might be very great. I give in the table below the result of all the experiments which we carried out on these lines. These results show several wide variations, but the failures can usually be traced to some cause which can be avoided. We achieve so many very satisfactory results that I think we are quite within the mark when we believe that we can obtain a recovery, at least as good as that returned by the smelters, (above 92 per cent of the gold and silver); and at cost of about 84 to 85 per ton for treatment; which would effect a saving to us on our present output of about \$3,000 annually. Had not the plant exceeded so much the sum alloued for its construc-tion. I would have suggested the installation of a small work-ing plant for this purpose. The matter, however, can be taken op at any time. at any time. ap

ap at any time. The effects of this plant will be, I believe, far reaching, even by yond the increased recovery of the gold values in the ore, For it will enable us to dispense with the slow method of milling which we have hitherto felt it wise to adopt and even practically double the capacity of our mill. If the opinion which I have expressed above is correct, that the output of the mine can be very largely increased in the tuture, this will be a happy combination of circumstances which will have a most important bearing upon our product during the coming very. year.

A FEW NOTES ON THE GEOLOGICAL ASPECT OF THE MINE.

The geological and economical problems of this mine are so closely associated that some notes on the character of the vein may prove interesting.

direction; they were very numerous, but the throw was small. As depth was gained, a series of faults in the schist area was encountered running east and west, approximately parallel, in encountered running east and west, approximately parallel, in which the down throw was almost invariably southwards. In the granite area, a series of faults was encountered running north and south, with a throw down, to the east. The result of these complicatel movements is to connect the vein in No. 2 shaft (our present shaft) with the vein in No. 1 shaft (our old shaft) or at least to bring the two into close relation. It with probably always remain open to argument, even when the ground is removed, as to whether or not they are the same or parallel veins, and, in either case, it is strongly to be recom-mended that, at some convenient point, cross-cutting should be catried on to endeavor to prove the existence of parallel ore hodics. hodios

With the experience gained during the last twelve months, we have been compelled to modify our ideas of the structure of the ore body and of the method of development. We were of the ore body and of the method of development. We were proceeding last year upon the assumption that the strike of the or- body was along the main tunnel, east and west, with a dip northward at a very slight inclination from the horizontal, and shaft No. 2 was sunk according to this plan. The develop-ments, however, in the bottom of the shaft, in No. 2 and No. 1 west, and No. 2 and No. 1 east, and the extension of the main tunnel have caused us to form the opinion that the true direc-tion of the ore body is north and south, dipping west about 40 degrees, and development is now being carried on tentatively on these lines.

on these lines. The character of the ore in the two formations is not alike. In the schist the ore is remarkably uniform in width, in appear-

ATHABASCA GOLD MINING COMPANY, LIMITED. - CYANIDE CONCENTRATE TESTS. REVOLVING BARREL.

No.	Дате.	Dry Weight of Concen- trates.	Grammes of Cyanide Used.	Pounds of Water used.	Percentage of Solution Used.	Leaching Time.	Ounces Gold before.	Value.	Ounces Gold after,	Value.	Percentage of Extrac- tion.	Strength of Leachings.	Pounds of Cyanide lost.	Loss in Cyanide per Ton of Ore.
		Pounds.			Per cent	Hours,					Per cent	Per cent	Pounds.	Pounds.
1	April a6th	62 70	91 67.5	20 20	1.0	24 24	3-34 3-32	\$ 69 64 68 62	.58 1.26	\$ 11 99 26 04	84.4 62.0			5-3
3	May 7th	65	340	20	3.75	24			.20	4 13	*******	******		19.4
4	" gth	05	340	20	3.75	24	4.70	98 39	.20	5 37	94.5			
5	14th	65	.540	20	1.0	24	4.74	07 08	. 26	3 72	93.0	*******		17.2
	" iSth	65	115	20	1.25	24	6.10	126 00	1.12	23 15	81.6			5.4
8	" soth	65	68	20	.75	24	4.26	88 05	1.44	29 76	66,2			3.6
9	" 23rd	65	46	20	.50	50	4.78	98 80	2.14	44 23	55.2			2.6
10	" 27th	65	68	20	.75	48	4.64	95 91	.88	18 19	81,0	*******		3.6
11	June 6th	65	115	20	1.25	48	4-34	89 71	.38	7 85	91.2			6.2
12	" 10th	* 65	91	20	1.0	24	6.20	129 39	3.10	65 32	49.3			5.0
1.3	" 14th	40	- 68	30	.50	75	4.90	101 28	1.78	36 79	03.7		*******	
14	" 19th	40	170	30	1.25	48	6,08	125 07	.38	7 85	93-7			12.1
15	23rd	40	170	30	1.25	24	5.30	109 55	.24	4 90	95.5			7.4
10	25th	40	1,30	30	1.0	40	7.50	150 00	. 20	4 13	97-4	.50	57.3 E*	0.2
17	" agth	40	136	30	1.0	24	5.26	108 72	.76	15 71	85.5	.46	.162	8.1
18	July 7th	40	136	30	1.0	48	4.74	97 98	.42	8 68	91.1	.48	.156	7.8
19	" toth	40	136	30	1.0	24	2.78	57 46	.14	2 89	94.9	.35	.195	9.75
20	" 13th	40	170	.30	1.25	24	4.60	95 08	. 36	7 44	92.2	.82	.129	6.4
21					*******	1.1.8. 8.8.1	3.92	81 03	.12	2 48	96.9	.84	.123	6.15
22	I see a serie second second second second	1.	*******	*******		*******	5.38	111 26	******			·		

"NOTE-. 126 or 57.3 Grammes.

There are two distinct country rocks. One is an area of altered igneous rock which in this immediate neighborhood consists of dark green, fine grained, biotite and actinolite schists. The other is an area of intrusive granite of later origin.

erigin. The mineral deposit occurs in the neighborhood of the two rocks. Where the contact can be seen it is usually clearly de-fined but broken, evidence of movement being frequently vis-ible. The line of contact is about east and west and the strike of the vein is probably north and south. Numerous well defined silicious dykes accompany the vein: these are cut by the vein and by all the faults which cut the vein, and are clearly older than the vein. At times the inter-section of the dyke and vein is clearly defined; at other times the two are difficult to distinguish. These acid dykes have been determined to be aplyte and seem to be intimately associ-ated with many of the important ore bodies of British Colum-bia.

bia. Of basic dykes, one at least is very conspicuous and runs in a straight line as far as our development has gone, at least 600 feet. During the whole of this course, this dyke occupies a fault plane, and the threw of the vein on the fault varies between three and ten feet. Dykes of this character which have been determined to be mice a happrophyre, are frequently seen cutting all the rocks of the district in many directions. They often occupy fault planes and are not uncommonly seen following veins.

Numerous and extensive faults are a noticeable feature of this mine, and have confused the problem: have added to the difficulty of locating the ore bodies and laying out development work. At the surface the faults seemed to have no general

ance and in values, showing a tendency to concentration of values along the contact. The ore is a bluish quartz banded with sulphides of lead, zinc and iron,

In the granite the ore is more uneven in every respect. It is more variable in size, value and character; the general average of the width seeming to be greater in the granite than in the schist. The dissemination of sulphides is more uneven; in some sense. The dissemination of supmuse is more directly in some places they are nearly solid, in some places nearly absent. From sulphides predominate to a greater extent, and the color of the quartz is of a milky reddish hue. The values are very confused—assays of upwards of \$600 per ton alternating with

almost barren ore. I wish to thank Mr. O. E. Le Roy, of McGill College, for the assistance which he has rendered us in helping to determine the character of the rocks as above.

4

Electric smelting is a development that has been forced upon Swiss metallurgists by the scarcity of coal. Hematic ore from the Bernese Oberland, near Meiningen, is to be transported by an aerial ropeway to the village of Innert Kirchen, where the electric smelter will be established. A concession has been obtained permitting the use of 60,000 horse-power from the Kiver Aar for generating the current required.

Mining for wood is a curious industry of Mengtze in Tong-Mining for woor is a curious monstry of Mengize in roug-king. A pine forest was here swallowed up by the earth at some time in the past, and the trees, some of them three feet in diameter, now lie in a slanting position beneath about 25 feet of sandy soil. Being imperishable, the wood from these thaber mines is prized by the Chinese for coffins.