5.80	trace	I.I6	
"	P.B. porp	.08	trace	.42	
"	P.B. porp	.38	trace		
"	P.B. #2	.40	trace	.05	
"	green ledge	.38	.0I5	trace	
"	P.B # 6	.72	trace	.83	
"	L.F. porp.	.30	.02	trace	

Jacobs assay on country rock between veins ,shear zones, lodes

test #I	.I0	.005	.20
#2	trace	trace	.20
#3	.20	trace	.oI
#4	.65	.07	.05
# 5	.I5	trace	.02
#6	.I0	trace	.I0
#7	7.I3	.oI	.50
#8	trace	trace	.40
#9	trace	.oo5	.60
#I0	.I0	.I5	.20
#II	.I0	trace	.I0
#I2	.60	trace	.30
#I3	.55	trace	.I0
#I4	.65	.0I	.50
#I5	.I0	trace	.20
# I6	.36	.005	.30
#I7	trace	trace	.I0
#I8	.I5	trace	.I5
#I9	.I5	.I0	.30

Dos Hombres Group of Copper Mining Claims

Locators and Owners : Richard L. Singer and Anna M. Singer ,Gold Bug Mine, Box 2I, Glamis, Ca.

Location - 27 lode mining claims. Located in East Mesquite Mining District, Quartz Peak Quadrangle. Approx. secions I0,II, TI3S, R20 E, SBBM. Black Mt, an isolated hogback of the Chocolate Mt. Range . Names of claims are: Dos Hombres # I,2,3,4,5,6,7 and 8. Ramrod # I,2,3,4,5,6,7,8,9,I0, and II. Black Sombrero # I,2,3,4, 5,6,7, and 8.

Elevation, Power and Railroad . Power line 2,000 ft to the east. Southern Pacific Railroad about ten miles to the west at Glamis. Water none at the present time. Soundings of an oil company indicated large underground pool of water at basin below claims. 37 miles to Brawley. 39 miles to Yuma, Arizona. fifty one miles to Blythe. Elevation 750 to I,ooo ft. Former springs at the base of hills now dry.

Geology. The above listed mining claims lie on the western flank of Black Mt and in the canyon floors. On the Mucho Labor copper claims, apparently related to the Dos Hombres, the copper outcrops about I590 ft on the eastern flank of Black Mt. On the Dos Hombres most of the copper mineralization and quartz outcrops about I50 ft and in the canyon floors where the quartz veins cut the bedrock in all directions and across each other. Most of the copper here is tenorite- black copper. There is the same vuggy phylite capping as on the Mucho Labor and underneath is a granitic and a metamorphic rock carrying the copper mineralazation. Thre is much iron, copper and manganese stains on most of the rock formations exposed. Greatly faulted ,brecciated and much hydrothermal clays in some of the sedimentary rocks. On the north west there is a very large formation of basalt carrying much zeolites. Pegmatites and granitics are exposed at the west end. About a mile to the south lies a large gold placer field, also at its east end. Most of the low lying areas around the base of the hills and the dipping slope is overlain with basalt alluvium and capping.
The vugs in the phylite are diamond shape with remnats of a tan liminote. The phylite has been flooded with silica after leaching. What the vugs contained have not been determined. The average copper values in the quartz veins run about 5.5. per cent. Carrying values of gold and silver and possibly tellurides in some of the veins.

Development . Jeep roads to claims. Cuts and trenches at mineralized zones, to expose ~~width~~ width of mineralized area on surface. Three drill holes depth about II0 ft. Much assaying .

Indian Pass Placers

Original Locators * Richard L. Singer and Anna M. Singer, Gold Bug Mines , Mesquite Diggings, Box 2I, Glamis. Calif. 92248

Owners Richard L. Singer, Anna M. Singer and Paul T. Collins.

Location Quartz Peak and Ogilby Quadrangle Maps. 24 placer mining claims located approx. SE¼ sec. 29, E½ of SW¼ sec.29, NE¼ sec. 32, E½ of NW¼ sec. 32, T13S, R21E, SBBM, SE Imperial County, Calif.

Description More or less, each one of the 24 unpatented placer mining claims contain twenty acres. It is approx. 9 miles from the intersection of the Gold Rock-Ogilby road and the Indian Pass road. The Indian Pass road runs through the western edge of the Indian Pass Placers and enters into placer claims # I3, # I4 and # I5 in a northwesterly angle . curving again in a more northerly direction as it crosses the boundaries between the #I5 and # I6, then runs through the NW corner of #I6 and almost due north through the center of # 22.

Recordation These claims are recorded in the Imperial County Court House, El Centro, Calif; in book II86, pp. I024-I048. Assessment work up to date.

Elevation Varies from 840 ft at the bottom of the wide dry wash near the south end of the placer group to I007 ft on the north end.

Minerals Free gold and black sands . The gold runs from fine to coarse. Crystalline in areas .copper-yellow in color. Dendetric in form ,with a few exceptions where it is flat- disk-like .as if pressed by movement of water. Black sands carry magnetite, ilmenite, zircons, garnet, epidote, pyrite, chalcopyrite, rutile, apatite, kyanite, dumortierite, etc. On surface with gravels are cobbles and boulders of Kyanite and dumortierite, agate, jasper, petrified woods.

Volume and average Over twnety million cubic yards of gold bearing gravels. Average about .90 cents a cubic yard, to $I.Io at the southern end. Recent and older alluvian both carry gold. Gravels deepth run from a few inches to more than fifty feet. Estimated only by exposed banks in wash. No drilling ever done on property.

Samplying Virgin property. Discovered by the Singers. Testing was done at first by small hand dry washer. Later by large dry washer, front end loader and dump truck. Bank run assays deon by Eisenhauer of Los Angeles.

Assays	Sample number	claim number	values o' AU. Cu. yd.
	SI-	#5	$7.84
	S2-	#5	I.23
	S3	9	.74
	S4	9	.49
	S5	9	.98
	S6	2I	I.47
	S7	24	9.03
	S8	24	~~XXXX~~ 7.49
	S9	4	.74
	SI0	5	I.96
	SII	6	4.90
	SI2	8	.49
	SI3	9	I0.78
	SI4	I0	.49
	SI5	I3	.25
	SI6	I3	.49
	SI7	I8	I.23
	SI8	20	.98
	SI9	2I	.25
	S20	24	.74
	S2I	4	.00
	S22	I7	.00
	S23	4	.53
	S24	5	I.40
	S25	6	3.50
	S26	8	.35
	S27	8	7.70
	S28	9	7.I0
	S29	I0	.35
	S30	II	.I8
	S3I	I3	.I8
	S32	I7	trace
	S33	I8	.88
	S34	20	.70
	S35	2I	.I8
	S36	24	.53

Geology

The gold placers are located at the southeast end of Black Mt, which is part of the Chocolate Mt range; on an alluvial fan about a mile south of Indian Pass. Black Mt. is a segmented hogback about 2,I64 ft high which dips sharply to the south and is covered with a lava flow of basalt and other basic rocks. Underneath this capping of basalt lies phylite ,shale ,limestone and pre- Cambrian crystalline formations into which has intruded more recent quartz monzonite, ryholite and Tertiary volcanics . Copper, silver and gold mineralization is exposed around and on Black Mt. The Mucho Labor and Dos Hombres copper claims ,a group of 69 lode claims ,owned by the Singers , is located on Black Mt. Various other locators have claims in the area.

The Indian Pass gold placers is part of the picture of Black Mt. The older gravels are composed of rounded grains to cobbles og granite and metamorphic rocks, schists and basic rocks. Their color is grey. The Recent alluvials are composed of rhyolite, granite, schist, tuffs, basalt, diorite, etc and is pink in color. Both carry gold .

Indian Rose Lodes and Placers

Original Locators and Owners. Richard L. Singer and Anna H. Singer, Gold Bug Mine, Mesquite Diggings, Ca. Box 2I, Glamis, Ca. 92248

Description. 8 lode claims. Quartz Peak Quadrangle- East Mesquite Mining District. Approx. sections , 32, TI3S, R2I E,SBBM. Names of claims are : Indian Rose # I, 2,3,4,5,6,7 and 8.

Location . The claims are located approx. 8 miles northeast of the intersection of the Indian Pass road and the Gold Rock road to Ogilby. Good gravel road to claims. The claims are well marked and monumented with monuments painted white. Elevation about 800 ft.

Geology . Metamorphic rocks borders on the north and pegmatites carrying pink tourmaline and various other pegmatite minerals border the south. The pegmatite areas ahve been highly altered by hyderthermal actions. Much clay and serecite , epidote, chlorite, etc. In beteen these two formations has intruded a formation that as yet not been named. This formation is crystalline , highly altered and carrying grains of black minerals around which are rings of copper oxides. It is heavy with iron, manganese gossan colred black, red and blue-grey. Some places it is in contact with a sedementary ,highly altered formation stained with iron ,copper and managanese oxides. The entire area is faulted and greatly brecciated. On top, around and beyond the intrusive one can dry wash free coppery gold averaging to about $ 3.00 a cubic yd. The intrusive assays from $ I.29 to I8. 55 an gold a ton.

Asaays. The claims are still prospects.
Jacobs of Tuscon,Assayer

gold		silver	copper	lead
~~xxx~~		~~$xxxxxx~~	~~.xx~~	
.53	$ I8.55	.60	.I7	.30
.I46	5.II	.09		
.052	I.82	trace		
.o83	2.9I	.05		
.o37	I.29	trace.		

These are surface assays on oxidized areas.

Development.
Roads to claims. Cuts and trenches across mineralized zones to determine width if possible. Much dry washing in gold placer areas. Testing by dry impact for free gold recovery of lodes.

Findings - From surface indication ,possible sulfide ore body underneath gossan. Would like to see a drilling program established in area.

Owners of Mining Claims in East Mesquite Mining District
Quartz Peak Quad. area.

I- Mucho Labor Copper Claims - 42 lodes
Owners- Richard L. Singer and Anna M. Singer
Gold Bug Mine, Box 2I, Glamis Ca.

2- Dos Hombres Copper Claims - 27 lodes
Owners- Richard L. Singer and Anna M. Singer

3- Green Sombrero Copper Claims- 2 lodes
Owners- Richard L. Singer and Anna M. Singer

4- Blue Star, Independence Group- II9 ? lodes
Owners- Van de Mark, Breckenridge, James C. Cook 6304 Cinnabar Dr, Riverside, Ca. A deep faulted canyon seperates this group of copper claims from the Mucho Labor Copper claims. Geology is the same as for Mucho Labor.

5- Short Change Copper Group- 3 lodes
Owner - Wayne Rogers, Mesquite Diggings, Cal.
Broad zone of tenorite mineralazation and narrow veins of high grade chalcocite with silver and gold values.

6- Black Mt Copper Group- 47 lodes
Owners- Ned Hyduke
Box I7, Palo Verde ,Cal.
Two drill holes. The drill passed though a hundred feet of low grade copper. Volcanic rubble covers most of the mineralized areas.

7- Peter Kane Group
Owners- Ned Hyduke, George Burslem and associates.
Breccia zones, pods, lens in granitic formation. Old workings.

8- Chigoe Group- I copper lode ,I gold placer
Owners- Charles and Ruth Mason, Box I5I3, Bishop, Ca.

9- Prospects- Unknown
Metmorphic formation in contact with rhyolite and volcanics.
Pods, lens, narrow veins of copper..

I0- Butler Copper Group- 24 lodes
Owners Harold Butler and Associates
726 Hamilton , El Centro, Ca.
Copper mineralization in schistose formation in rolls and pods of chalcocite with rings of oxides of copper. Leached low grade areas in between. Jeep roads and open cuts and trenches.

II- Gaviland Mines- I3 lodes
Owners- Imperial Copper Co. Pres. Norman Imbertson, I020

Owners of Mining Claims in East Mesquite Mining District
Quartz Peak quadrangle

II- **Gaviland Mines** **------ Inverness Dr. Pasadena , Ca. W.W. Wallace, V.P.- II634 Davis St. Sunnymead, Ca. The copper **mineralization** consists of a large low grade body of ore with high grade lens and rolls of chalcoaite , and copper oxides and silicates. On Dec. 27, I960 ten and a half tons of copper from these claims were trucked to Hayden, to the American Smelting and Refining Co's smelter. Smelter returns were gold. 053, silver 7.64, copper I5.73; payment value per ton- $ II6. 36. Total -$ I,I7I. 0I. 22 claims

I2- **Carrizo**a Mines- I3 claims
Owners- Imperial Copper Co.
Geology the same as Gaviland Mines.

I3- Quartz Hill Group- 25 lodes
Owners - Jim and John Turner and Associates
434 West C. St. Brawley, Ca.
Large low grade with pods and lenses of high grade copper .

I4- Indian Pass Placers- 24 placer claims .
Owners- Paul T.Collins , Richard L. and Anna H. Singer
Box 2I, Glamis Ca. (Check report on Indian Pass Placers)

I5- Indian Rose Lodes - 8 lodes and placers
Owners- Richard L. Singer and Anna H. Singer (check enc luded report on Indian Rose Lodes.)

I6- Lucky Gene # I and 2- south of Gavilan Wash.T13S,R22 E.
Bueno Suerta # I,2, and 3,4,5. Junction Carrizo and Gatuna Wash.
Owners- Eugene A. Zimmer ,2500 Evelyn St. Montrose, Ca.
Assays values- gold .0I. copper ,silverv I7. Silica 80.
Plus large area of low grade copper from I to 2 percent.

I7- Reasner Copper claims
Owners- Pat and Ed Reasner, II0I N. 6 th. St. space 48, El Centro ,cal.

I8- Blue Jeans- 2 copper claims - June's Dune- I gold claim
Owners- William and June **Smikahl. 2561** Elm St. El Centro, Ca.

I9- Polly 's Folly 3 gold claims
Mr and Mrs Russell Sherwood
I228 Sandalwood, El Centro , Cal.