

DAISY GROUP.
REDWELL BASIN. GUNNISON CO. COLO.

GENERAL NOTES

by

J. E. Dwelle

LIBRARY
COLORADO SCHOOL OF MINES
GOLDEN, COLORADO

Report furnished by: J. E. Dwelle.

AREA:

The Daisy Group comprises the four patented claims, Athabasca, Daisy, Crested Butte and Cardinal, shown within the heavy boundary lines on the accompanying plat, with an approximate area of 31 acres.

LOCATION AND OWNERSHIP:

The property is located in Redwell Basin, about 5 miles, air line, or $6\frac{1}{2}$ miles by trail, N.W. of the town of Crested Butte at an elevation of about 10,500 feet. It is owned by Jos. H. Block of Denver and Timothy Dowling of Gunnison.

FREIGHTING FACILITIES:

A branch of the D. & R. G. R. R. operating and runs up Slate Creek to the old Smith Anthracite mine, about four miles from Crested Butte. It is probable that a rate of \$5.00 or less per ton could be obtained on shipments in considerable quantity to Canon City or Pueblo.

TRAIL:

The distance from the end of the railroad to the mine by trail is about $2\frac{1}{2}$ miles. In this distance the trail rises about 1500 feet and passes over a considerable stretch of slide rock, on which it would be difficult to keep a permanent trail.

PACKING:

Packing the ore from the mine to the railroad terminal could probably be contracted at \$2.00 or \$2.50 per ton.

TRAMWAY:

There is a few hundred yards up the creek from the end of the railroad, to which it could readily be extended, and which would form a splendid site for either a mill or loading bins; and from this point the mine could be reached by gravity tramway (aerial) with only one angle station, and a total length of about 8000 feet; or the tramway could be extended to dump into loading bins alongside the present terminus of the railroad. Such a tramway would be almost free from the risk of snowslides, and would be much cheaper and in every way more advantageous than packing by burro, for anyone operating the mine on a large scale.

CLIMATIC CONDITIONS:

The mine is located in a snowslide country, and would be practically inaccessible by trail during the winter, but with a tramway to get supplies up and ore down, could be worked all winter. The summer climate is splendid.

TIMBER:

There is some timber (spruce) on the property, and plenty in the immediate vicinity.

WATER:

There is plenty of water in the vicinity. The streams running down the gulches to join the Slate River furnish water and power sufficient for a very large mill, and Mr. Bock told me that he was pretty sure this water was free, as well as the land for the mill site, before mentioned.

PRODUCTION:

The mine has not been worked since 1888, and the only records of production obtainable cover a period from October 1887 to October 1888. During this time they shipped about 247 tons, net, the total net returns from which were \$4,655.24, or practically \$19.00 per ton, net. This was all sorted lead-silver ore, as zinc was heavily penalized at this time and the premium on iron did not cover the freight. There are supposed to have been a few other shipments, but the total shipments from the property were probably less than 300 tons.

COUNTRY ROCKS:

The country rocks in which the property is located are the calcareous shales and sandstones of the upper cretaceous series. The surface is largely covered with slide-rock; and underground, where the strata are accessible in place, they are so badly disintegrated as to make it rather difficult to tell their original character. The strata as exposed in the Daisy tunnel have been uplifted to the eastward to an angle of about 30 degrees, by the upheaval of the granite core of the mountains, and this movement was apparently attended by more or less slip along the bedding planes, crushing the adjacent strata; and the crushed material has been further disintegrated by water and air until it is now a mere gouge.

ORE OCCURENCE:

The ore occurence appears to be in these crushed zones, the ore-bodies lying in the bedding of the formation. There are apparently at least two and probably more of these ore zones within the limits of the property, although I only examined the main one (in the Daisy tunnel) as the Athabasca tunnel was caved, and I had not the time to climb to the Crested Butte. I should judge that the ores deposited at or near a shale-sandstone contact, as both of these rocks appeared in the slide immediately outside the Daisy tunnel.

FAULTS:

There is a marked vertical transverse break showing in the Daisy tunnel more distance in, but it appears to have been subsequent to the mineralization, and have had no influence on it.

ORES:

The minerals making up the ores are mainly pyrite, blende and galena, in a gangue of disintegrated country rock. In the richer portions of the vein the gangue practically disappears, and the ore becomes a solid sulphidde with the pyrite usually the predominant mineral. Pockets of very high grade silver sulphides are occasionally found throughout the ore-body.

SAMPLES:

I took only two samples on the property--a sample(No. 1) across the ore-body where it was between 5 and 6 feet thick and a grab sample of the discarded pyrite on the sorting dump. The analysis of these samples were as follows:

SAMPLES	zn.	Pb.	(Wet)Fe.	Cu.	S.	Silica	Gold	Silver	CaO.
No. 1	7.0	13.5	32.6	0.2	35.9	1.8	0.01oz.	7.5 oz	
No. 2	21.6	7.7	27.8	0.3	35.6	0.4	0.01"	3.0 "	
Boyd's-	19.7	13.1	22.2	1.1		6.9	0.01"	5.1 "	0.3

WORKINGS:

DAISY TUNNEL:

The Daisy tunnel is the principal working now open. This tunnel is more or less 300 feet long, and was started in the shale, and ran some distance beneath the ore-body before a short in the roof opened the first ore. It then swung over westward to catch the ore-body and followed it along it. A little beyond the point where they caught the ore-body, the tunnel broke into an open place in the bedding plane from which a considerable quantity of good ore is reported to have been taken. Just beyond this open place, as I recollect, is the transverse fissure or break mentioned above.

Near the north end of this ore-body, a winze was sunk on the ore. This winze started down on about a 30 degree incline, but within a few feet the formation and ore-body bent sharply downward and was followed by the winze. The winze is full of water at present, but is reported to be about 40 feet deep and in good ore at the bottom. The Athabasca Tunnel, now caved and inaccessible, was started in to meet this winze but the connection was never completed.

A short distance in from this winze, an inclined raise follows the ore up to the eastward. This raise, although started in rather lean ore, works southeast into a stope of considerable size and much better grade. The total length of the ore-body exposed in this stope is probably 75 feet with the south breast still in good ore (the best ore in the stope, in fact, being in the breast). The ore-body in the stope varies from 3 feet to 8 feet in thickness, the latter at a point where the back of the stope is still in ore. The average thickness of the ore-body can probably be taken at 5 feet. The ore has been worked out for a height (up the incline) varying from 20 to 40 feet above the tunnel level. Most of it, however, being principally blende and pyrite, was left in the stope as waste, only the higher grade lead-silver ore being taken out.

A second raise, similar to the first, goes up a short distance on the ore, close up to the breast of the tunnel, and about 65 feet beyond the last chute from the stope. The ore in this raise is rather lean but looks as if it might still be milling ore, and I think that it is part of the same shoot as the main stope, which shoot is probably at least 120 feet long. This low grade ore continues to the breast of the tunnel.

ATHABASCA TUNNEL:

The Athabasca Tunnel is located probably 100 or 150 feet below the Daisy tunnel and was driven to open up the same Ore-body at a lower level. The tunnel is caved at the portal. The dump shows some ineral, principally pyrite, but nothing to indicate whether they reached the main ore-body below. The fact that the winze in the Daisy tunnel is level full of water would indicate that the lower tunnel had not reached the ore-body, as it would have probably drained the ground above if it had.

CRESTED BUTTE TUNNEL:

The tunnel is some 250 or 300 feet higher than the Daisy tunnel, and 700 to 800 feet further south, consequently it must be in a different geological horizon. The tunnel is said to be about 200 feet long and the ore-body considerably thicker than that in the Daisy, but lower grade. It is rather difficult climb to it over the slide, and as we were rather short of time, I did not attempt it.

OTHER WORKINGS:

There are a number of other small prospects holds and tunnels on the property, none of which is of any importance.

CONCLUSIONS:

The ore-body in the Daisy tunnel looks as if it might develop into an extensive blanket deposit. The geological conditions in the district are favorable for big deposits, as the sedimentary strata have been loosened up over a large area by slow and general earth-movements, without any great amount of local faulting and cross-fracturing, and I think some very large bodies of low-grade ore will eventually be developed in the district.

The ore is essentially of a milling character, however, and such milling would have to be done locally to be profitable, only a limited portion of the ore would pay for shipment, even to Canon City. All conditions, however, are favorable for local milling, except that they have pretty severe winters. The principal gangue mineral is pyrite, which occurs in such proportion as to render magnetic separation imperative if a marketable zinc product is desired. The heavy mineral contents of sample #1 for example, are 91% of the total weight of the sample, and of sample #2, 93.4%. It is plain, therefore, that water concentration would effect very little reduction in weight or bulk, but merely serve to separate the lead (and silver) from the zinc-iron product. Of course there are probably large quantities of ore in the mine in which the heavy mineral content is a much smaller proportion of the total weight than the above, but the relations of the heavy mineral among themselves probably do not vary greatly, that is, the grade of the lead-silver and zinc-iron products from sample #1 would probably represent more or less the general grade of the corresponding concentrates from the leaner ores. The lead concentrates, the, however free they might be from the iron, zinc, or gangue, could not be expected to average over 40 ozs. silver per ton, even if all the silver was contained in the galena. The iron concentrates, after separating the zinc, would not pay to move under present conditions; and it will require a test to show how good a zinc concentrate could be made from the ore.

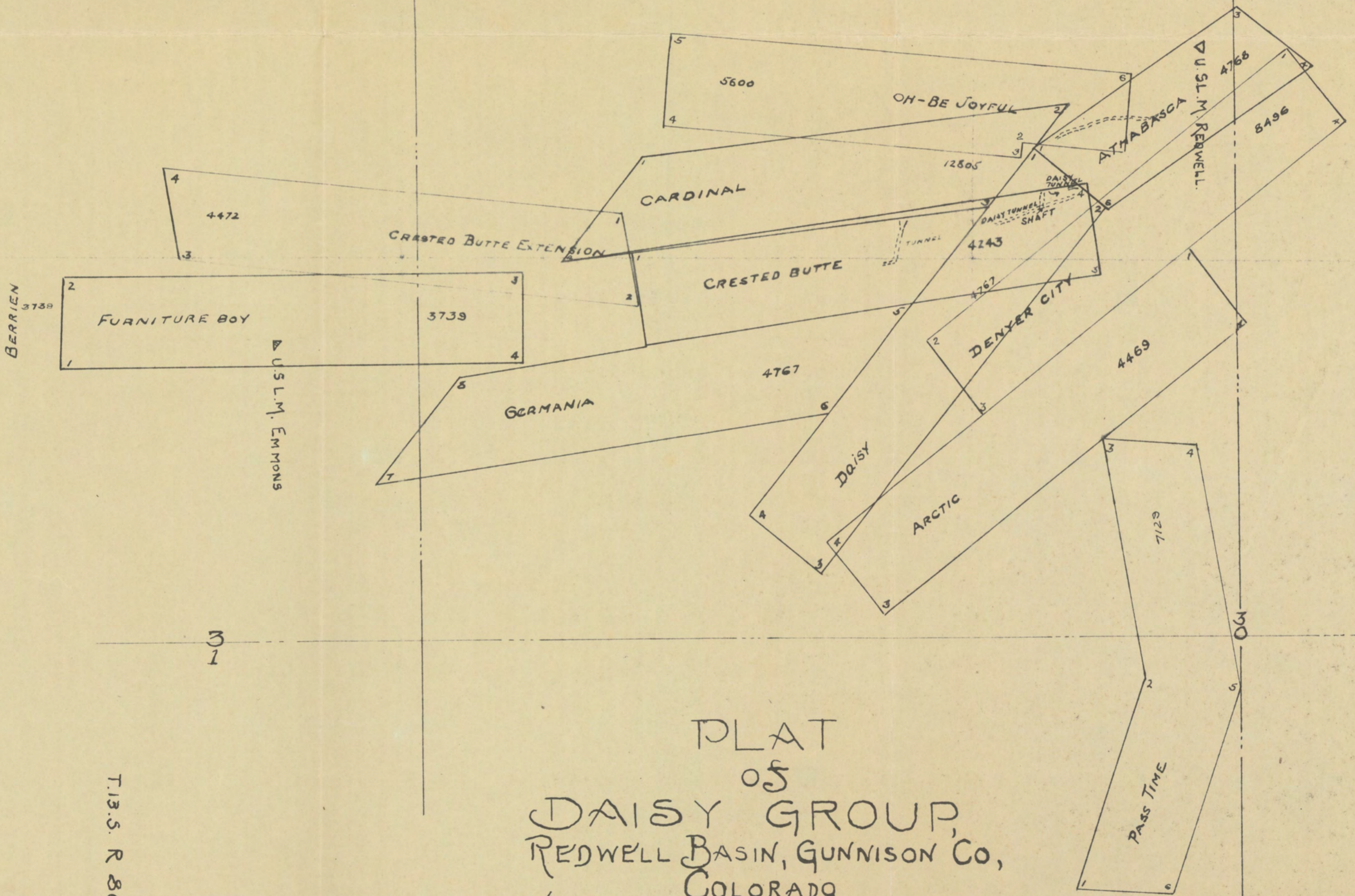
I consider it worth while to get a larger and more general sample than I took for testing purposes. The record production of the mine shows a better relative average in silver than my samples indicate; and a few ounces more per ton in silver, pay gold values, or an increase in the zinc or lead averages, would materially add to the prospective value of the property.

The general appearance of the ore-body, and the geological conditions are so favorable as to merit a more complete investigation.

Respectfully submitted,

(SIGNED) J. E. Dwelle,
For The Empire Zinc Co.

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BERRIEN
3739

U.S.L.M. EMMONS

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T.13.S. R. 86 W.

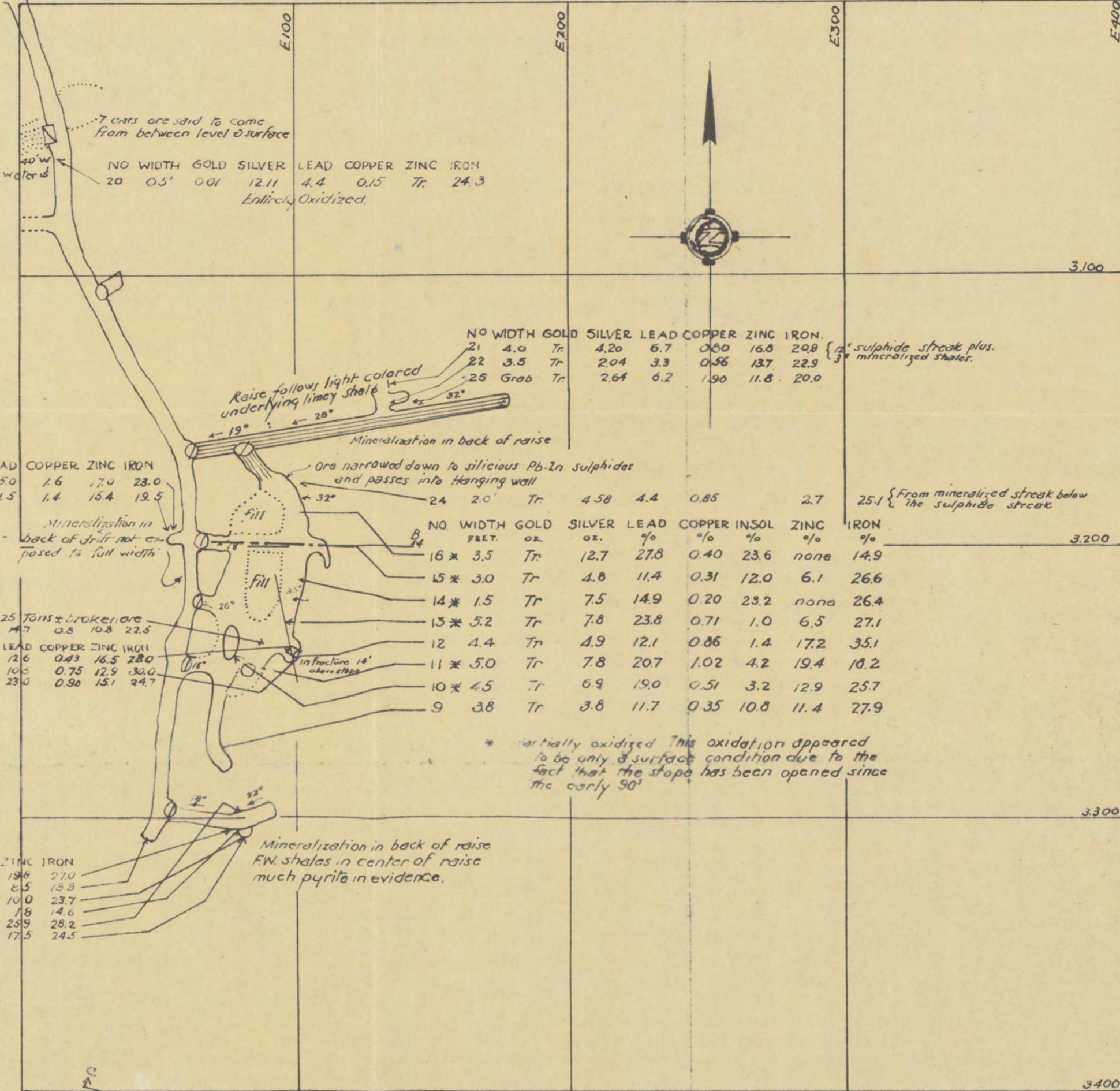
PLAT
OF
DAISY GROUP,
REDWELL BASIN, GUNNISON CO,
COLORADO

TO ACCOMPANY REPORT BY J.E. DWELLE SEPT. 18, 1909

Traced by S.H. EISENBERG

DAISY TUNNEL
E11.0

N.O.D.



NO	WIDTH	GOLD	SILVER	LEAD	COPPER	ZINC	IRON
20	0.5'	0.01	12.11	4.4	0.15	Tr.	24.3

Entirely Oxidized.

NO	WIDTH	GOLD	SILVER	LEAD	COPPER	ZINC	IRON
21	4.0'	Tr.	4.20	6.7	0.60	16.8	20.8
22	3.5'	Tr.	2.04	3.3	0.56	13.7	22.9
25	Grab	Tr.	2.64	6.2	1.90	11.8	20.0

25-1 sulphide streak plus mineralized shales.

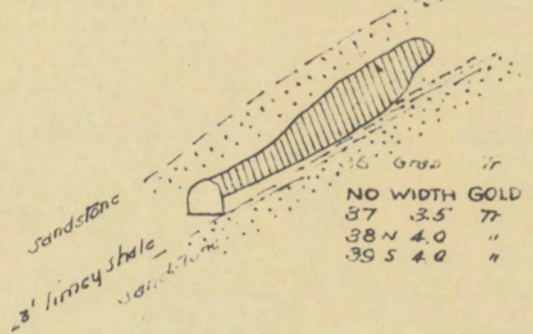
NO	WIDTH	GOLD	SILVER	LEAD	COPPER	ZINC	IRON
26	4.0'	Tr.	9.60	15.0	1.6	17.0	23.0
26	Grab	Tr.	7.52	11.5	1.4	15.4	19.5

Partly oxidized.

NO	WIDTH	GOLD	SILVER	LEAD	COPPER	INSOL	ZINC	IRON
24	2.0'	Tr.	4.58	4.4	0.85		2.7	
16*	3.5'	Tr.	12.7	27.8	0.40	23.6	none	14.9
15*	3.0'	Tr.	4.8	11.4	0.31	12.0	6.1	26.6
14*	1.5'	Tr.	7.5	14.9	0.20	23.2	none	26.4
13*	5.2'	Tr.	7.8	23.8	0.71	1.0	6.5	27.1
12	4.4'	Tr.	4.9	12.1	0.86	1.4	17.2	35.1
11*	5.0'	Tr.	7.8	20.7	1.02	4.2	19.4	18.2
10*	4.5'	Tr.	6.9	19.0	0.51	3.2	12.9	25.7
9	3.8'	Tr.	3.8	11.7	0.35	10.8	11.4	27.9

25-1 From mineralized streak below the sulphide streak

SECTION A-B

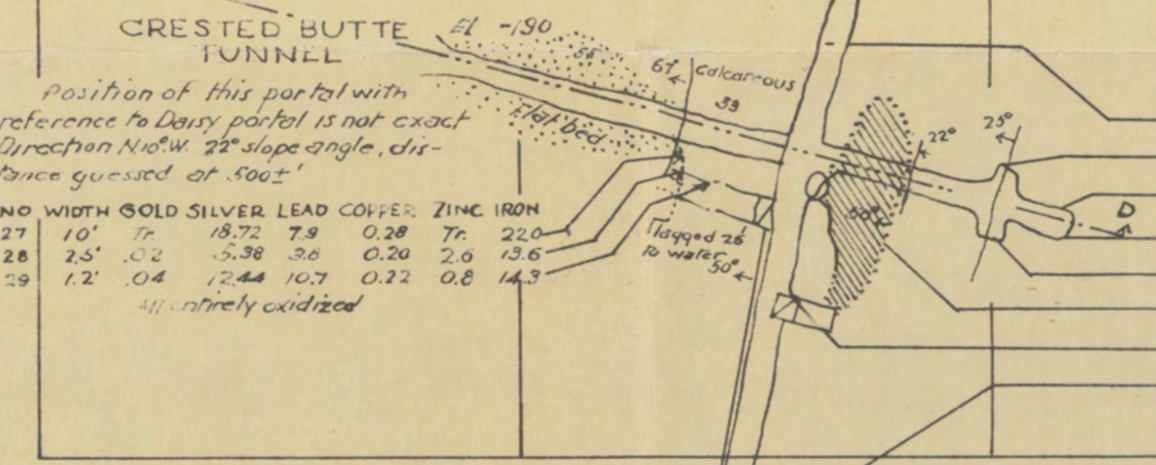


NO	WIDTH	GOLD	SILVER	LEAD	COPPER	ZINC	IRON
25	Grab	Tr.	1.64	4.7	0.8	10.8	22.5
37	3.5'	Tr.	2.92	12.6	0.43	16.5	28.0
38	4.0'	"	3.24	10.5	0.75	12.9	30.0
39	4.0'	"	6.12	23.0	0.90	15.1	24.7

25 Tons broken ore

* Partially oxidized. This oxidation appeared to be only a surface condition due to the fact that the slope has been opened since the early 90's.

SECTION C-D

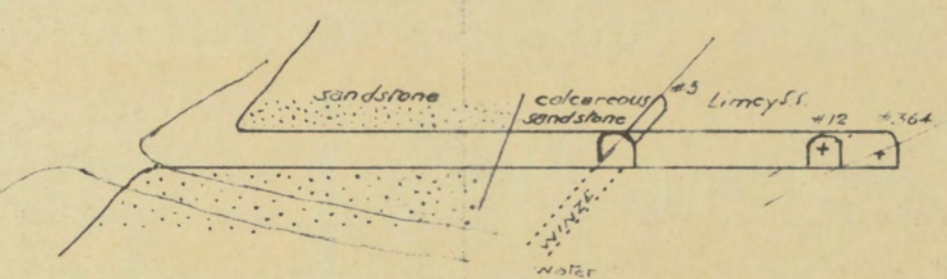


NO	WIDTH	GOLD	SILVER	LEAD	COPPER	ZINC	IRON
27	10'	Tr.	18.72	7.9	0.28	Tr.	22.0
28	2.5'	Tr.	5.38	3.6	0.20	2.6	13.6
29	1.2'	Tr.	12.44	10.7	0.22	0.8	14.3

All entirely oxidized

NO	WIDTH	GOLD	SILVER	LEAD	COPPER	INSOL	ZINC	IRON
6*	1.0'	Tr.	12.2	.8	0.35	56.8	none	17.8
1	.8'	Tr.	3.7	6.0	0.61	13.8	14.4	27.1
3	2.0'	Tr.	12.5	none	1.47	3.8	35.8	18.2
4	3.0'	Tr.	8.8	3.1	0.86	13.2	29.0	16.4
2	1.2'	Tr.	1.2	1.5	0.35	41.2	8.5	17.2
5*	2.0'	Tr.	73.2	0.6	0.25	61.6	none	15.3
8	1.8'	Tr.	2.7	2.9	1.53	29.8	13.2	18.0
7	1.3'	Tr.	6.9	2.9	10.76	21.6	15.8	16.4

* Entirely oxidized.



SECTION G-D

PLAN & SECTIONS
DAISY MINE
GUNNISON CO., COLORADO.
Near CRESTED BUTTE.
Scale 1 in = 40 ft. August 1926.
L. F. PADDISON Geologist
Magnetic Variation 15°

NOTE: Samples 1 to 16 inclusive taken by L.E. Paddison.

Traced 1-27-36 [Signature]