



W.E. (Ted) Slack who is in charge of the operation of this facility for NAE's Flight Research Laboratory anticipates that the Scanner / Analyser is destined to do many things other than analysing samples from spray operations.

"The Scanner / Analyser is capable of analysing well in excess of 1,000 frames per day and it is unlikely that forestry and agricultural researchers will require more than a small portion of this capability. Since the Scanner / Analyser is inherently capable of performing mensuration analysis on any sample which can be reproduced as a two-dimensional density distribution on 35 millimetre film, it is expected that it will be utilized in many areas of research other than spray technology. For example," says Mr. Slack, "it may be utilized to count and size voids in concrete samples for NRC's Division of Building Research; meteorologists have queried the possibility of automatically analysing radar pictures of storm clouds; and there would also appear to be many areas in medical, biological and metallurgical research where the Scanner / Analyser would be a useful tool."

Utilization of the Scanner / Analyser is gathering momentum. In 1973, NAE analysed aerial spray samples supplied from several sources as well as samples for an internal research project on the break-up of fluids on spinning discs being conducted by Dr. A.M. Drummond. H.N.C. Lyster, the flight research expert on data handling and analytical methods is writing a program to process samples for the Engine and Low Temperature Laboratories of NRC's Division of Mechanical Engineering.

Mrs. E. Sawatzky, who is a full time scanner-analyser operator points out that the versatility of this instrument is almost directly proportional to the number of analysis programs

A.M. Drummond examines the flow of dyed oil over a laboratory spinning disc atomizer. • M. A.M. Drummond examine l'écoulement d'une huile colorée sur un pulvérisateur à disque tournant.

available and that the accuracy of the Scanner / Analyser is directly related to the accuracy with which the configurations to be analysed can be reproduced on photographic film.

"Since we are measuring configurations which are barely visible to the eye, a considerable portion of my time to date has been devoted to experimenting with various microphotography techniques," she says.

NAE expects that in 1974 the Scanner / Analyser will be used as an analytical tool in many diverse research projects. It is expected that many spray operators will use the Scanner / Analyser as a cheap, accurate and convenient replacement for the manual method of analysing spray sample cards.

Mr. Slack believes that in the fields of forestry and agricultural spraying the Scanner / Analyser can be used to increase the effectiveness of any particular operation.

"Because of the time required to manually read spray sample cards, they are customarily used to confirm the success or failure of a particular operation. Using the Scanner / Analyser, it is possible to have a complete quantitative analysis of spray deposits 24 hours after the operation has been conducted. This would give the operator the opportunity to respray any areas which were inadequately covered. In other words," says Mr. Slack, "I believe that the Scanner / Analyser has potential as an 'on line' device to control spray operations rather than merely as an instrument to confirm the results of an operation." □ Arthur Mantell