

680726

Rancheria -
Amy Claim Group
1040/16W

Table 1

<u>Claim No.</u>	<u>Tag No.</u>	<u>Record No.</u>	<u>Date Staked</u>	<u>Date Recorded</u>
1	494331	11649	Aug. 3-1963	Aug. 8-1963
2	494332	11650	"	"
3	471039	11419	Oct. 2-1962	Jan. 4-1963
4	64	20	"	"
5	38	21	"	"
6	65	22	"	"
7	37	23	"	"
8	50	24	"	"
9	36	25	"	"
10	471051	11426	"	"
18	494208	11658	July 29-1963	Aug. 8-1963
20	494210	11660	"	"
22	494212	11662	"	"
51	494241	11691	"	"
53	43	93	"	"
54	44	94	"	"
55	45	95	"	"
56	46	96	"	"
57	47	97	2	"
58	48	98	"	"
59	49	99	"	"
60	50	11700	"	"
61	51	01	"	"
62	52	02	"	"
63	53	03	"	"
64	54	04	"	"
79	494269	11719	July 30-1963	Aug. 8-1963
81	71	21	"	"
83	73	23	"	"
85	75	25	"	"
86	76	26	"	"
87 Fr.	494277	11727	July 25-1963	"
88 Fr.	78	28	"	"
89	79	29	"	"
91	81	31	"	"
93	83	33	"	"
95	85	35	"	"
97	87	37	July 31-1963	"
38 claims in total				

0117-03

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4. History

The discovery of silver-bearing sulphide float was made at Camp Creek in 1948 by Messrs. St. Godard and G. E. Monson. In 1949, the Hudson Bay Mining and Smelting Company drilled 8 holes totalling 2,734 feet to test under the main sulphide boulder zone for a strike length of 775 feet. The results of drilling apparently were not sufficiently encouraging and the claims were allowed to lapse.

The claims, covering the "Camp Creek Showing", were acquired in 1962 on a "grubstake" headed by W. S. Kennedy. In 1963 and 1964, additional claims were staked by Kennedy and his associates.

The surface and underground work done during 1963 and 1964 under Kennedy's direction materially improved the economic outlook for the property. It is expected that work on the property will continue through 1965.

Detailed reports, underground maps and assay data are on file at the Rancheria Mining Company Limited office at Room 2107, 80 King Street West, Toronto.

5. General Geology

There are no detailed government geological maps of this section of British Columbia. However, the Amy claims are known to lie in a group of Palaeozoic sediments that occur on the eastern flank of the Cassiar granitic batholith. The sediments range in composition from limestones to quartzites, and regional mapping to the north by the Geological Survey of Canada[#] suggests that they are lower Cambrian in age.

[#] Poole, W. H., 1960, Wolf Lake, Yukon Territory, G.S.C. Preliminary Map, 10-1960.

6. Field Work done during 1964

From June 18 to Sept. 3, 1964, the following work was done:-

(a) Line cutting - A total of 147,800 feet of line was cut. A base line was cut in a N 45° W direction. Cross lines were cut at right angles to this base line at 300-foot intervals and pickets placed at 100-foot intervals along the cross lines.

(b) Geological survey - Twelve days, August 13 to 24th inclusive, were spent by the author making a geological map of the 38 claims listed on Table 1. The results of this survey are shown on a map drawn to a scale of 300 feet to the inch which is included in the envelope at the back of the report. The Camp Creek showing was examined in detail both on the surface and underground and the details of the geology of this showing are given on Figure 3.

Rock exposures on the claims examined are quite limited. The country rocks are essentially impure quartzites, limestones and argillites that have been intruded by granitic rocks of the Cassiar batholith. Cross-cutting and intrusive relationships of the intrusive with the country rock can be seen in the field in a number of places.

The general strike of the sedimentary sequence is S-E with dips averaging about 65° south. There are indications of broad-scale flexuring of the rocks as seen on the map by the change in strikes from place to place. However, because of the paucity of outcrops it is impossible, on the basis of geological outcrops alone, to get any firm conception of the intensity or frequency of this flexuring. As will be pointed out later, there seems to be a flexure in the vicinity of the Camp Creek showing and it is possible that

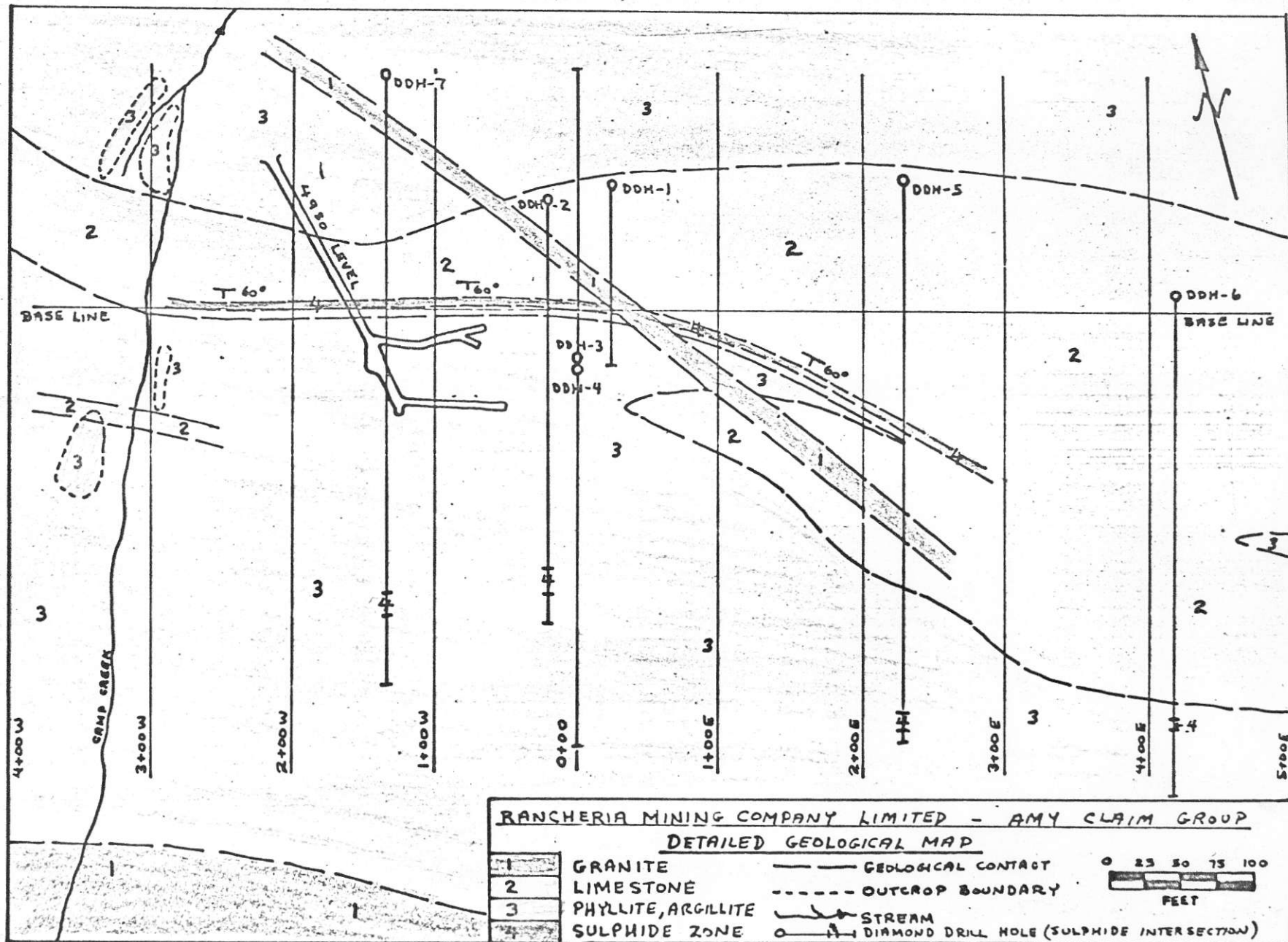


FIGURE 3

this fold played some part in localizing the sulphide mineralization in this locality.

The areas of economic interest, so far as is known at present, appear to be those that occur at or near the limestone contacts and at the same time are close to the Cassiar batholith.

Three areas of limestone are known to exist on the property. Two large masses occur to the east and to the west of the mapped areas, both are cut off along strike by the batholith as can be seen on the map. The westerly limestone, in the vicinity of Area F, appears to be several hundred feet thick but it fingers out into greywacke and other sediments eastward along strike. Regional traverses in this area also indicated that some of the limestone beds were lens-like and discontinuous along strike.

Figure 3 shows that the main sulphide zone at Camp Creek occurs near the south contact of a limestone bed. The ground in the vicinity of the showing is extensively covered by overburden so that the distribution of the limestone, the structure of the area and the extent of the mineralization, on geological grounds, is unknown.

Silver-bearing sulphide float was also found in areas D and E but as yet the extent and possible economic importance of this material is unknown. See the geological map in the pocket.

The mineralogy of the Camp Creek sulphide body was studied in detail by ore microscopic, x-ray diffraction, x-ray fluorescence and electron probe techniques. The purpose of this work was largely to determine what minerals contained silver and how these minerals occurred within the ore zone. It was considered that the work would give useful information on the origin and character of the deposit

and would act as a basis for ore concentration tests which would be done in the future if sufficient tonnage is developed to warrant production.

The minerals found in the Camp Creek deposit includes:

<u>Quartz</u>	<u>Sulphides</u>	<u>Others</u>
Quartz	galena	native gold
siderite	sphalerite	" silver
calcite	pyrite	
limonite	arsenopyrite	
	freibergite	
	chalcopyrite	
	pyrargyrite	
	pyrrhotite	
	covellite	
	marcasite	

The mineral assemblage at Camp Creek is almost identical to the Keno Hill deposits and it is, therefore, likely that the experience obtained in the milling of the Keno Hill ores could be gainfully employed on Camp Creek material.

A representative group of polished section photographs of the Camp Creek sulphides follow overleaf to give the reader a general idea of the texture of the ores and the characteristics of the silver distribution within them.

7. Geophysical Survey

A fluxgate magnetometer, model M 500 A - #6351, was used to measure the relative vertical component of the earth's magnetic field. The relative magnetic readings for each station are recorded on the map in the pocket at the back of the report. The instrument could be read to the nearest 10 gammas.

There was very little difference in the magnetic susceptibilities of the rocks for the area covered so that the readings to show up the subtle contrasts were contoured at 100 gamma intervals. Areas considered to be higher than normal have been coloured blue on the map whereas areas considered to be lower than normal have been coloured red.

The magnetic contours were of some value in indicating the general "grain" or trend of the sediments of the country rock but they were of little value in defining the contact between the various sedimentary units or between the batholith and the country rock. Furthermore, the distribution of the high and low magnetic areas was too nebulous for them to be used in delineating fault offsets or broad fold patterns which might well exist within this country rock sequence close to the batholith.

On the other hand, the limestone that occurs in the vicinity of the "Camp Creek Deposit" shows up as a fairly distinct magnetic low. The trend of this low zone continues to the N-W for a distance of approximately 1500 feet and is marked "Area B" on all maps. Referring to the geological map, it can be seen that there are no outcrops in the vicinity of "Area B". However, the magnetic trend agrees with strike directions obtained in outcrops of greywackes on line 961 and also with the trend of the sulphide zone obtained underground.

To the east of the "Camp Creek Showing" (line 1000), the magnetic contours appear to change their direction as indicated by the line marked "Area A". This direction is more in line with strikes in outcrops obtained nearby, as for example on line 1024 (see geo-

logical map).

Therefore, although the magnetic survey was found to be of little use in definitely delineating the distributions of various rock masses, nevertheless it has been useful in suggesting that the "Camp Creek" limestone extends at least 1500 feet to the N.W. of the main showing and in suggesting that there is a broad fracture or fold in the rocks in the vicinity of the showing.

It is not known whether limestone underlies "Area A" as there are no outcrops in this area. The magnetic reading of Area A, although approximately 100 gammas higher than those of Area B, are nevertheless similar to magnetic readings taken on limestone outcrops both to the east and west of the map sheets. Therefore, it is possible that the "favourable" limestone at Camp Creek bends at the Creek and extends east of the sulphide showing.

8. Geochemical Survey

Soil samples were collected from below the surface layers at each survey point. These samples were analysed for their heavy metal content using the dithizone technique. The location of the samples analysed and an estimate of their metal content in parts per million are shown on the "Soil Geochemical Map" in a pocket at the end of this report. Areas with higher than normal metal content have been contoured and coloured red. The areas to be discussed below have been labeled Areas "A to F" for easy reference.

The soil chemical anomaly over the "Camp Creek Showing" is clearly shown on the map.

Area A - is a broad anomaly located about 1000 feet east of the Camp Creek showing. Referring to the map, it can be seen that soil readings in this area are similar to those of the main showing. Furthermore, as was pointed out earlier, Area A could be on the eastward continuation of the "Camp Creek" limestone. This area will likely be explored during the 1965 season.

Area B - is a distinct soil anomaly which appears to be on the N.W. extension of the showing. This anomaly appears to agree with the N.W. extension of the "favourable" limestone, and, although it is relatively weak, it could be the surface manifestation of more deeply buried sulphides. This area should be tested either by extending lower development levels at Camp Creek westward or by surface drilling.

Area C - appears to result from the downward wash of material from the Camp Creek showing.

Area D - is near the limestone granite contact where some galena float was discovered in 1964. Although the zone does not appear to have an extensive strike length, the sulphide had a relatively high silver content and the area is worth testing by a minimum of two diamond drill holes.

Area E - Sulphide float low in silver content was found in the vicinity of Area B. The soil geochemical surveys in this area are small and weak and it is doubtful if large sulphide bodies exist in this area.

Area F - This is a distinct geochemical anomaly, about 1500 feet long, that appears to be near the south contact of the west limestone band. It would appear that some detailed prospecting in this area is war-

anted.

As can be seen on the geochemical map, there are numerous small geochemical anomalies sprinkled over the map. Mostly they are small and of low metal content and it is doubtful if they have economic significance.

W. H. Gross P. Eng.
Toronto - May 25. 64.