The past month has been notable for the settling of the water question by letting contracts to the El Paso Company for a drainage tunnel which will lower the water over a good part of the district 230 ft. The Logan was undoubtedly drained by the Standard. (I was down the Logan shortly after the Standard struck water and heard the air sucked into an open crevice) So the new tunnel ought to give us an additional 230 ft. if we should ever need it. The bottom of the Eagles shaft has an altitude of about 8350 ft. above sea level and the present water level is about 8100 ft. so that we will have plenty of room to dig. The past month is also notable for the discovery of two more bonanza ore bodies in the sulphide zone. One on the Ruby (our Grouse vein) at 1250 ft. and the other on the Hull City at 1000 ft.

The Ruby strike is most interesting for it and the Last Dollar strike indicate a series of deep seated ore bodies along this vein, of which we own 1600 ft. that carried ore in the upper levels, and which was even richer near the surface on our ground than in the Ruby and fully as rich as the Last Dollar. As the ground rises toward the Eagle shaft this sulphide zone will probably be found somewhat deeper than in the Ruby.

The Month's Developments.

At Lincoln:

On the 350 foot level.

Drift on the Lilley vein South West 127 ft. no ore was found but the breast is now under the Home Fraction shaft and our Mr. Mo Cloud has examined the Home Fraction and got an assay of $25.00
from some ore left standing South West of the shaft and the stope in this part showed that the ore chute was of fair size.

The drift under May Queen went 118 ft. and no ore found. The drift under the Granite Hill ground went 108 ft. and no ore found. This drift is now 150 ft. on Granite Hill territory and I am unable to learn that any arrangement has been made with the Granite Hill Co. of which Mr. Stratton's Estate owns but a bare majority. If no such arrangement has been made this work is contrary to the advice of last months report as set forth on page A. 21. The drift has left the basalt dike and has gone off on a good looking cross vein. I cannot see the object of standing the entire expense of developing Granite Hill ground for forty-eight/ninety-fifths of the proceeds. A winze 12 ft. deep was sunk on this vein where a few assays were got but no ore found.

The drift on the Paul vein was extended eight ft. to the contact and fifty feet beyond without result.

On the N. E. vein a raise was put up 125 ft. making nearly 200 ft. in all and from a point 125 ft. above the level a 25 ft. drift was run S. W. all with no result.

ON THE 626 FT. LEVEL:

A drift was run 26 ft. on the Abe Lincoln vein and a winze was sunk on the same vein under the large granite stope. A nice body of ore of unknown dimensions has been opened in this winze and judging from the large stopes above it is likely that another large body will occur on this ore shoot, and we may be just on the top of it in the winze.

ORE IN SIGHT:

The ore mentioned above and a very little still showing on the N. E. vein is all the ore in sight to-day. There is practically no ore blocked out at all. This condition of affairs is about as it has been for the last year, I am told by Mr. McCloud, but it should be remedied. There are two ways
of doing it, namely, putting up a working capital or putting on a lot of tributaries. As perviously stated I favor the latter plan.

ZENOBIA:

2nd. Level,

A raise was put up 20 ft. on the north drift. No ore was found.

5th. Level:

No. I drift was driven North 18 ft, and South 80 ft, and a raise of 13 ft, was put up where an assay or two had been received but no ore was found.

The West crosscut was driven 44 ft. and a good looking vein encountered. The country rock is phonolite and the vein all assays a little (2.40 to 8.00) This is an encouraging prospect.

No. 2 drift was driven North 10 ft, and for 35 ft, near the breast the vein gave assays averaging $17.00 across 6" to I2". The country rock is phonolite. This vein is pointed directly under the North stopes of the old Zenobia incline. A short upraise on this vein in the center of the low grade ore has shown nothing new.

EAGLES MINE:

3rd. Level,

The drift North on Mineral Rock was abandoned after going 8 feet.

5th. Level,

A raise 66 ft. high was put up on the Grouse vein near the end of the short drift on this vein and it is planned to drift South from the top of this raise to the old Grouse workings. All this is most wretched mining. Not because it has failed to find ore. It would be just as poor mining if it had happened to find ore. It is poor mining because all the evidence of past work was disregarded and this raise was simply a blind shot
in the dark. There was no reason to expect ore just here while there are many reasons to expect ore on this same vein immediately under the stope on "one". If it was desirable to develop this vein close to the shaft, the work should have been started immediately under the old stope on "one", as stated in last months report, and then the ore if found could be followed down.

The plan of drifting from the top of the raise is more to be criticized than putting up the raise. The idea is to connect with the old Grouse workings which Robins says come down that far. This is a very stupid plan. In the first place it will be expensive drifting, working from the top of the raise, and secondly, if any ore is found, it will be a very clumsy and expensive road over which to take it. If it is desired to connect with the Grouse workings, "five" should be driven South under the Grouse shaft and an upraise put up to connect exactly with the shaft. Then ore from any level of the Grouse can be cheaply and conveniently handled.

Mineral Rock drift South has been driven 90 ft. and on the day of my visit an assay of $600.00 to the ton had been received. It was probably only a guess of ore, but it gave encouragement. A raise was put up on the North end of this vein to a height of 59 ft. without result. A raise was also put up on the cross vein at the old Mineral Rock shaft and some ore good enough to ship was found and considerable more, running about $15.00 in the best streaks, was developed. Mr. Robins said he intended keeping that until he had some high grade to mix with it. That shows the mistake of letting a man of Robins' mental caliber have his own way too much. If ore went pay, it went pay, that is all there is to it and mixing it with high grade simply takes part of the profit off the high grade. It is like mixing hash and sawdust, it don't do any good. Better take the hash straight and leave the sawdust alone. The only kind of mixture that makes money is the mixture the samplers make which brings the grade just below the limits of the graded
scale of reduction charges and it is not practicable to do this at the mine.

Robins is an excellent mine Supt., a good hammer-man, a good timber-man, and a good efficient boss, as far as I can judge, but he is not a man to leave to his own direction.

8th. Level:

On a crossvein which cut the "Eighth" vein in the center of the big stope a drift was run 108 ft. East and a nice body of ore opened up and partly extracted.

On the "Eighth" vein itself a drift was run 44 ft. from the bottom of a winze and the winze where the air hoist is located is being sunk deeper. All these workings on the "Eighth" vein are in very bad shape for the economical handling of the ore but as I have not watched their progress from the beginning I cannot say how it all came about. A glance at the stope map which our Mr. Jones has prepared will explain the whole situation.

The ore in sight in the Eagles consists of a block 85' X 40' on the North cross-vein West of the "Eighth" vein. On the main vein, a block 20' X 40' near the cross vein, a block on the first winze level 20' X 30', on the lower winze level there is ore on the bottom 150 ft. long and 2 winzes had ore 10 ft. down. The stope coming up from "eleven" has ore few 60 ft. of its length in the roof, allowing 20 ft. in height here, the total square feet are 6500 and as the stopes are about 3 ft. wide there are 1800 tons of ore in sight. About one half the ore hoisted is shipped, the rest being sorted out, so that we have about 860 tons to go on, blocked out. This condition of affairs together with the condition of the Abe Lincoln is the best argument possible for introducing a leasing system quickly, if it is to be introduced at all. Of course, I do not mean that 860 tons is all that the "Eighth" vein is going to produce. I hope it will keep up its present production for a year or more but 860 tons is all that can be figured on from the present showing.

The drift toward the Geneva from the Chicago tunnel advanced 166 ft. without result.
THE MURPHY SHAFT:

I put a windlass on the Murphy shaft and lowered down it. The shaft is full of water to a point 25 ft. below the second level. A thorough sampling showed no ore above the water. There was no doubt some ore below for a stope has broken through to the second level.

THE SACRAMENTO CLAIM:

There are 4 shafts on the Sacramento claim, besides numerous prospect holes. One shaft is 266 ft., one 180 ft. and the other two struck no ore and have no ladders in them.

The first is the Sacramento shaft. There are three levels and a little work done on each one. The bottom level shows perhaps 40 fathoms of stoping and of nine samples taken underground, two from this level showed some values. The N. W. breast ran $12.00, across a 4" vein, and the S. E. end of the stope gave $81.60 from a 2" seam of flourite. There is a winze on this level full of water. W. F. Traynor, who sank the winze, says that there is a small high grade streak of flourite all the way down and he says that he made one shipment of 20 sacks that returned $20.00 to the sack. The mine did not pay however and was shut down and the machinery sold to pay the debts.

The Jim Smith Shaft is on the lower end of the claim. Jim Smith, the surveyor, says he thinks it is 180 ft. deep. Forty feet down there is a connection through a stope with the Longfellow Shaft and with a cave which goes to the surface. There is a short level and a winze here. The stope is inaccessible and the timbers below, where the air does not circulate, have rotted and some have fallen out of their own weight. Mr. Smith says that $22,000.00 was taken from this stope and that he sunk 60 ft. below and drifted under the stope, with no result. Several small dumps on this claim were sampled without result.

The Midnight Claim goes with the Sacramento, I believe, and while I was not asked to inspect it I learned incidentally that $30,000.00 was spent by a leasing company in a shaft below the railroad, with no result.
As stated in my last report, on top of Globe Hill there are evidently two ore bearing zones trending West of North and one dipping to the West and one to the East. The East ore body is a distinct flat vein of dark quartz in the loose country which characterizes the "Crater". There are isolated bunches of quartz near this vein and between it and the West ore body. The West ore body was hard brecciated quartz in a hard country rock and there is no distinct dividing line between ore and country rock. There is undoubtedly one or more flat veins dipping West associated with this West ore body but there are also vertical veins, one in particular having been traced ft.
The ore seems to make in huge bunches and one of these, the Sunshine Stope, produced 4900 tons of $20.00 ore. All the ore on both sides seems to be confined to a zone within 150 ft. of the surface. A very large amount of development work has been done below, but if the ore goes down anywhere, the place was never found. The accompanying map shows my sampling etc. and gives a better idea of the thing than a great deal of writing would.

On the East side there may be and probably are some undiscovered bodies of high grade quartz but the low grade stuff is very pockety and I have never found a place that indicated any large body of it. On the West side, on the other hand, there is every indication of a large body of low grade ore South of the Sunshine stope and some evidence of one North of it.