

Lawrence. The deposit consists of a mass of cement and conglomerate, occupying a cup-shaped hollow in a ridge or spur which divides two nearly parallel gullies. The mass of cemented conglomerate has been variously estimated at from eight to ten million cubic yards; but the present manager, whose opinion is of the most value, puts it at from eleven to twelve millions. The area covered is 45 acres.

"A nearer view of the deposit presents the following features: On the Lawrence [or western] side the rock forming the rim of the cup-shaped hollow presents a very uneven surface, and the folia of the schist are much disturbed and fractured. The pebbles of the conglomerate are imbedded in the soft, crushed country, there being no distinct boundary or line of demarcation between the deposit and the surrounding country-rock. There are longitudinal furrows in the schist parallel to the strike of the country and the longer axis of the deposit. Reddish layers of oxidized material form marked lines through the general faint-blue tinge of the cement, and indicate the dip of the deposit, which is seen to be at a low angle towards Gabriel's Gully, or south-eastward.

"Descending among the masses of conglomerate one can observe the structure of the material. Fractures cut through the included fragments of the more fissile schist, but they do not pass through the harder pebbles. These last are of varying size up to boulders 2ft. in diameter. The wash shows a large proportion of schist fragments, held together by a light greenish-blue fine-grained cement. Of the remaining portions of the material large jasperoid boulders are the most prominent.

"Going to the further side of the deposit it is seen at once that the rim-rock has an altogether different appearance from that noted on the Lawrence side. The bounding wall is perfectly straight and even, with a dip of $25^{\circ} 30'$ to the south-west. It shows incrustations of alum. The schist of the country, which dips with the face of the rim-rock, shows no signs of having been crushed or dislocated. When first uncovered, the face of the wall is said to have been (and its present appearance suggests it) wonderfully straight and smooth. Exposure to the weather has induced the slow shaling-off of its surface, which is now littered with thin sherd-like fragments broken off by frost and rain. Originally the rim-rock was covered with a thin layer of clay, which protected it, but the clay first hardened and then cracked, to be subsequently removed by the rain; and the underlying country-rock is being rapidly eroded.

"Coming towards Gabriel's Gully a pink layer containing lignite is seen. Near the gully, mining operations have partially uncovered the bed-rock. At the present time the edge of the rim-rock is laid bare, but the bed-rock of the gutter is under water. It is seen that the gutter comes abruptly against a ridge over 60ft. high; from the foot of this it rises gently towards Munro's Gully, but soon meets with another interruption in the form of a wall of rock over 20ft. high, beyond which it slopes away again before taking its regular rise. Numerous irregular crevices found in the bed-rock of the gutter generally contained a great deal of gold. Above this the cement was very variable in its gold contents, which were usually arranged along certain red bands. Some of the material was absolutely non-auriferous, while other portions would form a pudding-stone of golden wash, the gold of which, as distinguished from the fine flaky character it usually had, was of the size of beans.

"While the rim-rock arising from the gutter on the north-east side was, as we have seen, smooth and regular, that of the Lawrence side was rendered remarkable by 'crab-holes,' as they were called by the miners. These were irregular corrugations, not parallel or straight, but narrowing or opening out at intervals. The cavities were as much as 15ft. deep; they were covered with a casing of cement as regular as plaster, and the material which filled them was a different-looking cement from that of the main body, the line of division between the two being so marked as to be of assistance in blasting.

"*The north-east wall continues under the Lawrence rim-rock.* [The italics are mine.] In working along the smooth face of the north-east rim, a party of miners followed it and were working their way underneath the south-western 'reef' before they discovered their mistake by hearing the blasting of those above them.

"To recapitulate its main features; it [the Blue Spur] consists of a mass of cement and conglomerate, lying in a depression formed in the quartzose mica-schists of the Wanaka series, and transverse to the present watershed of the district. The country has a dip of 15° to 20° south-west, the inclination increasing near this deposit. The rock on the north-east side conforms in dip to the bounding-wall of the deposit on that side. On the Lawrence side there is no conformity; the schist is disordered; and the boundary between the conglomerate and the country-rock is almost obliterated. On the north-east side the bounding-wall, when first uncovered, had a smooth polished surface. On the Lawrence side corrugations and irregular holes were common in the rim-rock. The north-east wall continues under the face of the opposite side. The gutter itself is in places very irregular; it has one particular break of 20ft. in height; it is separated from Gabriel's Gully by a rocky ridge, and has a general rise towards Munro's Gully.

"The deposit has a roughly-bedded structure, indicating a gentle dip south-eastward, or towards Gabriel's Gully. The wash at the north-west, or towards the Munro's Gully end, is the coarsest. Along its shorter axis the dip is scarcely noticeable, save near the edges. It is more flat on the Lawrence side.

"Beds of lignite occur, confined to an upper horizon of the deposit. The dip of the gutter would bring the conglomerate above the present surface as we go north-west. It is therefore not surprising that no traces of it are found in that direction beyond Munro's Gully, for erosion has removed it."

This description of the Blue Spur deposit is the best and most exhaustive that has come under my notice. When the examinations detailed above were being made, some of the facts mentioned could not be verified, hence the fulness of this extract; and it remains but to add to Mr. Rickard's description some facts that appear to have escaped his notice. As to the "Genesis of the Blue