

ary silica, plates of carbonates and strong brown prisms of tourmaline. The iron pyrites was in small amount and in an exceedingly fine state of division.

6. In addition to the foregoing assays core from the following depths was assayed with results that showed no gold at all:—354 to 431 feet, and 466ft. 7in. to 481ft. 5in.

#### No. 1 Bore.

1. This bore reached a total depth of 461 feet along its angle of inclination.

2. The core started in rotten rock at 26 feet. From this point to the bottom of the bore the succession of rock formations met with is as follows:—

Depth in feet.	Nature of rock.
26ft.—78ft.	Rotten banded ferruginous jasper.
78ft.—157ft. 10in.	Green carbonate rock.
157ft. 10in.—167ft. 2in.	Pyritic quartz carbonate rock with some heavy iron sulphide in places.
167ft. 2in.—168ft.	Pyritic green schist.
168ft.—204ft.	Banded black and white jasper.
204ft.—233ft.	Almost white carbonate rock.
233ft.—235ft.	Glassy white quartz.
235ft.—255ft.	Pyritic dense white carbonate rock.
255ft.—273ft.	Mottled chlorite carbonate rock, in part schistose and like the average rock in No. 2 Bore.
273ft.—287ft.	Gray carbonate rock.
287ft.—309ft.	Mottled chlorite carbonate rock.
309ft.—355ft.	Massive dark carbonate rock.
355ft.—434ft. 2in.	Mottled chlorite carbonate rock.
434ft. 2in.—446ft. 7in.	Mottled chlorite carbonate rock with 6 inches of pyritic jasper (some red) and glassy quartz at 440 feet.
446ft. 7in.—461ft.	Mottled chlorite carbonate rock.

3. The rock throughout the whole of this bore varied somewhat in appearance from point to point. This was simply due to chemical and dynamic changes in the one rock formation, viz., a chlorite-carbonate rock analogous to that which formed the dominant rock in the No. 2 Bore.

4. The so-called jasper lodes were not so frequent in this as in the No. 2 Bore. Their positions along the direction of the bore, together with assay results, are as follows:—

No. 1 Lode: 26 to 78 feet. Rotten jasper.	
Values: 26ft.—48ft. 9in.	Gold: nil.
48ft. 9in.—60ft.	Gold: trace.
60ft.—62ft. 6in.	Gold: 5gr. per ton.
62ft. 6in.—67ft. 4in.	Gold: 3gr. per ton.
67ft. 4in.—78ft.	Gold: 8gr. per ton.

No. 2 Lode: 157ft. 10in. to 167ft. 2in. Pyritic quartz carbonate rock with some heavy iron sulphide in places.

Values: 157ft. 10in.—162ft. 6in.	Gold: 21gr. per ton.
162ft. 6in.—167ft. 2in.	Gold: 14gr. per ton.

No. 3 Lode: 168ft. to 204ft. Banded black and white jasper.

Values: 167ft. 2in.—169ft. 2in.	Gold: 5gr. per ton.
169ft. 2in.—176ft.	Gold: nil.
176ft.—194ft. 5in.	Gold: trace.
194ft. 5in.—196ft. 7in.	Gold: 6dwt. 13gr. per ton.
196ft. 7in.—200ft. 9in.	Gold: trace.
200ft. 9in.—202ft. 10in.	Gold: 2dwt. 4gr. per ton.
202ft. 10in.—204ft.	Gold: trace.

The foregoing were the only three lode formations noted. At 440 feet there was 6 inches of pyritic red jasper, but it contained no gold.

The only other values recorded were between 78ft. 6in. and 89ft. 2in., carbonate rock yielding 3 grains of gold per ton.

5. The remainder of the core was averaged and assayed. It contained no gold for the most part, with traces in places.

#### 4.—BORING AT NORSEMAN.

##### No. 4 Bore, Viking Gold Mine.

(For Locality Plan and Cross Section of No. 4 Bore, see Department of Mines (S.M.E.'s) Report for 1929.)

1. This bore reached a total depth of 575 feet.

2. The bore started in coarse-grained epidiorite, it then passed through a great width of fine-grained epidiorite to 511 feet, where a distinct schisted zone made of hornblende-biotite schist came in. The bore after passing through this zone continued in coarse-grained epidiorite.

3. Details of rock formations are as follow:—

Depth in feet.	Nature of rock.
35ft.—150ft.	Coarse-grained epidiorite.
150ft.—511ft.	Fine-grained epidiorite.
511ft.—522ft.	Schisted zone of hornblende-biotite schist with some quartz.
522ft.—575ft.	Coarse-grained epidiorite.

4. Assays.—A great number of assays were made, including average samples of practically the whole of the core. The results were negative, no gold being recorded in any of them.

5. Although no gold was recorded it is of interest that sheared and schisted zones persist to depths of 511 feet.