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Alps + Delmonico Grps
Gilpin Co., Colo.

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A REPORT ON THE
ALPS AND DELMONICO GROUPS,
GILPIN COUNTY, COLO.

By

GEO. J. BANCROFT, CONSULTING ENGINEER,
Denver, Colorado, February 4, 1914.

INTRODUCTION:

The Alps Group consists of two parts, namely 5 claims that belong to the Alps Gold Mining Company, and 4 claims, the title of which rests in the name of Hal Sayre, of Denver, Colorado, The Delmonico Group consists of two claims, belonging to John Ross of Golden, Colorado. The two groups are offered for sale together because of an inter-locking vein system. In passing, I wish to state that this report is in no sense a guarantee of title. I mention as owners of the various claims those individuals or corporations that are locally accredited with ownership. That is all.

The Alps, Mackie and Winslow belong to the Alps Gold Mining Company. The Olympia, Griffin, Badger and Ethan Allen are controlled by Mr. Hal Sayre. The Delmonico and Annex are owned by Mr. John Ross of Golden.

The ores of this locality are valuable chiefly for their gold contents but silver, lead, copper and zinc are also found. Lately the demand for radium bas given great impetus to the search for pitch-blend which is also found in this locality. Pitch-blend is the oxide of uranium and radium. It is found in small veinlets and pockets. Sometimes it is found with other ores and sometimes in a vein by itself. The German-Belcher mines

to the north and Kirk Mines to the south are both famous producers of pitch-blend. A diligent search through the workings that are available for inspection revealed no pitch-blend in this group. However, some specimens were obtained which the miners say were found in sinking the Ethan Allen shaft. This shows that careful prospecting will probably reveal pitch-blend. Owing to the very high price which pitch-blend commands (from $10,000.00 to $15,000.00) per ton, it only takes a little of it to be relatively important. I tested 20 samples for uranium but found none.

LOCATION:

These properties are located in the Quartz Hill section of Gilpin County, Colorado. They are in the heart of a very heavily mineralized district. Gilpin County is credited with a production of over $150,000,000 and the major part of it came from Quartz Hill and the immediate surroundings. The locality is favored with splendid transportation facilities. The Colorado and Southern Railroad, (narrow gauge) runs into Central City and Black Hawk. From Black Hawk the Gilpin tramway is built to the Quartz Hill section passing within 15000 feet of the Alps Mine.

The big hydro-electric institution of Colorado is known as the Colorado Power Company. The Hydro-Electric Company of Georgetown is the distributing agent of the Colorado Power Company in Clear Creek and Gilpin Counties. Hence an abundance of cheap electric power is available. The rates for electricity are as follows:

For milling there is a fixed rate of $2.00 per horse power per month, plus 1½¢ for the first 30000 K. W. hours, 1¢ for next 20000 K. W. hours and ½ per K. W. hour for all over 50000.

For a hundred horse power hoist the rate is 5¢ per K. W. hour up to 2000 K. W. hours and 2½¢ on balance.

Transportation rates are as follows:

Mine to Gilpin Tram. about 35¢ per ton.
Gilpin Tram. to Black Hawk,-40¢ per ton for average grade ore.
Black Hawk to Globe Smelter,-

$1.00	per ton	up to $9.00	val.
$1.25	"	$9.00 to $20.00	val.
$1.75	"	$20.00 to 30.00	"
$2.25	"	30.00 to 100000	"

Gilpin County, being the oldest mining camp in the State, is blessed with a thoroughly trained corps of miners. There are few places in the world where labor conditions are better. There never has been a labor strike in Gilpin County. The miners do a great deal of leasing so they are alternately employers and employes. This enables them to see both sides of a labor question and while they insist on fair wages, they have thus far got what was fair without going on a strike. A union has been organized in Gilpin County several times but the miners had no use for it and each time it died of neglect and apathy.

The towns of Gilpin County are over-supplied with buildings and abundantly supplied with machine shops, stores of all kinds, lumber yards, etc.

The district has been pierced by a deep drainage tunnel which portals at Idaho Springs. It is over four miles long and passes at a depth of 1900 feet below the collar of the Alps shaft measured on the dip of the vein.

Strange to say this tunnel has failed to drain the district uniformly. On some veins its influence is apparent 3/4 of a mile from the tunnel, while on others no apprciable effect is shown. The Alps is of the latter class. In order to drain it a drift from the tunnel will be necessary. This drift will be discussed later on.

The altitude is about 9500 feet above sea level. The climate is cool and windy but there are not over 30 days in the year, on the average, in which the weather is severe enough to interfere with outdoor work.

There are custom mills in Black Hawk and smelters at Denver. The smelters make reasonable rates on ore, all things considered, but the freight and smelting charges are a serious handicap to profitable mining and it is always best to treat one's ore on the ground if possible. The mills at Blackhawk do not buy ore outright. They run it through the mill at so much per ton or "cord". Naturally the milling is wretched. The average recovery is about 50%.

From the above it will be seen that all facilities for cheap and efficient mining are present except a water supply system. With water on the ground one could put up a mill and be independent of the custom mills and the smelter. There is a plan on foot to do this at the present time.

THE ALPS ORE BODIES.

The Alps shaft is being operated by lessees and is open to the seventh level. Below this level the mine is flooded. In going through the Alps Workings the first thing that impresses itself upon the engineer is the fact that no one vein has been consistantly

followed or developed. It may be, of course, that the ore shoots jump from one vein to another and that the veins that have been neglected are barren in the undeveloped parts. However, if this is the true condition it is a very unusual condition. It is far more probable that the undeveloped parts of the several known ore bearing veins contain ore shoots in like manner with the parts that have been developed. In other words, this ground must be considered as mineralized territory rather than as a particular vein.

In going down the Alps shaft one follows down on a certain vein known as the Alps vein for about 300 feet. This vein carried ore east and west of the shaft. The workings are caved and it is not known how large or how continuous these ore bodies were.

At the third level there is a crossing of veins. The Mackie-Alps comes in at this point and from here on down to the eighth level the work is done almost exclusively on the Mackie-Alps.

The Alps vein is cut in a crossut on the fourth level but very little development was done.

On the seventh and eighth levels, 325 feet west of the shaft a third vein was encountered. The Alps vein is practically vertical, the Mackie Alps dips to the south about 82 degrees, while this new vein dips to the north about 82 degrees.

The main shaft is not sunk below the eighth level but a winze is sunk from the seventh level crossing the eighth level and on down to the fourteenth level on this new vein. This winze has been called the "submarine" shaft. A very rich ore body was mined out through the "submarine" and owing to the great expense of getting ore out of this part of the mine, the stope fillings are undoubtedly very valuable and could be profitably worked if the mine was

properly drained and developed.

Now the point I wish to make is this: From surface to the third level the Alps vein yielded an abundance of valuable ore. It has not been developed below the third level. From the third level to the eighth level, the Mackie Alps yielded an abundance of good ore. It has not been developed below the eighth level and, so far as I could see, only a little above the third level. The "submarine" vein yielded an abundance of good ore from the seventh level to the fourteenth level. It has not been developed above the seventh level or below the fourteenth level.

I see no reason why the undeveloped parts of these several veins should not yield ore. I would say that the chances are that the largest and best ore bodies have already been discovered. I say this simply from experience and observation. It seems to be a general rule that the largest and best ore bodies are the most easily found and the first to be worked. This rule, however, has so many exceptions that it covers only a slim majority of the cases. It is entirely possible that the biggest and best ore bodies in the Alps are yet to be found.

Another point that strikes one in examining any large Gilpin County mine is the relatively large amount of oxidized (surface) ore that has been mined in proportion to the sulphide ores. The reason for this is that the surface ores could be milled on the ground. I doubt if they could be mined much cheaper at the time they were mined than sulphide ores can be mined today, but they could be cheaply and efficiently milled. I believe that by the use of cyanide the sulphide ores can be milled as cheaply and efficiently as the oxidized ores were milled in the old days. I have made a number of tests in

my testing plant on Gilpin County ores and all of them showed that cyanide treatment was a success. This being the case, I see no reason why there should not be a production of sulphide ores in the future, comparable to the production of oxidized ores in the past, providing water is at hand for milling.

In the case of the Alps the oxidized ores were mined almost continuously from one end to the other of the territory and it is evident that several veins were worked.

In addition to the veins exposed in the main Alps shaft, there is at least one strong vein exposed by subsidiary workings, namely, the Ethan Allen vein. There are a great many small shafts which were caved in and full of snow and ice. It was impossible to ascertain what veins, if any, they had developed.

The Ethan Allen shaft is shown on the plan map. It is 107 feet deepto the first level. The vein dips to the south and trends easterly and westerly. A fine strong vein is exposed in these workings but, as shown on the assay map, it is very low grade. The vein passes into the ground of the French claim (owned by Edwin Hawley of Central City) at the point shown on the plan map.

PAST PRODUCTION ALPS:

There are no official records of production of the Alps Mine covering the early period of operation but I quote the following from Fossett's History of Colorado, 1879, edition. (P.P.338-339) The Mackie claim with others is now a part of the group under consideration so the estimate is applicable but probably does not include all of the ore produced. The figures seem to have been

prepared with care and are porbably reliable:

" The Alps-Mackie mine is situated on two contiguous locations on the lode of that name. There is also another vein that pitches in an opposite direction from that first mentioned and crosses it over three hundred feet below the surface. These and other lodes, with buildings and strong hoisting works for two shafts, belong to the Cleveland Gold Company, organized on the property in 1875-6, on the basis of a capital stock of $250,000. Within two months after the discovery in 1863, the receipts for ore milled was $17,591 from the Mackie claims alone. The profits were $9,399.87. There were 20¾ cords that gave an average yield of $552.68 per cord, and 17¾ an average of $345. The Alps claims yielded $54,537.14 in four months, with the wonderful average of $818 a cord, or over $100. a ton. The profits of both properties in these lots of ore in four months were $52,253, of which $42,853 came from the Alps.

"The ore bodies yielded large amounts in subsequent years, but it seems the mistake of following the crossing vein led the company into unprofitable ground. The property had been unworked most of the time from 1870 to 1876."

"In eighteen months of 1866-7-8, the yield was $78,415, and $10,654 soon after came from assorted waste materials of the stulls. After 1869 lots of smelting ore were sold at good prices. The following shows the product of the Alps-Mackie mine up to 1875, currency:

Mackie product	from	July 1863,	to Oct. 1863---------- $31,449.15
" "	"	Oct. 1863,	to Feb. 1864---------- 41,792.18
Alps "	"	July 1863	to Dec. 1863---------- 54,537.14
" "	"	Dec. 1863	to Feb. 1864---------- 37,911.16
Alps & Mackie	"	July 1866	to Jan. 1867---------- 78,415.41
" " "	""	Mar. 1868	to July 1868---------- 10,654.74
" " "	""	Sept.1868	to Sept. 1869---------- 20,040.64
" " "	"	Sept.1869	to Mar. 1870---------- 11,035.90
Estimated product of the mine not included in the above---			75,000.00
Making the total product----------			$360,836.32"

From 1879 to 1886 there is no record whatever of the production. During a large part of this time the mine was closed down on account of litigation so the production was probably not more than $75,000.00 and it may have been a good deal less, so I will assume $50,000.00 for this period.

From 1886 to 1889 the mine worked steadily and the records are fairly well covered by voluminous entries of a multitude of small shipments to mill and sampling works. Some high-grade was probably shipped in addition, the records of which are not available. These records are so voluminous that I will not publish them but have looked them all over and am satisfied that they are genuine.

There are two principal methods of marketing ore in Gilpin County. The low grade ore is hauled to a mill and the miner gets the free gold that is collected. This "gold" contains silver and other impurities, and the value varies with the mine. Alps "gold" was comparatively pure so I have figured it at $17.00 per oz. Of late years the mills also return concentrates to the miner which he may sell to a broker or to the smelter direct. Mill returns in Gilpin County are given by the "cord which is a volume rather than a weight measure. Alps "mill dirt" probably averages about 7 tons to the cord.

The other method of marketing ore is to ship to the smelter. This business was generally handled through a broker who sometimes operated a local sampling works, so the high grade shipments are evidenced only by such records as were kept by the principal ore buyer. Most of the ore probably went through the hands of the Chamberlain Sampler but I happen to know that some of it was bought by others because I was employed by ~~a miner~~ an ore broker at one time and recall

bidding on Alps ore and concentrates. So the following records are incomplete. They were taken from the Chamberlain Sampler which was the principal ore buyer at the time these shipments were made; and from the mill where most of the ore was milled:

Fossett's History to 1879	$360,836.32
Chamberlain Sampler, Jul.1, 1886 to May 27,1896	123,427.14
Mill ore, Jul. 29,1886 to Apr. 27,1896	63,515.52
Chamberlain Sampler, Oct. 14,1896 to Nov. 2, 1897	33,475.60
Since 1897	12,685.58
From 1879 to1886	50,000.00
Estimated lost records	50,000.00
Total	$693,940.16

THE DELMONICO ORE BODIES.

The Delmonico is a north dipping vein and is supposed by some to be the same vein as the "submarine" vein of the Alps. The evidence however, seems fairly conclusive that it will cross the submarine vein at an angle of about 25 degrees. The Delmonico shaft is an incline shaft following the vein and is 1330 ft. deep. Very little lateral development has been done from this shaft and only a little stoping. Owing to the lack of connections through which air could circulate, this shaft is normally full of gas. The dead air induces dry rot and as a consequence, the tibers are in bad condition. The ladder way is fairly good to the third level but there is much loose ground above this point. Below the third level I did not consider it safe to go, on account of the rotten condition of the timbers, moreover the air is bad a little way below the third level.

We found very little of interest above the third level.

Mr. Mat Kramer, who worked in the mine when the shaft was being sunk, tells us that there is good ore on the 6th, 12th and 14th levels and we have put on the assay map the details he gave us.

Even assuming that his memory of the conditions is accurate, the mine is in no condition to command a cash payment. The lower levels are certainly full of gas and probably full of water and the timbers are rotten and falling away. If the owner would ventilate the mine, retimber it and provide means of ready access to the lower levels, it might prove worthy of serious consideration under the present terms, which, I understand, involve a $10,000.00 cash payment to the owner of the Delmonico, but under present terms and conditions, I do not consider the property warranted spending any time or money in putting it in shape for a more complete examination.

DRAINAGE.

The Newhouse Tunnel passes about 30,000 ft. east of the Alps shaft and 1900 ft. below the collar measured on the dip of the vein. As the Alps vein trends generally east and west, it would be very little longer to follow the vein than to run a straight drift. It is claimed that the Alps vein has been identified in the Newhouse Tunnel. That being the case, it would be avery good prospect to drive this drift for the Alps vein has been mined on the surface nearly all the way to a point vertically above the Newhouse. It is not probable that it will pay to permanently operate through the Tunnel. The charges are too high and the distances too great, but it would certainly pay to drain this part of Quartz Hill. It would not be fair for the owner of a relatively small acreage like the Alps-Delmonico Group to stand all the expense for the benefits would be felt by many neighboring properties but if a larger acreage could be secured or the expense shared by several, then this development could be strongly endorsed.

The charges of the Newhouse Tunnel are:

$1.00 per shift for compressed air for a drill working on development.
$3.00 per shift for compressed air for a drill working on ore.
$2.00 per shift for air for a jack hammer type of drill.
17¢ per ton for transporting waste.
50¢ per ton for transporting ore.

Under these terms, I estimate the cost of 3000 ft. of drift at $30,000.00 and the cost of 600 ft. of upraise at $10,000.00.

THE VEINS.

Both the Alps and Delmonico veins are narrow veins. They do not carry pay ore continuously but in pockets, or shoots. The average ore body contains a smelting streak about 8 inches thick and 4½ ft. of mill dirt. The smelting ore averages about $50.00 per ton. The mill dirt about $7.00 per ton.

A typical assay is 2.13 ozs, silver, 7 ozs. copper .7%

DEVELOPED ORE.

A glance at the assay map will show that developed ore is so small in comparison with the prospective ore as to be inconsiderable.

SUMMARY:

The Delmonico is not attractive in its present condition and under its present terms. With time for exploration and a price of not to exceed $35,000.00 I think it would be worth serious consideration.

The Alps is a grand old mine and one of great proppective value, but it is not attractive under present terms. Since 1886, it certainly has not paid more than $50,000.00 in dividends free and clear of all expenses.

On the other hand it has not been worked very energetically. There is, however, no justification in asking a large cash payment for a mine in its present condition. If the property could be secured on a long time lease and option, the option not to exceed $60,000.00 and if the leasing company was prepared to drive a drift from the Newhouse Tunnel, then I think the mine would be worth serious consideration.

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CABLE ADDRESS: BANCROFT, DENVER

APPENDIX NO. 1.

In addition to examining the Alps and Delmonico mines the dumps of both mines were carefully surveyed and the survey of the Alps dump has been plotted up. One foot contours have been run and each contour measured with a planimeter. The map is rather complicated and will not be published with this report but is on file in my office. The dump was found to contain 20000 tons. An attempt was made to sample the dump, but it was frozen and the sample obtained consisted of such loose stuff as could be picked up on the surface. The boys of Russell Gulch have picked this dump over for years so the surface is naturally pretty lean. My sample showed only $1.10 per ton. It is probable that the core of the dump contains more value. If water and a mill were available it would pay to cut a trench through this dump and sample it carefully.

The survey of the Delmonico dump has not as yet been plotted. This dump is about one fourth the size of the Alps dump and contains about $5000.00 tons. The sampling was superficial as in the case of the Alps dump because of the frozen condition. It is probable that the core of the dump runs more than the surface. This dump ran .43 ozs silver .02 gold, 61-1/2 ¢ per ton.

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APPENDIX NO. 2.

The last chance mine was sample also and the results are shown on the assay map.

This is a nice little property with some high grade ore in sight. It lies alongside the German Belcher group and ought to be a producer of pitch-blend. However, we found no pitch blend in it. I took an option on it on the following terms: $5000 to be paid February 18, 1914 and $5000 within sixty days from February 18, and $20,000 on or before August 18th.

There is nothing developed in the property as yet to warrant any such price. It is said that on the lower level there is quite a body of black ore that may be pitch-blend. The lessors reported that the laddors were all gone below the first level and they had bulkheaded the shaft so this rumor could not be investigated.

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APPENDIX NO. 3.

In addition to the assays plotted on the assay map, the following samples were taken:

	Silver	Gold	Value
Mill dirt on third level of Alps	1.40	.10	$2.70
Stope filling from Mackie shaft	0 00	00	0 00
" " " third level of Alps	1 5	14	3 55
4th level Alps 45 from East brest. 8 cross vein	9 64	38	12 42
3" in hang. wall same place as No.58	1 2	00	60
1" " foot wall " " " " 53	4 8	58	13 56
Alps dump	1 00	03	1 10
Delmonico dump	43	02	62

The assay map gives the values in dollars only, silver being figured at 50¢ and gold at $20.00 per oz.

APPENDIX NO 4

Inventory of machinery

Alps Shaft

1, 10"x12" friction hoist,with buckets ,bailer, rope etc

1, 100HP. boiler

Delmonico Shaft.

1, 8" x 10" geared hoist, with buckets, bailer, rope etc,

1, 60 HP. boiler.

1,Five stamp mill, locked up and not available for inspection.

	Selzu oz	gold oz.					
1	2.4	.36	= $7.20	31	Tr	—	.15
2	1.5	.20	= $4.75	32	1.2	—	= $0.60
3	3.3	.08	= $3.25	33	1.4	—	= $0.70
4	7.14	.14	= $6.37	34	Tr	—	
5	6.26	1.62	= $35.53	35	0	—	
6	.8	.00	= $0.40	36	Tr	.02	= $0.40
7	1.0	0	= $0.50	37	0	—	
8	2.0	.48	= $10.60	38	3.1	.6	= $13.35
9	1.2	.28	= $6.20	39	.8	0	= $0.40
10	1.0	.00	= $0.50	40	Tr	0	
11	2.	.00	= $1.00	41	1.8	.12	= $3.30
12	4.4	1.38	= $29.80	42	1.0	.2	= $4.50
13	1.4	.00	= $.70	43	1.3	.12	= $3.05
14	2.3	.28	= $6.75	44	Tr	—	
15	1.0	.04	Also High Test	45	Tr	—	
	2.7	1.76		46	1.5	Tr	$0.25
16	1.4	.10	= $2.70	47	Tr		
17	.7	.24	= $5.15 MD	48	Tr		
18	1.4	.10	= $2.70	49	Tr		
19	Tr	—	0.00	50	1.2	.3	$6.60
20	Tr	—	0.00	51	.8	.04	$1.20
21	Tr	—	0.11	52	Tr	0	
22	.6	—	$0.30	53	5.0	.40	= $10.50
23	1.8	.0	= $0.90	54	5.0		$2.50
24	4.2	.20	= $6.10	55	5.0	1.0	$22.50
25	5.3	.52	= $13.05	56	8.3	.4.6	$13.35
26	1.2	.40	= $8.60	57	10.	.60	= $17.00
27	Tr	.16	= $3.20	58	0	0	
28	1.12	—	= $0.60	59	Tr		
29	2.0	—	= $0.50	60	0	0	
30	.8	—	= $0.40	61	3	—	
				62	9.2	.52	1040 $16.50

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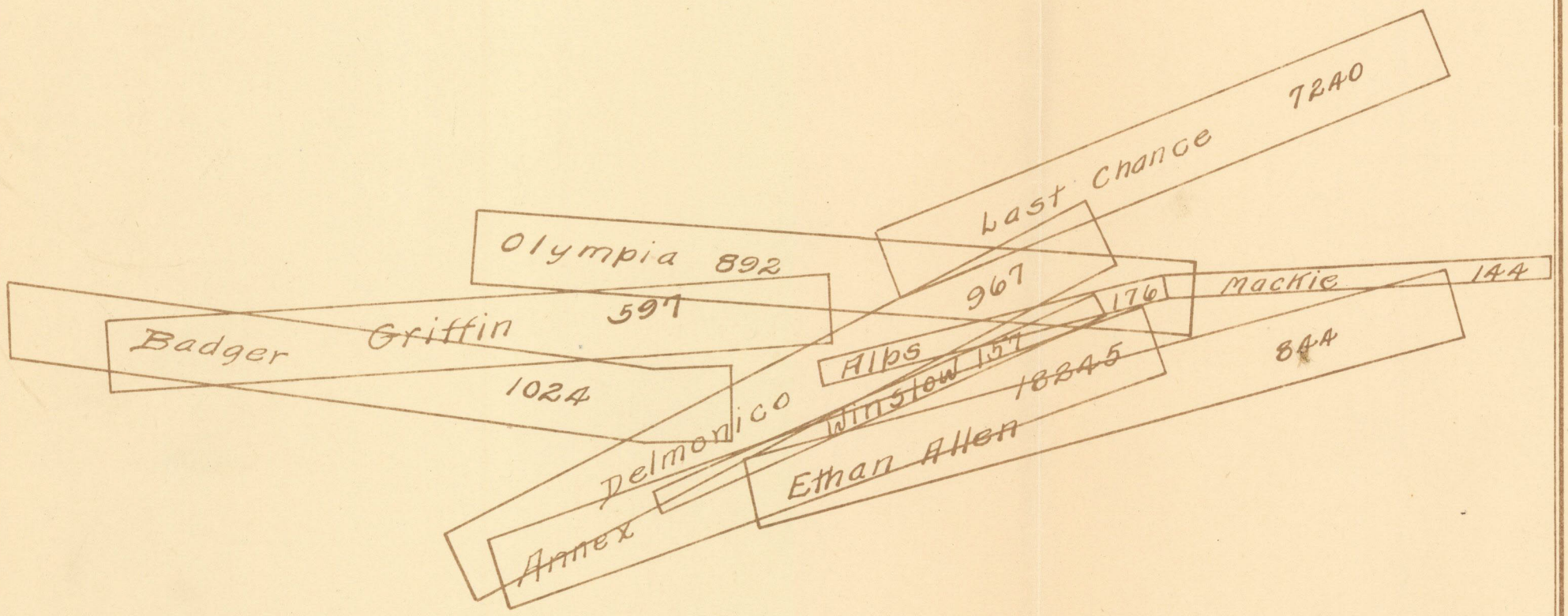
63	0	0		
64	0	0		
65	0	0		
66	4.5	.5		
67	0	0	—	
68	7.14	1.65	3.58 / 33.	
69	4.1	1.04		
70	.7	.18	.35 / 3.60	2.05 / 20.80
71	Tr	0	—	
72	.5	.22	25+ / 4.40	
73	3.4	—	1.70	
74a	1.70	.14	= $3.65	
75	22.14	3.42	$79.45	2.40
76	.9	.16	= $12.45	63.60
77a	4.8	not obtained.		66.00
80	5.7	3.18 / 0	$2.85	
81	2.7	.30	= $7.35	
82	Tr	0		
83	.7	.00	= $0.35	
84a	Tr	.22	= $4.40	
A	1.5	.14	= $3.55	
B	9.64	.38		
C	1.2	—		4.82 / 7.60 / $12.42
D	4.8	.58		
E	1.0	~~.25~~ .03		2.4 / 11.16 / 13.56
Del D	.36	~~.20~~ .02		
" D	.5	~~.20~~ .02		

Plan. Map Alps, Delmonico, Last Chance

and Ethan Allen Group



Scale 1" = 300'.