

## Northern Rhodesia and the AOC (Aircraft Operating Company)

by Mitch Stirling

Urban legend has it (perhaps it should be called 'rural' legend) that the Roan Antelope Mine was so-named when mining prospector, William Collier, accidentally discovered a surface copper deposit during a hunting expedition in 1902 when he shot a roan antelope on the site of this rich reef.

By the 1920's world demand for copper encouraged airborne survey teams to search for more of this 'red gold'. For centuries, even before the slave trade decimated the area, the local people had mined copper and traded ingots as a local currency, so the landscape was scarred with their old workings. The relatively new science of photogrammetry was introduced to plot these ancient mine workings as they were very useful pointers to bigger deposits of minerals beneath the surface of the earth. Vegetation too was used as an indicator of mineral wealth underground. So, thousands of square miles were photographed from the air, then the photos were processed and mosaiked in a laboratory for examination by geologists and agronomists. It was a unique and ambitious venture in those early days of Northern Rhodesia because everything in the high-tech business of photogrammetry had to be done on site, in remote locations in the bush. Also all the equipment had to be transported to the site by road and rail, even the disassembled aircraft in knocked-down kits. Where roads did not exist they had to be made!



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**Figure 1. Cochran-Patrick in middle and Roxburgh-Smith on his left.**

Major WJCK Cockran-Patrick DSO MC (Bar) a First World War flying ace, led the Rhodesian Expedition of the Aircraft Operating Company, as it was called, assisted by fellow-pilot Captain Benjamin Roxburgh-Smith DFC and Bar, with Watts, Millyard, Corse, Baron and Best acting as

their technical support team. All was very military and professional - the results, quite remarkable. The Bulawayo Chronicle of May 1927 reported: "At Nchanga, in the wilds of the Rhodesia/Congo border, is situated one of the most efficiently-equipped scientific institutions in the world... working with the most advanced apparatus of its kind... with beautifully equipped work shops."

Cockran-Patrick had previous experience of aerial survey in Burma and South America. Roxburgh-Smith, another fighter ace from the Royal Flying Corps, held the first South African commercial pilot's licence - issued at Roberts Heights, Pretoria - so the two AOC pilots were highly experienced aviators. Two wartime DH9's were used as the first photo-platforms and work began. But, as things turned out, the operation of two old flying machines over largely unknown territory was not without some interesting mishaps.

"I had been flying back to base at Nchanga from Solwezi," Roxburgh-Smith relates, "having taken films to be developed, and was returning with sundry stores and equipment and I was almost in sight of destination when the engine started showing signs of distress. The water temperature indicator showed an abnormal reading and almost at once the temperature of the oil indicated that something serious had happened. I throttled back... and the engine stopped. I was within reach of four dambos, three of which looked very rough, but the fourth appeared to be all right... and I brought the machine down without any damage. I had stores in the aircraft; I was not short of food and there was a mosquito net, a galvanized bath tub and a hurricane lamp. It rained that night, but I was able to protect myself by inverting the bath over the cockpit and, by placing the mosquito net over the bath, I kept the insects at bay."



Figure 2 DH9

Twenty four hours later an African appeared out of the bush. From him Roxy ascertained that he was about 30 miles south of the copper mine known as Kansanshi and as there were no signs of a search for him from the sky, he decided to walk out. Throughout the night he marched with his new companion and at about 08:30 the next morning they reached the mine where he managed to repair a broken fan belt on the only available vehicle (he used a piece of ox hide) and set off

for Solwezi, a distance of another 14 miles. There he discovered that a search was in progress for him. He was able to contact Cochran-Patrick and direct him, with an engineer, to the site of the forced-landing. It was discovered that a water hose clip had broken and the engine had overheated and seized. Spares were flown in, repairs carried out in the field, Roxy returned, flew it out... and it was business as usual again. Such were the powers of improvisation and self-determination in those early days.

A short while later... down he went again with engine failure into the bush, this time hitting an ant heap and damaging the wing and undercarriage badly. On this occasion there was a geologist on board with him and together they trekked for three days to reach the nearest habitation, Kasempa, about 70 miles away. The wrecked DH9 was eventually found, dismantled and salvaged piece by piece from the crash site and carried by porters back to civilization. Only the African women could be persuaded to act as carriers as the big equatorial rains had set in and the villagers were busy planting their fields. From Kasempa, a lorry was used to drive through the mud to a very merry Christmas Eve in Nchanga 1927!



Some months later a replacement DH9 arrived on the scene and another pilot - Captain James Douglas Mail AFC. One of the machines was converted to a float plane to fulfil a survey

**Figure 3 Gloster AS 31**

contract on the Upper Zambezi river. And in 1929 the first twin-engined aircraft to operate from a base in Central Africa arrived - a customized Gloster AS 31 with three Williamson Eagle air cameras. One camera took vertical photographs, while the others took oblique shots simultaneously to left and right. In 1930 the AOC fleet, operating from bases at Broken Hill, Ndola, and Kasempa, covered some 40 000 miles of Northern Rhodesia territory with over 20 000 aerial photographs. At this time Cockran-Patrick was chief pilot with Mail, Bourne, and Trace on his team. Commendably the only untoward incident to occur on this entire operation was when one of the crew, geologist Humphrey Mullins, was clawed by an angry leopard at Kasempa and had to be flown to Broken Hill for treatment.

At the completion of this successful contract the Rhodesian Expedition of the Aircraft Operating Company came to an end; the aircraft were sold to the South African Air Force and the group disbanded. Of the two original pilots, Roxburgh-Smith went on to become the Aerodrome Superintendent, Belvedere. He died in Rome in 1951. Cockran-Patrick was killed in 1933 when the DH 84 Dragon he was flying crashed at Baragwanath airfield, Johannesburg.

Adapted from the book 'Served Africa with Wings' by Mitch Stirling and John House.

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