

ML04 182/1-96

Nos. 11 & 12

INSTITUTION OF ENGINEERS AUSTRALIA
SYDNEY DIVISION ENGINEERING HERITAGE COMMITTEE
ORAL HISTORY PROJECT

INTERVIEWEE: JAMES M ANTILL

No: IEA 11A

INTERVIEWER: RICHARD RAXWORTHY

DATE: 21 MAY 1995

NO OF TAPES: 2

- 0.5 Born: 10 June 1912, Artarmon
Taken to Melbourne as child by mother/ Move back to Sydney
Father: Stock and Station Agent/ worked in Martin Place.
Influence on JA. Religious upbringing/ Presbyterian. Church of England School.
- 2.5 Schooling - All Saints College, Bathurst. Likes and dislikes.
Leura Public School - first school. Lived in Blue Mountains, father travelled up on weekends. Short period at Katoomba High School and then a Melbourne high school followed by All Saints College, Bathurst.
Sporting interests at school. Headmaster of All Saints, L G H Watson/ his interest in tennis.
- 4.5 University of Sydney. Decision to undertake degree in Civil Engineering/ lifelong interest.
Lived at home in St Leonards while doing degree. Travel to university. Study habits.
- 6.5 Academic staff. Professor William A Miller, H J Vogen/ work in testing laboratories. Dr Bradfield/ occasional addresses.
- 8.0 Student Representative Council - Murray Gosper. Studies together in third year.
- 9.5 Projects in civil engineering in degree. Bridge design - no details. Thesis - details not recalled.
- 10.5 Measured drawings.

Professor William A Miller, H H Vogen, Dr Bradfield, Murray Gosper

- 11.5 Sydney Water Board. Started work August or September of graduation year, 1931.
- 12.0 Sydney Harbour Bridge. Walked across on day of opening. Nancy Atkinson.
- 12.5 First job at Water Board - setting out of Nepean Dam/ also in charge of concrete construction. No particular problems at Nepean. Aggregate for concrete brought in from South Coast.
- 14.0 Leave of absence for trip to England. Built dam in England while working for Sir Robert McAlpine & Sons. Located in Northamptonshire - Hollowell Reservoir/ an earth bank dam.
- 15.0 Method of construction of concrete dams built for Water Board - Cyclopean concrete. Size of stones. Built like a wall in sections, separate areas known as blocks/ joints 90 feet apart. Leakage - Nepean had a bad leak under right abutment/ grouted and sealed. Woronora - no leaks recalled. Gravity dams/ curved/ same as Bradfield told to use on the Burrinjuck.
- 17.5 Resident engineer at Nepean/ job was to make and place the concrete. Equipment - second hand equipment.
- 19.0 Bradfield. Visits to Nepean to 'look them over'. Resident engineer at Nepean, J H Pelly (JA's superior). JA responsible for dam wall, More the setting out.
- 20.0 Use of reinforcing steel in the parapet. Road sunk into crest of dam.
- 21.0 Talk of Nepean dam being under designed/ size of spillway increased. Burrinjuck overtopped. JA at Nepean at the time and went to view the water pouring over the wall.
- 22.0 Flood at Burrinjuck, 1925. Bradfield and Dare on committee/ description of Dare. Marion Dare (daughter) - never met/ son was a contemporary of JA.
- 24.0 England. Description of Hollowell Reservoir worked on by JA. Lesley Warne. Methods used. Equipment - first time JA saw a bulldozer, very crude, English design. Performance of dam, initial leaking.
- 28.5 Return to Australia. Woronora Dam. Resignation from Water Board.
- 29.0 END OF SIDE ONE

Dr Bradfield, J H Pelly, Dare, Lesley Warne

SIDE TWO

- 1.5 Resignation from Water Board c.1939.
 Working in South Australia for private company - supervised
 construction work on dam. [no details recalled from job]
- 5.5 Further job - details not recalled.

 Masters degree.
- 8.0 Snowy Mountains Scheme. Bill Hudson.
 Consulting to various contractors - description of job.
 Dispute with one of the contractors.
- 12.5 Dam construction. Cyclopean masonry - reasons for use.
 Bradfield story re cyclopean masonry [interviewer]
 Worked only in construction.
- 16.0 Reference to diary provided by interviewee, 1984.
- 16.5 University of Sydney. Lecturing position.
 University of NSW - Visiting Professor.
 NSW Institute of Technology.
- 23.0 Overseas consultancies.
 Short courses on construction at overseas universities.
 Specialist on construction methods.
 Changes in construction methods.
- 26.0 Bridges.

END OF SIDE TWO

Bill Hudson, Dr Bradfield

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SIDE 3, [TAPE 12]

- 2.0 Yang Yang Technological Institute. In demand for his technical knowledge. Introduced a technological syllabus in Engineering. Approached by Professor Chem to design course for Yang Yang.
- 6.0 Work methods. Supervision of designs/ getting a design built. Supervising the actual building.
- 8.5 Teaching methods. Taught principles/ 3-4 day course/ material used/ informal lectures/ general comments on note taking.
- 11.0 Cessation of work. Ceased working in his early to mid 70s.
- 12.0 Career as arbitrator. Initial interest. Involvement in 15 to 25 cases. No formal training.
- 13.0 Stroke. Effect.
- 14.5 Institution of Engineers. Involvement. Sydney Division. Sydney Division Engineering Heritage Committee. Pyrmont Bridge - Harry Trueman's work on the bridge for the monorail. Bradfield's involvement with Pyrmont Bridge c. 1900/ design of the abutments and substructure under Percy Allan [details supplied by interviewer]
Career as a trouble shooter.
- 18.5 Research on career of Robert Hickson. Approached by Institution. Paper published in the Royal Australian Historical Society Journal.
- 22.0 John Muirhead.
- 22.5 Stroke. Effect on memory.
- 24.5 Architectural profession. Little involvement.

Harry Trueman, Robert Hickson, Dr Bradfield

- 25.5 **Snowy Mountains Scheme.** Engineers who worked on the Snowy Mountains Scheme/ George Ficote. JA joined after the war/ Consulted on construction of the dams/ worked for the contractors/ called in to deal with problems. Superior - Bill Hudson. Also consulted on power stations and tunnels.
- 29.5 **Machinery used for tunnelling.** Demonstration by American inventor of tunnelling machine. JA's recommendations to contractor. JA asked to comment on safety precautions after a fatal accident.

END OF SIDE ONE

SIDE TWO

- 1.5 **Varieties of different work.** Building foundation problems. Steel bridges/ Construction of the original Hawkesbury road bridge/ halted by WWII.
- 4.5 **Bradfield.** Bradfield and the Hawkesbury Railway Bridge/ anecdote re one day's consulting work. Speech at the university.
Bill Bradfield. JA's acquaintance with. Work in airfield construction in England. Richmond Air Base/ choice of location/ involvement of Bradfield. [details supplied by interviewer].
- 8.0 **Sydney Water Board.** Woronora Dam - last project involved with.
- 10.0 **Senior engineers of the 1930s.** Keel, McTaggart. Hickson.

END OF SIDE TWO

END OF INTERVIEW

George Ficote, Bill Hudson, Dr Bradfield, Bill Bradfield