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STATE OF ARIZONA  
BUREAU OF GEOLOGY  
MINERAL TECHNOLOGY

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Arroyo Zn &amp; Pb Deposits

Hilton or  
Lead Mtn Dist.

p 53-54

Hilton or Lead Mtn area. 3 Mi SW of Total Wreck Mine

Claims (Alexis, Col. O.) (UA Thesis 1939) <sup>were first</sup> located  
late 70's & early 80's. <sup>At the</sup> <sup>of</sup> <sup>of</sup> <sup>were</sup> Beginning this Century, worked several  
years <sup>and</sup> <sup>prod</sup> about \$20,000. <sup>in</sup> 1902 Verde Queen Min. Co.  
bought claims - ~~but~~ but shipped by little ore.

1927 Col & Co did considerable development  
work in the Prince Mine, and shipped product of  
value of \$25,000.

Prob. most of the Empire Dist prod. during  
1928-48, incl. 1,655,866 #Pb, 301,300 #Zn, 19,173 O<sub>3</sub> Ag  
53,602 #Cu, & 186 O<sub>3</sub> Au, in all valued at \$161,011,  
was some from the Lead Mountain area

Total Value  
1928-48

Snyder A. 11 has hosts most of the deposits. The  
Andrade farm hosts some of the smaller deposits.  
Bedd strike E. and dip  $\pm 40^{\circ}$  S. Cut by NW  
faults and intruded by NE dikes. The NE fissures  
carried ore solutions; was localized along N and NW  
breaks.

Most of the Pb & Zn come from Chief,  
Prince, Grapher and 49 mines - Carbonate area.

Diorite forms a sill in the Prince, and a NW dipping  
dike in the 49 Mine. Ore occurs below the  
diorite in the Prince, Chief, and 49.

Bull 158

Acc to Faiss (Hiltano Camp - their VA 1929) are  
in the primer occurred mainly as small pockets  
assoc w/ fissures. Strong Ox on 750 level - the deepest,  
about 250 ft below present water table.

(JEK Note - Dapart shaft is, acc. to reports, the  
500 ft vertical on the Prince - ~~that~~ weather this is  
a misprint or perhaps the level no. says, is not  
based on 100 ft <sup>vertical</sup> levels - )

Ariz Bur of Mines Bull 189 1974  
Inventory of Min. Properties in Pima County

P. 117 Chief Mine (Hiltano Group, State of Main group, Hiltan, U.S. Magnetite)  
NE 1/4 Sec 18 185 17E

Irregular replacement orebodies and chimneys containing *Cannizzite* etc etc - (hosting of oxidized Pb and Zn <sup>minerals</sup> also *Azurite* (Cu CO<sub>3</sub>) and *Galena* (Pb S). Vein in limestone, gangue is calcite, aragonite, siderite and Qtz. Ore controlled by intersecting fissures and faults.

1700 tons combined  
Glopper & Chief  
Assume 22% Pb  
30% Ag  
16% Cu

440 \$ Pb/T  
@ 1800 T  
748000 \$ Pb  
x .06 \$/lb  
\$ 44,880  
+ 3,060  
\$ 48,940  
Does not agree  
w/ 18000 reported  
by Newcomb  
of 1927

1700 T  
30% Ag  
5100  
x .60 \$  
\$ 3060

Incline shaft operations. Early 1900's to 1963, prod over 500 tons of ore averaging 25% Pb, 80% Ag, 0.5% Cu, minor Au and Zn.

P 118 Glopper Mine (Hiltano & State of Main groups)  
NE 1/4 Sec 18 Pb, Zn, Cu oxid minerals, residual galena, chalcopyrite, pyrite, replacements & chimneys. Incline shaft. Operations late 1800's to 1930. Prod some 1200 tons ore ave. about 20% Pb, 3% Zn, 0.8% Cu 1.5 oz Ag/T, minor Au.

P 118 Hilton Mine SE 1/4 Sec 8 Shallow surface workings  
350 T 8% Pb & 20% Ag  
in 1935, and 1946-47.

P 118 A9 Mines  
NE 1/4 Sec 8 irreg. Replacements in ls  
Base metal carbonates w/ minor sulphides.  
early 1900's to ~~1930~~<sup>1937</sup> 2000 Tons Ave 18% Pb  
5% Cu, some Zn, 70% Ag/T. Minor Au.

P 118 Jerome #2 (Start of Main)  
NE 1/4 Sec 18 Pb, Zn, minor Cu, carbonates.  
in ls. Shaft operation. Early  
1900's to 1930's. Prod 250 Tons  
ave 30% Pb, 11% Zn, 0.6% Cu  
60% Ag/T. Minor Au

Ariz Bur Mins Files

①

Newspaper Clippings -

5/6/27 Tucson. — lead mining properties of the Hillman Mining Co were taken over by Colman and Arizona first of this week.

Miles Carpenter - pres, <sup>Tucson</sup> Chamber of ~~Commerce~~ <sup>Mines</sup> holds great hopes for benefits to Tucson.

H.A. Clark, gen Mgr of C & A3 confirms reports that C & A was planning large scale development.

7/2/27 Tucson (Charge headline, 5 paragraph article)

Deal with Cal & Az compared to Ajo as the most important event in Pima Co since advent of Ajo.

"Mr. Clark said that his Co had taken over 11 mining claims known as the Gopher group", lease and bond to purchase. Prop. belonged to E. P. H. Star, was record producer in this dist.

lost year - prod \$114,000 of lead ore. Transaction said to include holdings of Charles Tugford and also the Forty-Nine Min. Co holdings.

The record production last year attracted the att. of Cal & Az.

Might include entire Dist total, incl. 49 mine - or may be overstated, VEX. (Subsequent notes - this is a slight over-estimate, based on comparison to former total prod. of BK.)

ABM Files

Summarized by LFK

(2)

Newscippings -

Bisbee June 11 27 (Phx paper)

Notes against by C & A.

Equip for work is at property, preliminary water develops nearly complete, Gopher shaft has reached depth of 178 ft. Miners at work on 3 of the several shafts in the claim group.

7/31/27

C & A activity at Hilton's mines. Super. is J. H. Harpur. Store Bldg complete. Warehouse, office Bldg, boarding houses, & a dozen small camp houses completed. Pipeline 4000 feet brings water to camp.

Shaft on Gopher claim has been sunk below 300 ft, and new 2-comp. shaft, to be the main shaft - has been started.

A new Chicago Pneumatic air compressor of 5-hp capacity will be installed at the Prince shaft.

50 men, mainly Mexican miners, are employed. The Lone Mtn property, adjacent to the Hilton group, is making regular shipments of Pb ore.

Bisbee 11/25/28 All operations of Colver & Arizona at the Hilton group have been abandoned. Machinery and equipment has been removed.

C & A has been develop more than a year at the prop. Main shaft sunk to 500 feet. Unsuccessful returns from development given as reason for abandonment.

Ariz Bar Mines files

Hilltop Exploration Co (Sub. of  
Calumet and Arizona Min Co)

(Summary  
by JOK)

Visit - 8/20/27

Unsigned field report,  
Ariz Bar Mines. 1 page  
handwritten

Empire Mts about 6 Miles south of Panama.

J. B. Hatcher, Superintendent

Country rock is limestone, with quartzite lenses,  
and a few granite porph dikes.

Ore deposits of P.B. carbonates, sulphates, and  
a little remnant galena of abund. hem.

and a little malachite. Replacing ls. in  
very irregular bodies. As so far developed  
from 500 tons to 5000 tons connected by  
thin 1" to 12" leads or veins of limonite  
w/ cerussite & galena. Ore bodies are tabular  
to tubular and vein-like.

Outcrops usually small, marked by caliche  
w/ Cu-stained limonite veinlets.

Property being developed by incline shaft  
and a two-compartment vertical shaft.

From A2 BUR MINES FILES

Hil~~l~~tan~~e~~ Exploration Co (Calomet + Arizona) Min. Co Subsidiary  
Empire Mountains  
Pima County.

Visited 8/29/27

Deposits lie on east slope of Empire Mts, about six miles south of Pantano. Cost of haul 4-5 per ton.

J.B. Harper Superintendent.

Topography rolling to mountains.

Water scarce. Timber scrub oak and scrub underbrush.

Country rock Palaeozoic (mostly Pennsylvanian) limestone with quartzite lenses, dikes of gneiss (?) and fine granite porphyry dikes.

Ore deposits consist of lead carbonate, sulphate and little remnant galena with abundant limonite and little malachite replacing limestone in very irregular bodies associated with caves. Pockets as so far developed from 500 tons to 5000 tons.

connected by leads of ~~limonite~~ ~~lead~~ ~~bear~~ limonite with cerussite + galena from 1" to 12" shape of ore-bodies vary from tabular to tubular & vein-like.

Outcrops, usually small and often marked by development of "caliche", consist of copper stained limonite concretions.

Property being developed by inclined shaft and two compartment vertical shaft.

Tucson Dated  
7/2/27  
legible on original

Call to Mike Greely -

Az Dept of Mns Resources

will send Production by Hilton -

(<sup>has visited several times</sup>  
Jerry Evren Knows prop.)

Dept. of Mines & Mineral Resources ) offered to send  
416 W Congress )  
Tucson - 85701 ) copy of news clipping.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine ' Hilton Claims (*State of Main Group*) Date August 21, 1961

District Empire District, *Pima County* Gochise County Engineer Lewis A. Smith

Subject: Interview with Hobart E. Burton

Property 11 Claims (Badger, Black Tail Deer, Chief, Copper Point (Top), Forty-nine, Gopher, Jerome 2, Princess, Red Cloud, State of Maine and Wedge). They are near to the well-known Total Wreck mine and townsite. (Mineral surveys 4031 and 4033.) They adjoin the Verde Queen to the north.

Location: Sec. 8 and 17, T. 18 S., R. 17 E.

Owner: ' E. J. Hilton, Tucson, Arizona (Box )

Agent: ' Hobart E. Burton, 650 N 6th Ave., Tucson (Burton Realty Co.)

Minerals: Lead, silver, copper and zinc.

Geology and Early History: U.S. Geol. Survey Bull. 582 (1915) pp 149 - 151. (The Jerome 2, Forty-nine, Red Cloud, Hilton Ranch Vein, Copper Point and California produced some and all described by Frank C. Schröder in Bull. 582).

ARIZONA DEPARTMENT OF MINERAL RESOURCES  
Mineral Building, Fairgrounds  
Phoenix, Arizona

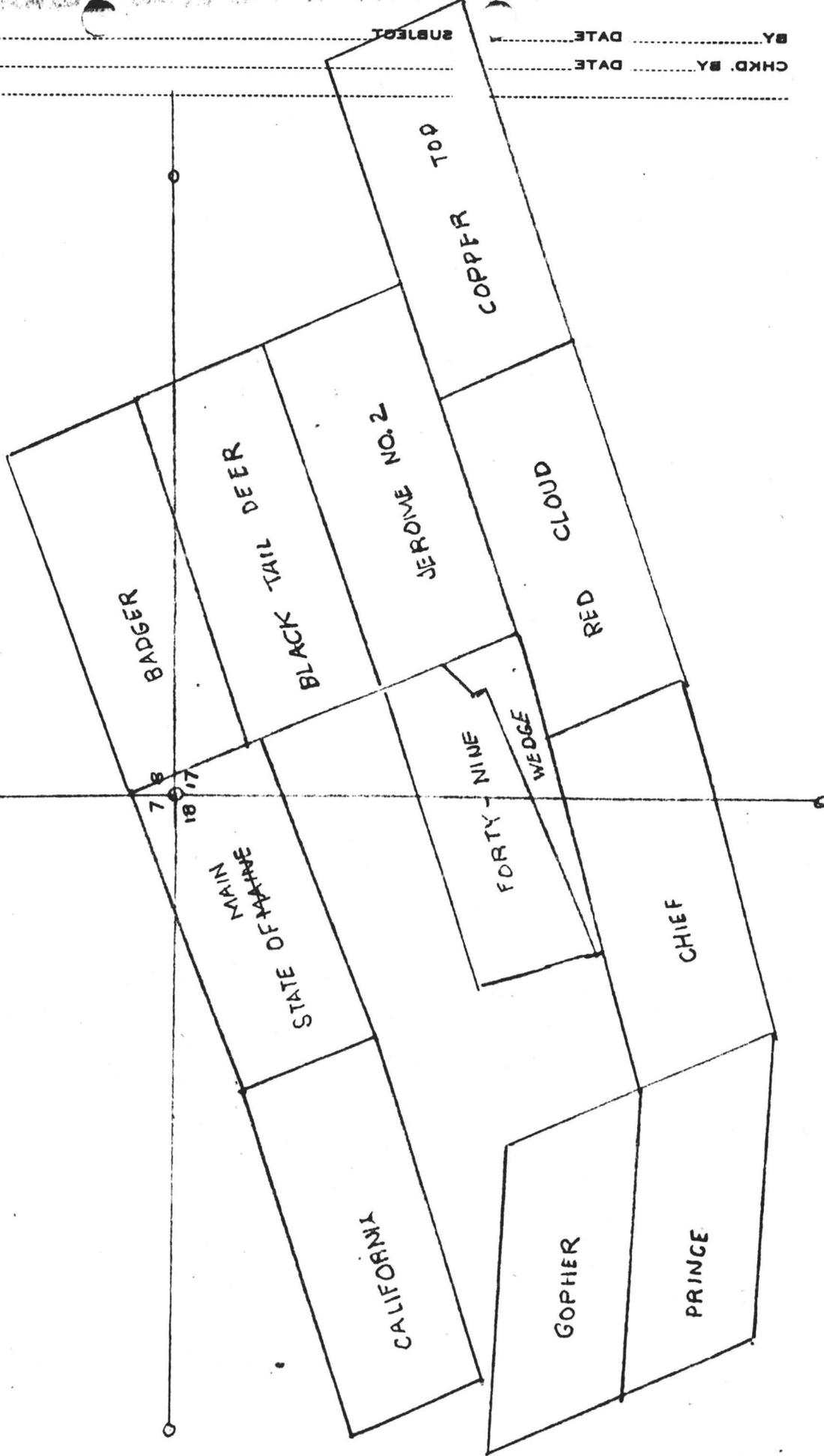
1. Information from: E. P. HILTON  
Address: P. O. BOX 1308 TUCSON ARIZONA 85702
2. Mine: HILTON GROUP 3. No. of Claims - Patented 13  
Unpatented ?
4. Location: EMPIRE MOUNTAINS, HILTON RANCH
5. Sec 7-8-17-18 Tp 18S Range 17E 6. Mining District EMPIRE
7. Owner: E. P. HILTON
8. Address: AS ABOVE
9. Operating Co.: NOT OPERATING
10. Address: \_\_\_\_\_
11. President: \_\_\_\_\_ 12. Gen. Mgr.: \_\_\_\_\_
13. Principal Metals: LEAD, SILVER 14. No. Employed: \_\_\_\_\_
15. Mill, Type & Capacity: \_\_\_\_\_
16. Present Operations: (a) Down  (b) Assessment work  (c) Exploration   
(d) Production  (e) Rate \_\_\_\_\_ tpd.
17. New Work Planned: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
18. Misc. Notes: LONE MT. SHAFT 300' VERTICAL MOST WORK ON 200' LEVEL  
CHIEF-INCLINED SHAFT 450' TUNNELS, ZINC SHOWING AT SHAFT BOTTOM.  
GOPHER 300' VERY STEEP INCLINED SHAFT  
RED CLOUD TUNNEL AND SHORT SHAFT  
FORTY-NINER 200' INCLINED SHAFT MOST WORKINGS ABOVE 90' LEVEL  
PRINCE 500' VERTICAL SHAFT WITH 90° WINZE OFF OF THE BOTTOM LEVEL SULFIDES CAME  
IN AT 525' C & A DID WORK UNDER JORALEMON IN TWENTIES- WATER AT 480'  
(NO DILLING HAS BEEN DONE IN THE ABOVE PROPERTIES, MAPS AND RECORDS LOST IN  
A FIRE. PRODUCTION ESTIMATED AT \$750,000 FOR ABOVE MINES. SEE PAGES 149 & 150  
OF USGS BULLETIN 582 BY FRANK C. SCHRADER  
CLAIM MAPS ATTACHED.

Date: 11-13-69

G. W. Schrad  
(Signature)

(Field Engineer)

67, 8, 17, 18 : TIBS R 17E

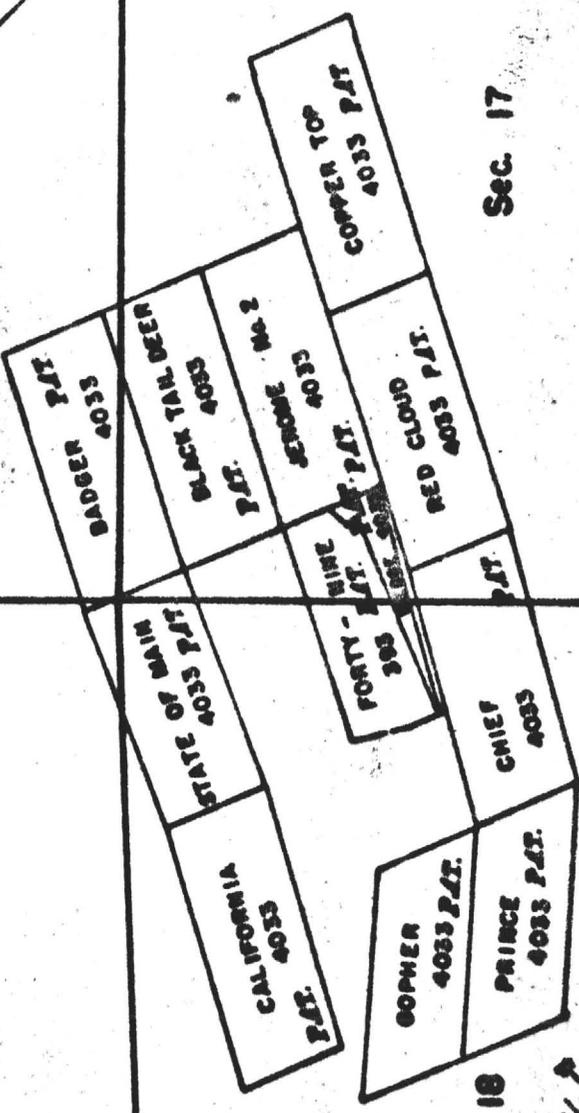


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Sec. 17

SEC 18

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
MINE OWNER'S REPORT

MS-86

Date: March 7, 1942

1. Mine: State on Main and Lone Mountain Groups
2. Location: 16 mi. southeast of Vail, Arizona
3. Mining District & County: Empire Mining District, Pima Co.
4. Former name:
5. Owner: E. P. Hilton
6. Address (Owner): Box 1308, Tucson, Arizona
7. Operator: Same
8. Address (Operator)
9. President, Owning Co.
- 9A. President, Operating Co.
10. Gen. Mgr.
14. Principal Minerals: Lead, silver, zinc
11. Mine Supt.
15. Production Rate
12. Mill Supt.
16. Mill - Type & Cap.
13. Men Employed: 7 at present
17. Power - Amt. & Type
18. Operations - Present: Shipping 110 tons zinc ore per month and developing considerable lead ore. Lead shipments will start shortly.
19. Operations - Planned: Will keep up production of zinc ores, ship higher grade lead ores and will extract several thousand tons of low grade lead silver milling ore which has never been handled.
20. Number Claims, Title, etc.: 13 patented mines in two groups, 3 unpatented claims adjacent.
21. Description - Topography & Geography: Fairly high hills cut by ravines. Roads to most all of the properties.
22. Mine Workings - Amt. & Condition: No exact estimate can be made without careful survey, probably 40,000 ft. in all. All dry above the 450 ft. level.

(over)

23. Geology & Mineralization: Lime and quartzite, cut by a rhyolite and several blue dykes of various widths. Ore is found in pipes and shoots. All are carbonates and oxides.
24. Ore - Positive & Probable, Ore Dumps, Tailing: Low grade dumps contain some 2500 tons and probably an equal amount is still underground. As to extent of high grade shoots and deposits no estimate can be made as new ones are being found in course of development.
- 24A. Dimensions and Value of Ore body: Pipes are from 18" to 6' in diameter, sometimes widening to 12'. No true course is found as ore found in all directions splits, comes together, pinches and widens.
25. Mine, Mill Equipment & Flow-Sheet: Mines are equipped with hoists of various sizes; shallow ore being taken out with Windlasses.
26. Road Conditions, Route: At a point 11 miles southeast of Highway 80 on Soncota Highway, then east 4 miles to properties. Road in fair shape.
27. Water Supply: Shallow and limited in dry time, but sufficient for most all mining operations.
28. Brief History: Properties were worked for silver in the early 80's. About 1898 lead shipments were started, continued for 7 years or more, then properties were idle to 1916 when lead shipments were resumed with the exception of several years after the war when they were idle. Shipments continued to 1930 when they were closed to 1937, run one year, closed until present time. Production has probably been around \$400,000.00. *(This is most certainly an over-stated production)*
29. Special Problems, Reports Filed: Problem is to find the ore, then to follow it if it doesn't go too deep and crooked so as to make extraction unprofitable. Ore is clean, averages about 33% lead, 6 pz. silver, very little silica.
30. Remarks: About the only profitable way these ores can be mined is by Mexican gambusinos, leasing, or on partnerships with owner.
31. If property for sale - Price, terms and address to negotiate: Not for sale. Would consider lease or partnership.

Signed: E. P. Hilton

DEPARTMENT OF MINERAL RESOURCES  
State of Arizona  
MINE OWNER'S REPORT

RECEIVED  
SEP 15 1958  
DEPT. MINERAL RESOURCES  
PHOENIX, ARIZONA  
SEPT 8 1958

Date.....

1. Mine: STATE OF MAIN GROUP (UPPER PAT. MINES) LONE MOUNTAIN GROUP + (2 Pat MINES)
2. Location: Sec..... Twp...18S... Range...17E... Nearest Town...TUCSON... Distance...38 mi.  
Direction...NW... Nearest R.R. SP RR... Distance...14 mi.  
Road Conditions...PAVED TO 4 MILES OF FAIR NARROW ROAD.....
3. Mining District and County: EMPIRE, PINA COUNTY
4. Former Name of Mine: VAINOUS
5. Owner: EPHILTON  
Address: PO Box 1308, TUCSON, ARIZ.
6. Operator: SAME (NOT OPERATED AT PRESENT.)  
Address:.....
7. Principal Minerals: LEAD - SILVER
8. Number of Claims: Lode...13... Patented...ALL... Unpatented.....  
Placer..... Patented..... Unpatented.....
9. Type of Surrounding Terrain: FAIRLEY DOUGH AND HILLEY

10. Geology and Mineralization: Ore occurs mostly along the bedding plains of both the Cambrian and Devonian limestone which in turn are cut at almost right angles by soft greenish porphery dykes of various thickness from 1' to 5' in width and dykes may be spaced from 50' to 300' apart. Also ~~the~~ some of the State of Main claims are cut by a Phorpery dyke haveing a thickness of from 5' to 20' which is almost white in color dipping NW at a 90% angle, ore occurs in shoots and lenes on both sides of this dyke. The Devonian and Cambrian limestones are seperated by by a belt of quartzite about 600' in thickness and some minerlization occurs in this quartzite in the fractures and faalts, also two large faults cut all formations in the district and in some places near these faults the best and largest ore bodies have been found.

11. Dimension and Value of Ore Body: Ores that have been extracted in past years occured in shoots or pipes of from 1' to 6' in size, widening or flattening in places to 8-10 ft in thickness, some ore deposits started in veinlike form and continued down for some 200' haveing a thickness of 4' or so and length of 500-50' or more.

Please give as complete information as possible and attach copies of engineer's reports, shipment returns, maps, etc. if you wish to have them available in this Department's files for inspection by prospective leasors or buyers.

12. Ore "Blocked Out" or "In Sight": VERY LITTLE

Ore Probable: CONSIDERABLE NUMBER OF VARIOUS SIZED SHEETS OF PIPES IN LOWER WORKINGS. SOME QUANTITY NOT EXPLORED.

13. Mine Workings—Amount and Condition: ALL ONLY. FAIR TO GOOD CONDITION

No.	Feet	Condition
Shafts. <u>5</u>	<u>200' to 500'</u>	<u>FAIR</u>
Raises. <u>20</u>	<u>50' to 300'</u>	
Tunnels. <u>40</u>	<u>125' to 250'</u>	<u>GOOD</u>
Crosscuts. <u>12</u>	<u>50' to 400'</u>	<u>GOOD</u>
Slopes. <u>711 KEVIN</u>	<u>ALL LENGTHS</u>	<u>FAIR. SOME SAVED</u>

14. Water Supply: Water level in the mines is about 480' but water for camp use is from shallow wells of small capacity would however a deep well has drilled lately with large supply of water.

15. Brief History: This district was worked in the early eighties for silver then about 1896 work was started for lead and ore was shipped for some 10 years or so, from 1915 to 1929 production was considerably over half million dollars in lead and silver, after that intermittent shipments were made up to 1951 when all work ceased.

The average values of ores shipped were about 26% lead 6 oz silver and from \$1 to \$3 in gold, considerable zinc oxide was shipped which run about 38% but it occurred apart from the lead ores.

16. Remarks: All smelter returns, maps and reports were lost in a fire in 1951 so there is very of past history on record.

17. If Property for Sale, List Approximate Price and Terms: Propertys could be secured with purchase price of \$60,000.00 on a long time bond & lease at reasonable terms.

18. Signature: E.P. Nilton

3/5/87

Talked to Mike Grealy.  
Az D. Min. & Min. Res.

Copperstone Mine  
No. Yuma County  
(La Paz Co) AZ  
Gold

Dan Patch property - was sold to Cyprus Resources  
(Spin off from Amoco of old Cyprus mines Corp)

They are getting ready for operation. Jim Loggby  
says <sup>that Patch</sup> ~~is~~ receiving \$ 50,000/mo.

located North of Quartzite between Hwy 80  
Parker and the Indian Reservation strip.

He located <sup>(or relocated on old workings)</sup> the claims on advice of an  
old timer in the area, according to what  
Mike has been told.

Patch is promoting other claim groups - which  
Loggby refers to as "dogs".

They reportedly want a different name  
for the property, but have not announced what  
it will be.

As an aside - Cyprus Resources (Englewood Colo)  
retains its Cyprus Bogard and Cyprus Johnson  
properties (latter only recently closed) Also have  
bought Duval's Sierrita - Cyprus Sierrita is op. name  
for this mine, following Cyprus Bogard etc.