Gold	85·4 per cent.
Silver	14·0 "
Value	73·3 "

No. 2.—This was a parcel of general quartz from the mine. It consisted of soft, friable quartz mixed with blackish-brown manganese-oxides. When dried and crushed the parcel weighed 900lb. It showed the following assay-value:—

	Oz.	dwt.	gr.	
Bullion	4	6	18	per ton.
Gold	0	15	3	"
Silver	3	11	15	"

Value, £3 5s. 10d. per ton.

The dry pulp was subjected to raw hot pan-amalgamation, and yielded 1oz. 1dwt. 12gr. of bullion, 0·2162 fine in gold, and 0·7666 fine in silver, valued at 18s. 6d. per ounce, and representing the following proportions of extraction:—

Gold	76·6 per cent.
Silver	58·0 "
Value	75·4 "

No. 9.—St. Hippo, Waitekauri.

This was a parcel of moderately-hard rusty-brown quartz, comparatively free from base metallic sulphides. It was dried, dry-crushed, sampled, and assayed, with the following results:—

	Oz.	dwt.	gr.	
Bullion	6	1	22	per ton.
Gold	2	15	10	"
Silver	3	6	12	"

Value, £11 5s. 9d. per ton.

It weighed 800lb. dry weight, and was subjected to a leaching by percolation with a 0·48-per-cent. solution of potassium-cyanide, which extracted 3oz. 2dwt. of bullion, 0·2944 fine in gold, and 0·2656 fine in silver, equal to 24s. per ounce, representing a saving of 93 per cent. of the gold, 70 per cent. of the silver, and 84·4 per cent. of the value.

This is a most valuable ore, and the above experimental test shows that its bullion contents can be most successfully extracted by the cyanide process.

No. 10.—Alpha Mine, Waitekauri.

This was a parcel of moderately-hard rusty-coloured quartz, containing free gold and a large proportion of silver, in the form of the sub-sulphide. It was dried, dry-crushed, sampled, and assayed. A portion, 650lb., showing the following assay-value—

	Oz.	dwt.	gr.	
Bullion	21	3	11	per ton
Gold	1	15	7	"
Silver	19	8	4	"

Value, £9 per ton.

was subjected to a leaching with a 0·54 per cent. solution of potassium-cyanide, which extracted 5oz. 15dwt. of melted bullion, valued at 6s. 9d. per ounce, representing a saving of 74 per cent. of the gold, 56 per cent. of the silver, and 70·5 per cent. of the original assay-value.

An examination of the tailings from this parcel showed the presence of gold in particles too large to be dissolved by the cyanide solution, except by very prolonged leaching, thus explaining the cause of the comparatively low extraction.

Another portion of the ore, weighing 1⅔ tons, showed the following assay-value:—

	Oz.	dwt.	gr.	
Bullion	22	13	6	per ton.
Gold...	1	15	7	"
Silver	20	17	23	"

Value, £9 3s. per ton.

This parcel was treated by raw hot pan-amalgamation with chemicals, and yielded 13oz. 8dwt. of melted bullion, 0·1400 fine in gold, 0·8470 fine in silver, valued at 12s. 5d. per ounce, representing a saving of 66 per cent. of the gold, 33 per cent. of the silver, and 58 per cent. of the value.

The comparative results obtained by the cyanide process and pan-amalgamation are as follows:—

	Cyanide Process.	Pan-amalgamation.
Gold	74 per cent.	66 per cent.
Silver	56 "	33 "
Value	70·5 "	58 "

The average value of the 2 tons of ore was £9 2s. 3d. per ton.