Arthur Raymond Riddle was born on 24 July 1888 and spent his early life in Yorketown, South Australia. As a young man he displayed considerable scientific aptitude and was the recipient of several photographic prizes during the period 1905-08. (1) In 1913 he entered the University of Adelaide but was compelled to leave in 1915 after enlisting in the A.I.F. (2) Between 1916 and 1921 he served as radiographer and physicist with the X-ray Department of Keswick Military Hospital. (3) Following his discharge in 1921 he embarked for the United States where he held an appointment as instructor in physics at Cornell University until 1927. (4) During his stay at Cornell, Riddle's scientific direction turned to ultra-violet spectrography and the biological consequences of radiation exposure. Between 1927 and 1930 he held the position of biophysicist at the Hegeman Memorial Research Laboratory where he investigated the effects of irradiation on tuberculosis. (5) Convinced of the need for further post graduate research into biophysics, he returned to Cornell in 1930 and was granted a Masters Degree in science two years later. (6) In 1933 he returned to Australia and was appointed jointly by the Council for Scientific and Industrial Research and Queensland Meat Industry Board to research into the effect of various radiations on the viability of microorganisms in beef and physical conditions of beef during chilling. (7) As an employee of C.S.I.R.O. he achieved the rank of Senior Research Officer before his retirement in 1953. (8) In November 1967 he died aged 79. (9)

Correspondence and papers relating to the military career of A.R. Riddle. 1916-1922. 1cm. (118 items). 
[Arrangement is chronological. Includes occupying the position of radiographer to the 4th Military Hospital, Keswick. There are numerous technical reports on X-ray equipment operated by Riddle, annual reports on work performed by the X-ray Dept., copies of official letters concerning Riddle's military career (eg. recruitment, leave and demobilisation) and estimates of departmental expenditure on machinery and photographic equipment.]

Diaries. 1912-1931. 26cm. (12 vols.) [Arrangement is chronological. Series consists mainly of descriptions of photographic techniques employed by Riddle and comments on the conduct of undergraduate science courses at the University of Adelaide and Cornell University. There are numerous assessments of contemporary university figures in the United States and superficial accounts of controversies in contemporary physics at Cornell eg. Schrodinger's wave theory, relativity and valence electron theory. Volume one of the diaries contains notes on the botany, geology and zoology of the Blinman region of the Flinders Ranges. Volume two describes Riddle's departure from Adelaide and voyage to the United States. All subsequent volumes relate to Riddle's period in the United States.]
Thesis entitled "Some Geological Considerations on the Sturt-Blair-Mitcham Section."
1914. 12 pages.
[Series consists of an essay submitted by A.R. Riddle in fulfilment of the requirements for Geology Part 1 at Adelaide University.]

Miscellaneous financial papers
1916-1926. 2 cm. 85 items
[Includes taxation assessments and receipts for services and goods received.]

Field books.
1909-1920. 1 cm. 2 volumes.
[Arrangement is chronological. Series contains accounts of field trips undertaken by Riddle in the Mt. Barker, Eden Hills, Sturt River, Pt. Riley and Yorketown areas. Narrative describes botanical, geological and other features of the landscape. There are numerous tables of distances and bearing. Script is in ink mostly with some pencil.]

Newspaper clippings.
1924-1968. 0.3 cm. 6 items.
[Arrangement is chronological. Includes an obituary from the Advertiser of 25 Sept. 1968 on the life of A.R. Riddle.]

Printed Matter.
1924-1930. 2.3 cm. 47 items. (19 items)
[Arrangement is chronological. Includes a proof copy of an article by A.R. Riddle entitled 'The Ultraviolet Limit in sunlight: with some biological considerations relative thereto,' which appeared in The American Review of Tuberculosis vol. xxi, no.2, Feb.1930 Also contains a poster entitled 'The Weber and Rice System of Physical Culture, Breathing, Massage, and Will power exercises as taught in the Shorthose and Herbert Physical Culture Institute. (Adelaide) n.d.]

Maps and Plans.
1891-1917. 19 items.
[Some items were annotated by Riddle during excursions in South Australia. They are of four types: general purpose cadastral, pastoral plans, maps of counties and hundreds and Royal Geographical Society of Australasia, South Australian Branch sponsored reprints of historically important maps eg. Baudin's and Flinder's. Annotations refer to geological and geographical features of the landscape. Script is entirely in pencil. See Special list.]

Graphs and Diagrams.
1902-1928, nd. 13 items.
[Series consists of graphs compiled by A.R. Riddle recording measurements of U.V. radiation intensity, diagrams of X-ray apparatus and printed graphs produced by the South Australian Department of Mines showing mineral production. See special list.]
Lantern slides.  
n.d. 1 box. 115 items. ACCESS ONLY BY ARRANGEMENT.  
[Series consists of glass positives most of which are unidentified.  
Known subjects include the Onkaparinga Valley, Torrens River,  
Noarlunga, Sturt and Broughton rivers, salt extraction, Moolooloo,  
Aborigines of the Yorke Peninsula and various seal colonies.]  

Hardcover photographic albums.  
1905-1921. 21 cm. 5 volumes.  
[Contains prints of South Australian subjects including Adelaide,  
Yorke Peninsula, Flinders Ranges, Kangaroo Island and Clare.  
Most are landscapes with particular emphasis on coastlines. Some  
examples reflect Riddle’s interest in entomology, conchology and  
still lifes. Portrait material includes a depiction of G. Riddle seated  
in a White steam car dated 1912. Volume four contains numerous  
studies of X-ray equipment operated by Riddle during his period at  
Keswick Military Hospital. Volumes one and two contain studies of  
Yorketown aborigines. There are numerous studies of Yorketown  
itself. c.1905 and the salt industry of the Yorke Peninsula. Most  
items are not identified.]  

Stereoscopic photographs relating to Australia  
1912. 58 items  
[Includes numerous studies of the Yorke Peninsula, rainforest areas  
of Wilson’s Promontory, Lake Fowler gypsum deposits and South  
Australian coastal shipping. In most instances there are no  
annotations to indicate subjects.]  

Miscellaneous stereoscopic photographs.  
1900-1905. 46 items  
[Includes the work of commercial photographic companies concerning  
tourist attractions in Europe, Canada, the United States, Asia and Africa.]  

Glass plate positives.  
n.d. 70 items ACCESS ONLY BY ARRANGEMENT.  
[Contains numerous scenes of coastal shipping, unidentified landscapes,  
graphs and tables of scientific data concerning U.V. determinations and  
other spectrographic subjects and unidentified portrait subjects.]  

Glass plate negatives.  
1905-1914. 147 items. ACCESS ONLY BY ARRANGEMENT.  
[Includes photographic material relating to spectroscopy, Riddle’s  
period in the United States, unidentified portraits, studies of coastal  
shipping (including the ships Ethel, Period and Wilyama) and  
depictions of the following areas: Mt. Gambier, Pt. Moorowie,  
Yorke Peninsula, Yorketown, Newbold, Edithburgh, Moolooloo,  
Pt. Turton, Blinman and Lake Fowler. In most instances there  
are no annotations to indicate subjects.]
Glass plate negatives relating to scientific research.  
1927-1929. 111 items. ACCESS ONLY BY ARRANGEMENT.  
[Arrangement is by subject. Most examples relate to Riddle's work on the incidence of U.V. radiation in sunlight under varying weather conditions. Also includes spectral analyses of various bio-medical subjects using mercury and carbon arcs. Each plate is identified.]

Photographic prints relating to scientific research.  
n.d. 347 items. ACCESS ONLY BY ARRANGEMENT.  
[Arrangement is by subject. Consists of spectrographs, photomicrographs, X-ray prints, photographic studies of clinical cases and the arrangement of scientific equipment.]

Portraits.  
1905-1917. 170 items.  
[Includes studies of Dorothy Riddle, staff and patients of Keswick Military Hospital, self portraits and numerous unidentified subjects.]

Landscapes.  
1912-1920. 370 items.  
[Includes photographic studies of the 'Hummocks', Kangaroo and Pearson Islands, Blackwood, Morialta Gorge, Torrens Gorge, Mitcham Quarries, Reef Hd., Cape Spencer, Encounter Bay and Clare region.]

Photomicrographs and prints of various entomological subjects.  
n.d. 31 items.  
[Includes award winning micrographs from the Southern Yorke Peninsula Agricultural Horticultural and Floral Society Annual Show of 1907. There are no annotations.]

Photographic prints relating to conchological subjects.  
n.d. 15 items.  
[No annotations.]

Photographic studies of various ships.  
n.d. 47 items.  
[Includes prints of the following steamships: Eurimbla, Beltana, Euro, Karatta and Juno. Also contains numerous unidentified vessels, two of which are sail types.]

Photographic studies of Yorketown and Yorke Peninsula.  
c.1912. 130 items.  
[Includes portrait studies of local aborigines, scenes illustrative of local industries eg. wheat farming and solar salt production, and views of the town itself.]
Miscellaneous photographic prints.  
1916-23. 285 items.  
[Includes wildlife and floral studies, depictions of unidentified buildings and houses, views of Keswick Military Hospital and photographic work relating to eclipse observations. Series also contains some portrait material relating to Riddle's stay in the United States. In most instances there are no annotations to indicate subject matter.]

Postcards received by A.R. Riddle.  
1916-1922. 36 items.  
[Arrangement is chronological. Most examples derive from the period spanning his military career and were sent by acquaintances serving in hospital abroad.]

Bookplates.  
n.d. 50 items.  
[Contains the work of Riddle and various commercial photographic companies. Most examples consist of photographic prints set in hard paper. There are no annotations.]

Biographical notes concerning the life of A.R. Riddle.  
1933-1968. 1 cm. (59 items)  
[Arrangement is chronological. Series consists of unpublished biographical notes. Item one is an autographed manuscript of unknown authorship. Items two to fifty nine are official C.S.I.R.O. documents drawn from the C.S.I.R.O. Published Papers - Author Index and C.S.I.R.O. Archives. (C.S.I.R.O. ref: series 3 items PH/RID/1, PH/RID/1A, PH/RID/1B)]