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Mining 5

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CHIQUITA MINE

Goodsprings, Nevada

Mining 5

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Chiquita Mine, Goodsprings, Nevada.

The Chiquita Mine consists of 18 lode mining claims, situated in the Yellow Pine mining district, Clark County, Nevada. The area covered by these claims is approximately 300 acres. The location of the property is such that all the mineralized areas, and especially the Chiquita vein, are included within its boundry.

The mine is reached by turning northwest at Jean off the Los Angeles-Las Vegas highway and proceeding 7½ miles on an oiled road to the town of Goodsprings, a typical Western mining town. From Goodsprings the mine is approximately 7 miles West over a good dirt road passing through Wilson Pass and Keystone wash.

Approximately two thirds of the miners commute to and from Goodsprings while the remainder stay at the camp itself. The mine is located at an elevation of 4500 feet in a barren, mountainous desert country with very little rainfall.

The mine receives its water supply from Mesquite Valley to the West through a six inch pipe line with a lift of 1800 feet. The water is of good quality in the well which was drilled to a depth of 100 feet. The water is pumped to the mine by a 80 Horse Power Diesel engine at a cost of approximately ½¢ a kilowatt hour. The pumping plant was not changed to Boulder Dam power with the mine as it was figured that the saving would not warrant the building of a transmission line from the mine to the pumping plant.

The mine was bought by the present owners from a group of Goodsprings men in 1932. A company was formed and called the Chiquita Mining Company with a capitalization of 1,000,000 shares at a par value of $1. The present Company is responsible for practically all the surface

plant including the 200 ton cyanide mill, twelve miles of underground workings, sinking of the shaft to 1100 feet, and the building of the transmission line bringing Boulder Dam power to the mine and Goodsprings.

The gold deposits of the Chiquita occur within the Goodsprings dolomite formations, and are intruded by dykes and sills of granite porphyry. These dolomites are the lower members of a 12,000 foot stratified section of basic sedimentry rocks, including formations from pre-Cambrian to recent. The granite porphyry dikes and sills are of Tertiary origin and are partially responsible for the faulting, crushing and brecciating of the dolomites. To quote from the United States Geological Survey, professional paper No. 162: "the thickness of the Goodsprings dolomites is approximately 2700 feet. The age of these dolomites is Devonian to upper Cambrian. Underlying these dolomites, there are 250 feet of shale, designated as the Bright Angel shale, this lying on 150 feet of sandstone, designated as the Tapats sandstone, and all these lying upon an unconformity, which in turn lays on the pre-Cambrian granite gneiss".

Approximately 1700 feet north of the Chiquita more in shaft - 1100 there is what is known as the Keystone fault striking southeasterly and dipping to the southwest. This is the major fault of the Goodsprings District and in places the lateral movement extends to almost to 3/4 of a mile.

The Chiquita vein is located some 1700 feet southwest of the Keystone fault and is probably a fissure which has been filled with ore by the action of hot rising solutions containing gold. The Chiquita vein can be traced over the surface of the property for a distance of 3300 feet east and 1200 feet west of what is known as the Thomas workings. The vein has parallel faulting and the work underground indicates that it has a very consistent strike. The vein varies considerably in widths as do the values. The widest part of the vein thus far encount-

ered is forty feet between the fifth and sixth levels. However the average width that can be mined profitably is about 10 feet. The vein has a strike of North 58° West, or South 58° East. The overall vein follows a course of a straight line but it will take an irregular course through short distances. The vein dips to the northeast from 50° to 70° and somewhat parellel to the strike of the Keystone fault 1700 feet to the north east.

The system of mining used in the Chiquita is open stoping. The ground throughout the mine is in good condition and requires very little timbering. The stopes either hold themselves up or stalls are used which is the heaviest type of timbering in the mine. The first 250 feet of the shaft is timbered and the remainder of the shaft has only the timber necessary to hold the track, pipes, etc. in place. The shaft is inclined at 70° from the top to 375' at which point it flattens out to about 55°. When possible the ore in the stopes is blasted directly into chutes which can be drawn from the various levels. In some cases where the ore bodies are irregular the ore must be handled once or more before it reaches the chutes. The ore is drawn fron conventional chutes into one ton cars which is trammed to shaft pockets. There is a shaft pocket at each level and they are single compartment. Ore is hoisted during the day shift and waste is hoisted on the night shift. The skip holds approximately one and a half tons and is loaded from the skip pocket by a wheel operated chute door. The pocket chute is on the bottom of the pocket which places the skip well below the level when being loaded. The skip is a self dumping skip that dumps into a 500 ton storage bin. The signal system in the shaft is electric bell system.

All levels of the mine are connected with numerous raises and stopes which provide emergency exits and excellent ventilation. All

tramming in the mine is done by hand although in some instances a small battery locomotive would probably be cheaper.but in most cases the distances do not warrant the use of a locomotive. No pumping is required and there is a dust problem except on the lower two levels which are damp. No artificial ventilation is required in the mine as the interconnecting raises and stopes furnish sufficient air.

The rocks in the Chiquita Mine are made up mostly of dolomite and granite porphyry. The dolomite varies in color from light grey to brown and sometimes nearly black. There is no evidence of the replacement of the limestone by the dolomite, the magnesia required for this not having been present in sufficient quanity. This incomplete dolomitization has left the country rock in a somewhat porous condition. The granite porphyry is made up of orthoclase feldspar with small amounts of plagioclase and quartz. On the surface we find this porphyry in a very decomposed condition with mineral contents showing very little alteration other than that some have become hydrated.

In the Chiquita, gold is associated with limonite, light to dark chert, and yellowish to brown clay. On the first two levels there is some malachite and azurite.Jasper and chert are common throughout the mine as is calcite. The calcite occurs in various forms, fillings in vein matter, joints, small fissures, cracks and small cavities, and usually having a milky color. These stringers appear to assist in leading to ore bodies.As mentioned before gold bearing limonite is a very important mineral in the Chiquita. This is the hydrated oxide of iron, from a light yellow to a dark brown in color. This is sometimes accompanied by hematite in small quanities, frequently occuring as replacements of the dolomite. The presence of iron is often a marker for gold bearing ore, all of the limonite within or close to the Chiquita vein carrying gold.

All ores except those on the last two levels are fully oxidized. This assures a high recovery of the gold content by the cyanidization process, there being present no interfering elements, such as copper, antimony, or arsenic.

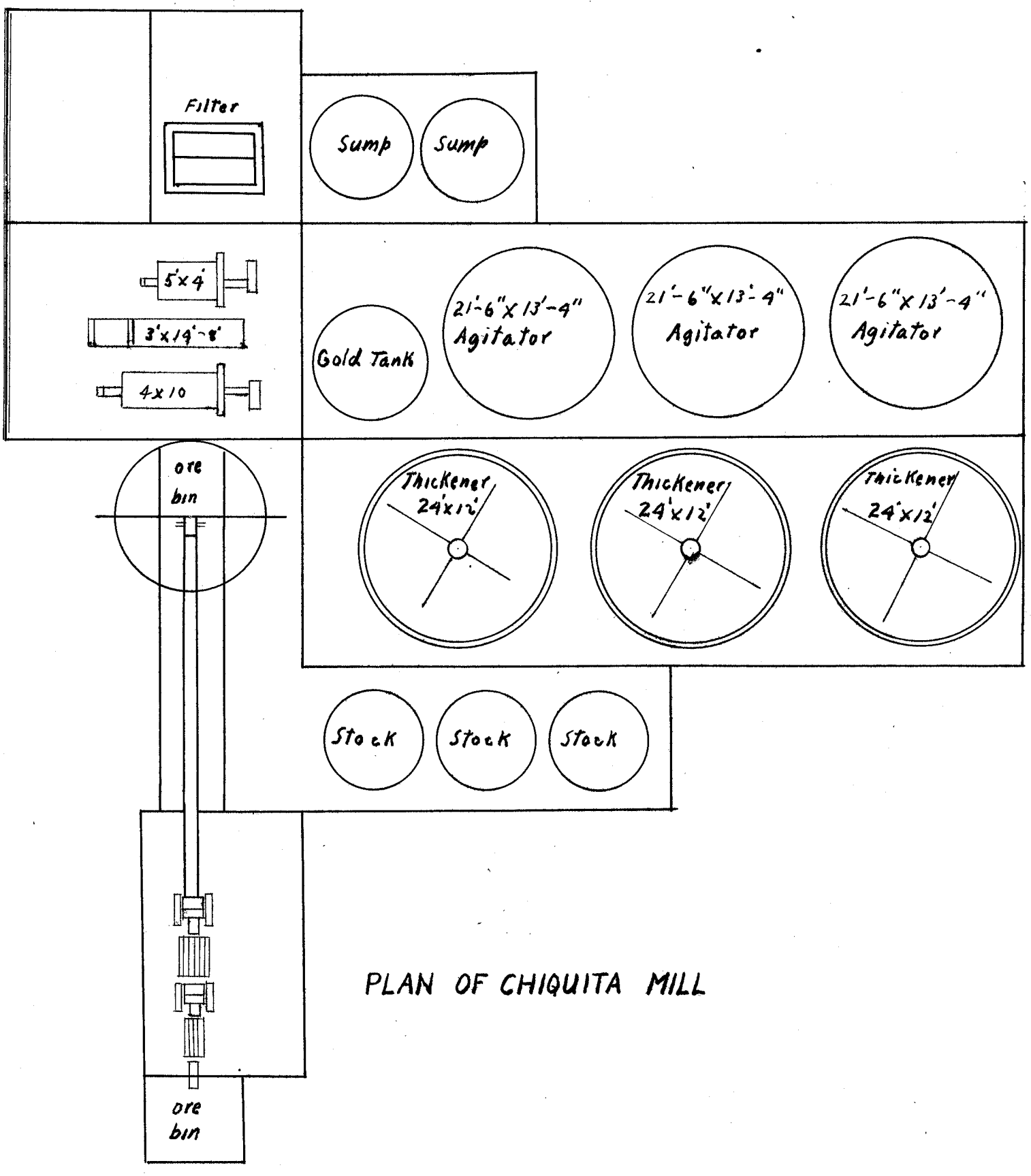
The Chiquita mill is a typical cyanide plant. The flow sheet roughly follows the following description. The ore is transported from the ore bin next to the headframe by belt to the primary crusher. The fine ore bypasses the primary crusher and joins the crusher discharge at the secondary crusher which is located directly below the primary crusher. The crushed ore is then taken up to the mill bin to await feed to the ball mill circuit which is composed of a 4'x10' ball mill and a 5'x4' ball mill in circuit with a 3'x 14'x 8" classifier. The solution than goes to three 24'x 12' thickeners followed by three 21-6"x 13'-4" agitators. A Oliver filter is used and the pulp goes to the tailings dump by means of a belt conveyor. The riffle and trap material is placed in a barrel amalgamator and the gold removed as amalgam. The tailing from this operation is then returned to the mill circuit. The ore in the mill is ground to a minus eighty mesh for treatment and is leached for twenty four hours. The mill recovery is approximately 90-94% using 14 pounds of Lime per ton and 1.4 pounds pounds of Sodium Cyanide per ton.

I spent three summers underground at the Chiquita at the following tasks; mucking, tramming, timbering, and mining. Jay Smith was superintendent at the time.

Hugh Wilton Jr.

I also spent two summers working at the Herman Gold Mine located 22 miles east of Forestthill, California and employing 70 men. The first summer was spent in mucking, timbering, & tramming while I acted as purchasing agent the second summer doing all the buying for the mine.

H.W. Jr.



PLAN OF CHIQUITA MILL