

Dr Hans Merensky

CENTENARY OF THE DISCOVERER OF THE PLATINUM REEF

"The remarkable development of the platinum industry in the Transvaal is in no small measure due to Dr Merensky's efforts—to his geological ability and sound deductive reasoning, and to his untiring efforts to solve the riddle of the deposits and to place our knowledge of the platiniferous ore bodies upon a sound basis." So wrote the *Mining and Industrial Magazine of Southern Africa* in its Special Platinum Number of December 1925. It was in fact less than eighteen months earlier that Hans Merensky had discovered platinum in the Lydenburg and Potgietersrust districts, and had thereby initiated a great industry.

The third child of Dr Alexander Merensky, a German medical missionary who had been thrown out of their territories by several native chiefs in turn and had finally settled, curiously enough, near Lydenburg, Hans was born in 1871 at his father's mission station, Botshabelo, meaning "Refuge". Alexander Merensky was an outstanding character: not only was he qualified in medicine and surgery, but he took a keen interest in the geography, geology and history of Africa, and together with Frederick Jeppe he had produced in 1865 the first map of the Transvaal, followed

seven years later by another map that became the standard work for many years. His children were taught by their father, and especially were they trained in the observation of their surroundings—birds, plants, animals and rocks. In later years, when Hans returned to the veld, he attributed his exceptionally keen powers of observation to his father's early training.

In 1882 the Merensky family, now numbering six children, left South Africa to return to Germany, and Hans and his elder brother had their first—and unhappy—experience of boarding school. When the choice of a career became necessary, Hans felt he needed something that would keep him outdoors, and while he thought first of forestry he quickly settled on geology—a subject he had learned to appreciate from

Hans Merensky 1871–1952

Born one hundred years ago, the son of a German missionary to the Transvaal, Merensky became a geologist of international reputation. His discovery of platinum in South Africa in 1924 was an epic of mineral exploration and led to the development of a great industry. Today Rustenburg Platinum Mines' operations extend for some twenty miles along the Merensky reef.



his father, and one that would keep him out of doors all day long! But first he had to undertake his military service, and it was a further year before he could begin to prepare for his career.

The first part of his geology course comprised a year's apprenticeship as an underground worker, and this period he spent in the coal mines of Silesia. The second phase took him to the Technical High School at Breslau, and here he settled down to a period of hard study. This was followed by a course as Mine Supervisor in the Saar, and finally by an eighteen months' course at the University of Berlin. On one of his final field trips here he identified a deposit before the professor in charge could do so himself. "I don't know what it is about Merensky", said the professor, "but he seems to have a sixth sense about geological deposits."

Hans passed his final examinations with honours, but he still had in front of him several more years of study and practical work before he was offered a post in the Department of Mines in Silesia. Government service was not to his liking, however, and he soon applied for a year's leave to study mining in South Africa. This was in 1904, but before his leave expired he made a great decision—he resigned from the Department of Mines and wrote home to his father: "I have decided to stay in South Africa. There are too many opportunities here to throw away on a safe, dull position in the Government Service."

Setting himself up as an independent consulting geologist and mining engineer, Merensky quickly secured commissions from a number of mining finance houses in Johannesburg, and in the course of his investigations contributed papers to the Geological Society of South Africa and to the *Zeitschrift für praktische Geologie* on the tin deposits of the Transvaal, the gold occurrences in the Murchison Range, asbestos and coal in the Transvaal, and diamond deposits in several parts of Southern Africa. He was happiest,

however, when he could get back into open country with his horse, his tent and his prospecting kit.

This highly successful period of his life was soon to come to an end, however. First a financial crisis in South Africa left him virtually bankrupt, and then, with the beginning of the 1914 war, he found himself interned—the fact that he was a reserve officer in the Germany Army overshadowed his South African birth. This five-year confinement—quite intolerable to a man of Merensky's nature—was shortly followed by the post-war depression, and he found it almost impossible to obtain commissions from the mining houses, none of which were proposing to expand their activities.

And then, in 1923, came news of the discovery of platinum in the Waterberg district north of Nylstroom, and Hans Merensky, who was in South West Africa on one of his now rare missions, immediately rushed back to Johannesburg. He found that, while the discovery was genuine enough, its exploitation was not commercially feasible. At the same time the news alerted every prospector in the area, and the hunt for platinum was on, but for Merensky there was only a return to his office and his creditors.

It was in June of the following year, 1924, that a small aspirin bottle arrived in Merensky's mail. This contained a sample of greyish-white concentrate and came from Mr H. C. Dunne, whose brother-in-law, Andries Lombaard, a farmer with some experience of panning for gold, had found what he thought was evidence of platinum while panning in one of the streams on his farm at Maandagshoek, about 45 miles north of Lydenburg. Analysis quickly confirmed the presence of platinum, as well as of rhodium and iridium, and very shortly Merensky left for Maandagshoek. There he found Lombaard, assisted by two of his wife's cousins, Schalk and Willem Schoeman, following up his original find, and together they examined a considerable stretch of country around the stream. Some streams—

or spruits—showed traces of platinum, while other neighbouring streams proved negative, but Merensky was optimistic, believing that the alluvial platinum they were finding, unlike the Waterberg deposit, originated in the surrounding basic rocks and that if he could locate the “mother rock”, as he called it, he would have found something far bigger than the deposits of Russia and Colombia upon which the world then depended for its supplies of platinum. He then left for Johannesburg to raise finance for further prospecting, and at the same time decided to leave all other work for a few months in order to concentrate on the search for platinum. On August 12th he arrived back at Maandagshoek, and within three days, assisted by Lombaard and the Schoeman brothers, had succeeded in establishing the existence of platinum in the pyroxenitic and ultra-basic rocks. Early in September they had located the reef, running parallel to the mountain range in a northerly direction, and by the end of the month had located it southwards across the Steelpoort River, the

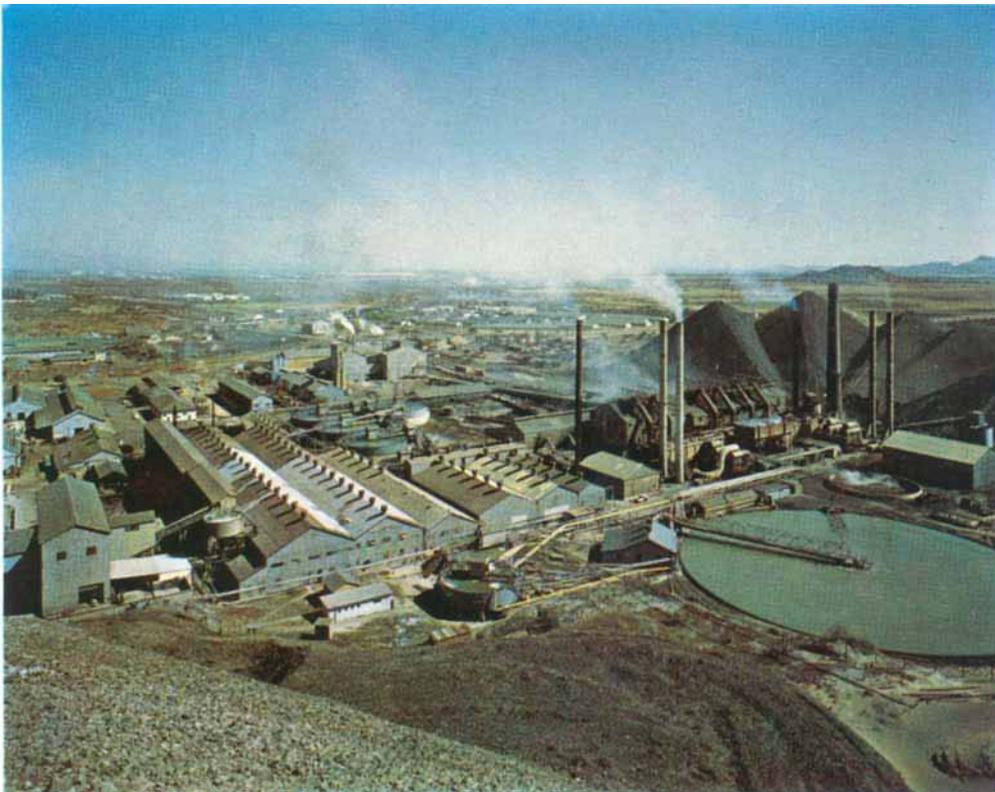
total length extending to some sixty miles. Merensky’s first thought was to christen it “The Lombaard Reef”, but his colleagues overruled him, and it was thereupon named “The Merensky Reef”.

Finance was provided by a small syndicate, soon to become Lydenburg Platinum Limited, but this company later transferred its holdings to a more substantial concern, Lydenburg Platinum Areas Limited, who began mining and treatment operations.

The news of the Lydenburg discovery at once precipitated a rush of prospectors, and of course, a boom in the shares of the companies owning land in the area, while Hans Merensky himself became, much to his displeasure, a public figure. In the midst of the excitement he disappeared for two weeks, returning to explain that he thought he had traced the reef at Potgietersrust and at Rustenburg. On his advice, his friend G. A. Troye undertook prospecting operations in the Potgietersrust area and in early 1925 found payable quantities of platinum in the pyroxenite, stretching in an unbroken line



Potgietersrust Platinum Mine in 1925. Dr Merensky, standing on the left, is explaining the features of the platinum deposit to a party of visitors, including the then Prime Minister, General Hertzog.



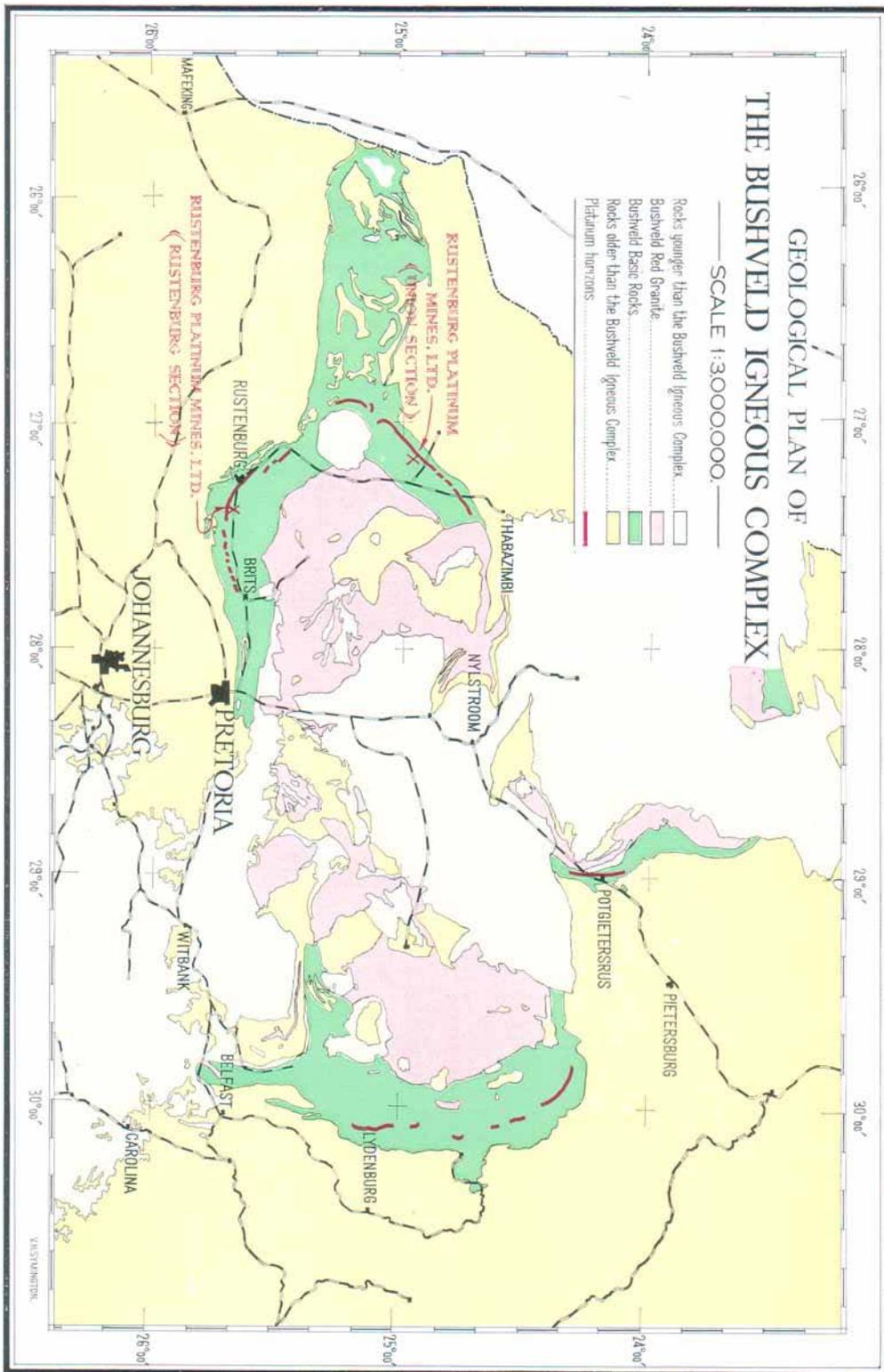
The scene on one part of the Merensky Reef today. The surface plant of Rustenburg Platinum Mines gives some indication of the great activity below ground. The shallower parts of the mines are worked from thirty inclined haulages, while the deeper areas are opened up from nine vertical shafts ranging in depth from 500 to 3,000 feet.

for some thirty miles, and by July the outlook was sufficiently promising for the formation of Potgietersrust Platinum Mines Limited. Similarly, Hans von Gernet, advised by Merensky, together with W. S. Cooper, was despatched to Rustenburg to secure options on the most likely looking land. "All the indications I saw at Rustenburg", Merensky told them, "pointed to platinum, and in richer quantities than at Lydenburg." Only the future was to show how right Merensky was in deducing that the geologically similar basic rocks at Rustenburg should contain platinum. Shortly the emphasis was to shift away from both Lydenburg and Potgietersrust to Rustenburg, to the most important, most regular and most valuable platinum-bearing reef in the world.

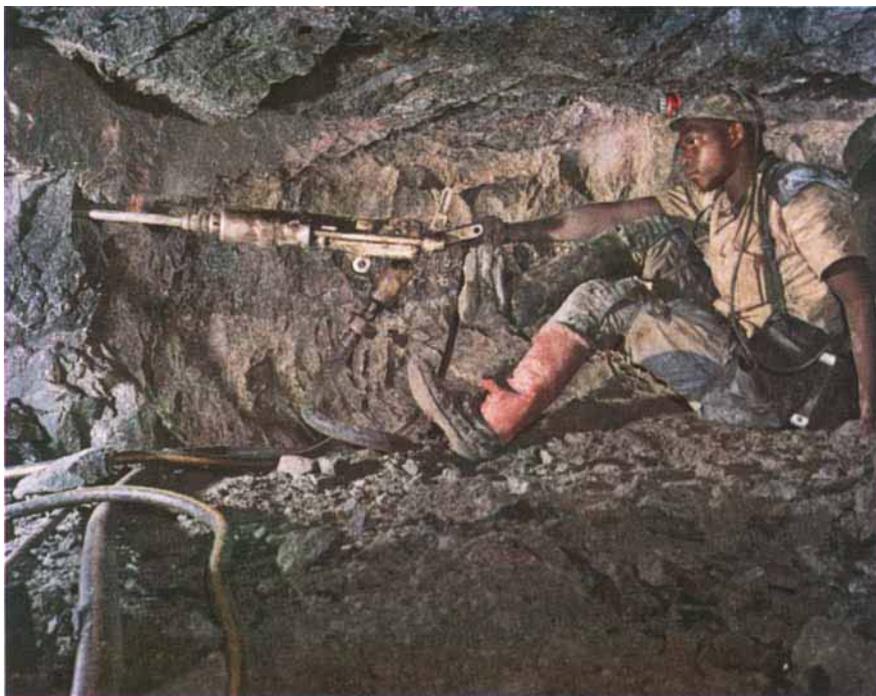
Very soon the Waterval (Rustenburg) Platinum Mining Company was in operation.

(Many small mining concerns began life at this time, but by 1930 only two mines were operating, both in the Rustenburg district, one owned by Potgietersrust Platinum and the other the Waterval mine, and these were merged to form Rustenburg Platinum Mines, which today exploits the Merensky reef over some twenty miles).

Hans Merensky was now 53, and was fast becoming a wealthy man. He took a holiday in Germany—his first return visit there since he had left in 1904—but interrupted his stay to hurry back to South Africa on hearing that diamonds had been found in Namaqualand. His spectacular opening up of the rich diamondiferous terraces of Alexander



The location of the Merensky Reef, part of the Bushveld Igneous Complex, is shown in red. It has been traced on outcrop some 75 to 80 miles along each of its eastern and western limbs.



The platinum-bearing Merensky reef averages only some twenty inches in thickness. This photograph, taken some 2,000 feet below the surface, clearly shows the reef, with a miner drilling holes in the stope face for blasting.

Bay again showed his geological insight, but in 1929, and for the next seven years, he abandoned prospecting and lived quietly in Johannesburg and on several country properties he had bought, making a number of trips to Germany during this period. Then he as suddenly returned to his profession, taking an interest in the Orange Free State, where he believed rich gold reefs existed, in chromium and in vermiculite, and finally in the great phosphate deposit at Phalaborwa.

In his latter years Merensky received honours and awards from many sources—honorary doctorates from the Universities of Pretoria and Stellenbosch, and from the Technical High School of Charlottenburg. The highest award in their gift, the Draper Memorial Medal, was awarded to him in 1948 by the Geological Society of South Africa.

On October 21st, 1952, he died suddenly at his home, Westfalia, near Duivelskloof in the Northern Transvaal, aged 81.

Much has been written about Merensky, and many tributes have been paid to him. Perhaps the most appropriate to be quoted here is that from his old friend Dr Percy Wagner, for many years the Government Mining Geologist, who wrote in the preface of his book "The Platinum Deposits and Mines of South Africa":

"The story of the opening up of these deposits—which transcend in magnitude and importance anything that had hitherto been dreamt of in the way of platinum occurrences—has often been told, but the writer feels that sufficient credit has never been given to Dr Hans Merensky for the part that he played in this epic of mineral exploration."

His memory is also perpetuated in the many charitable and educational enterprises that he established by the foundation of the Hans Merensky Trust, to which he bequeathed his fortune.

L. B. H.