Airborne magnetics time line to 1955 (3 pages)

From Doug Morrison 7.11.21

With some scintillometer measurements where combined with magnetics.

1945 Apr-July. Australian government geoscientists Dr Harold Raggatt and Jack M Rayner visit and inspect United States and Canadian government geological organisations including inspecting survey types and recent developments. Rayner visited the field interpretation work of the just flown pioneering aeromagnetic survey in Oswegatchie, New York then being carried out onsite by Herbert Hawkes (USGS) and Prof Arthur 'Bud' Buddington (Princeton Univ).

1946 3 Sep: Gulf Research and Victor Vacquier are granted a US patent for the airborne magnetometer.

1946 12 Sep. Australian CSIR Division of Physics chief Dr George H. Briggs and computer pioneer Maston Beard attend the first demonstration of USGS aeromag survey aircraft and its AN/ASQ-3 magnetometer system at Ottawa Canada for both Canadian government and industry representatives.

1946 1 Oct: The Australian CSIR Division of Radiophysics, through diplomatic circles, ask the UK Ministry of Supply about availability of wartime airborne magnetometers held in the UK.

1949 Feb–Mar. Oscar Weiss's DC-3 G-AIRH commences aeromagnetic survey for The Zinc Corporation from Broken Hill, initially with long reconnaissance lines in NSW and South Australia then a survey area centred on Broken Hill flown at two altitudes.

1949 mid Apr: Oscar Weiss's DC-3 G-AIRH is moved to Whyalla, South Australia, whence it flies aeromagnetics for BHP over known iron ore deposits in the Middleback Ranges.

1949 Apr–May: Oscar Weiss's DC-3 G-AIRH carries out an aeromagnetic survey for WMC centred on the town of Southern Cross in Western Australia, extending from north of Bullfinch mine to south of Marvel Loch mine.

1949 May–June: Oscar Weiss's DC-3 flies detailed aeromagnetic work near Cobar, NSW, before an aeromagnetic survey of mainly the onshore Otway basin (South Australia – Victoria), with some offshore traverses. The first petroleum or basin study aeromagnetic survey flown in Australia

1950. Following the delivery of two AN/ASQ-1 anti-submarine magnetometers ordered by Jack Rayner of the BMR, modifications to survey configuration commenced under the supervision of John Newman and Ted McCarthy.

1951 21 July: Following tests the first aeromagnetic survey by the BMR commences over an onshore portion of East Gippsland, Victoria in the DC-3 VH-BUR using the modified AN/ASQ-1 magnetometer. BMR Project No. 101. Approximately 4800 kms flown.

1951 November. BMR's VH-BUR flies an aeromagnetic survey over portion of the Eyre Peninsula, South Australia. BMR Project No. 102. 6080 kms flown.

1952 February. BMR's VH-BUR flies an aeromagnetic survey on the Yorke Peninsula, South Australia. BMR Project No. 106. 4320 kms.

1952 Aug-Oct. BMR's DC-3 VH-BUR flies an aeromagnetic (and scintillometer – the first of its type by the BMR) survey in the Darwin, Katherine and Rum Jungle areas NT. BMR Project No. 103. 8640 kms. The main survey aircraft was accompanied by two Austers carrying scintillometers for follow-up work. **[actual details on systems on Austers not pursued by Doug]**

1952 Nov-Dec. BMR's VH-BUR flies an aeromagnetic (and scintillometer) survey in the Radium Hill area, South Australia. BMR Project No. 105. 11,264 kms.

1953 Jan-Feb. BMR's VH-BUR flies an aeromagnetic survey on Eyre Peninsula, South Australia. BMR Project No. 109. 9840 kms.

1953 Jan-Mar. Hunting Geophysics Limited of UK and their associated Canadian company Aeromagnetic Surveys Limited's Canso A amphibian (PBY-5A equivalent) CF-GKI flies a series of aeromagnetic reconnaissance traverses in Queensland waters across Torres Strait to Cape York and to remote coral reefs as part of an extensive aeromagnetic survey flown for Australian Petroleum Company in Papua. The survey was mostly flown from a remote base on the Kikori River. CF-GKI flew off the water. The magnetometer was a Hunting/PSC fluxgate. Approx 24,000 kms, mostly in Papua.
1953 June-Oct BMR's VH-BUR flies an aeromagnetic (and scintillometer) survey in the Darwin and Katherine area NT. BMR Project No. 108. 5072 kms.
1954 May.BMR's VH-BUR flies an aeromagnetic survey in the Eucla Basin, South Australia. BMR Project No. 114. 8088 kms.
1954 July-Sep. BMR's VH-BUR flies an aeromagnetic survey in the Canning Basin, WA. BMR Project No. 112. Approx 500 kms.
1954 Sep-Nov. BMR's VH-BUR flies an aeromagnetic (and scintillometer) survey in the Darwin, Katherine, Anson Bay areas NT. BMR Project No. 113. 20,290 kms.
1954 Nov. BMR's VH-BUR flies an aeromagnetic (and scintillometer) survey in the Georgetown area of Queensland. BMR Project No. 115. 6960 kms.
1954 Dec. Adastra Hunting Geophysics's Percival Prince G-AMLW flies an aeromagnetic test survey near the western edge of Sydney NSW for AOG using a Hunting/PSC fluxgate magnetometer. The first aeromagnetic survey flown by Adastra Hunting in Australia. Part of BMR Project No. 117, A second survey for AOG over a larger portion of the Sydney Basin was flown June 1955 (see following).
1955 February. Adastra Hunting Geophysics's Percival Prince G-AMLW flies an aeromagnetic survey over the lower part of Yorke Peninsula SA for the Department of Mines South Australia using a Hunting/PSC fluxgate mag.
1955 (early). Adastra Hunting Geophysics's Percival Prince G-AMLW flies an aeromagnetic survey in the Olary, Chowilla areas SA for the Department of Mines South Australia using a Hunting/PSC mag. BMR Project No. 120. 9600 kms. **[The sequence of these early Adastra surveys NEEDS to be settled. There may be some duplication here]**
1955 (sometime) Adastra Hunting Geophysics's Percival Prince G-AMLW flies an aeromagnetic survey in the Kimba-Lincoln SA for Mines Dept South Australia using a Hunting/PSC mag. BMR Project No. 122. 3750 kms. **[The sequence not settled]**
1955 (sometime) Adastra Hunting Geophysics's Percival Prince G-AMLW flies an aeromagnetic survey in the Pinnaroo-Naracoorte areas South Australia for Murray Basin Oil Syndicate using a Hunting/PSC fluxgate. BMR Project No. 130. 3125 kms. **[The sequence not settled].**
1955 (sometime) Adastra Hunting Geophysics's Percival Prince G-AMLW flies an aeromagnetic survey in the Naracoorte-Penola areas South Australia for the Mines Dept South Australia using a Hunting/PSC fluxgate mag. BMR Project No. 173. Approx 16,000 kms. **[The sequence not settled, possible duplication in this listing?? Information on these early surveys coming from different sources (BMR and SA Mines Dept)]**
1955 Apr-Jul BMR's VH-BUR flies an aeromagnetic (and scintillometer) survey in the Muldiva Crk, Moyle River areas NT. BMR Project No. 127. 5200 kms.
1955 Apr-Aug. BMR's VH-BUR flies an aeromagnetic (and scintillometer) survey in the Mundogie Hill area NT. BMR Project No. 128. 5280 kms. **[the date range on some of these BMR surveys overlap and this means there are issues – reflights may be the reason such overlap exists. Not settled]**
[1955** Apr-Aug. Indexes show that the BMR's second DC-3 VH-MIN flies a scintillometer survey in the Wodgina-Marble Bar, Pilbara WA. BMR Project No. 144. 22,272 kms. **The indexes do not show mag was flown on this somewhat large survey. I am surprised at**

this and as a result it would require confirmation there was or was not magnetics flown on this survey]
1955 3-10 May World Wide Aerial Surveys (Aero Service Corporation and Fairchild Aerial Surveys joint venture operated by Sepal Pty Ltd in Australia) De Havilland Mosquito N1597V flies aeromagnetic tests from Camden NSW.
1955 May-Aug. World Wide Aerial Surveys (joint venture ops Aero Service Corporation and Fairchild Aerial Surveys operated in Australia by Sepal Pty Ltd) using Aero and Sepal personnel have the Mosquito N1597V fly an aeromagnetic survey in the desert onshore part of the Canning Basin for WAPET. Considered as an Aero Service Corp survey and their first in Australia. Using Gulf Mk III magnetometer. Approx 9600 kms. Infilled later in 1962 by DC-3 VH-MJR. **[Doug worked on planning the second survey and assited in the compilation of the combined surveys]**
1955 May-June. Adastra Hunting Geophysics's Percival Prince G-AMLW flies a regional aeromag survey using a Hunting/PSC fluxgate mag of the Sydney basin for AOG (extending from south of Wollongong to north of Newcastle and inland to longitude 150 degrees East or so i.e., over the Blue Mountains. Some offshore extension between Wollongong and Sydney.
1955 June. Adastra Hunting Geophysics's Percival Prince G-AMLW flies a regional aeromagnetic survey of the Clarence Basin in northern NSW for AOG.
1955 4-9 Sep World Wide Aerial Surveys (Aero Service Corporation and Sepal crew) in Mosquito N1597V flies aeromag reconnaissance and tests over the Perth Basin WA. **[it is possible this flying was for WAPET – needs confirmation]**
1955 Oct. BMR's VH-BUR flies an aeromagnetic survey in the Hampshire-Blythe River areas, Tasmania. BMR Project No. 145. Approx 8000 kms.
1955 Oct-Dec. BMR's VH-BUR flies an aeromagnetic survey on the Eyre Peninsula SA. BMR Project No 123. 9816 kms.