

ployees, served as a soldiers' barracks in 1870 and as part of the asylum, housed female inmates in 1885-86.

. The Doctor's Office was built in 1885 as a dispensary for Dr. David Young, superintendent of the Manitoba Lunatic Asylum. It is the only original wooden structure on site.

. Other restored or reconstructed buildings include: The Big House – constructed in 1831 as residence for Governor Simpson. Portions of the building housed the 6th Regiment of Foot (1846-48); the 2nd Battalion Quebec Rifles in 1870-71 (sent to suppress the Red River Rebellion) and officers of the North-West Mounted Police (1873-74). An annex was added in the 1840s. The house is restored and furnished to 1852, when H.B. Co. Associate Governor Eden Colville and his wife were in residence. Furloft-Salesshop Building – Built in 1831 of local limestone and restored to 1865 as a salesshop (now display only), clerk's quarters, storage rooms for trade goods and produce and a fur loft. Museum Building – Reconstruction of the exterior of H.B. Co. retail store. Today, interior houses park administration offices and museum displays.

. From 1913 to 1963, the fort was used as a private golf and social club (Motor Country Club).

. In 1951, given to nation by Hudson's Bay Company and declared a National Historic Park.

. Present restoration began in 1964.

. During the past four years, the number of visitors has averaged 225,000 a year.

### Recycling of waste oil urged

Used lubricating oils are being burned as fuel by the St. Lawrence Cement Company of Mississauga, Ontario, as part of a study being made in co-oper-

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ation with the governments of Canada and Ontario.

In making this announcement, on May 16, federal Environment Minister Jack Davis said he hoped that the study would show that the cement industry could utilize used petroleum products without causing harmful air pollution.

"Since the industry is a large fuel-user, and since there is a cement kiln close to every major Canadian city, such a demonstration would be an important move toward conserving petroleum resources," the Minister said.

Preliminary reports suggest that waste oil could be burned as fuel while retaining 90 per cent of the heavy metals in the cement.

The Ontario Ministry of the Environment is monitoring emissions at the Mississauga plant for comparison with those produced during the experiment.

"We are encouraging industry first to re-refine used lubricating oil and secondly, if this is not feasible, to use it as a source of an industrial fuel so long as an air pollution problem is not created," said Mr. Davis.

Such a step would conserve future quantities of suitable base lube oil stock, which is now in short supply, and free more crude oil for energy needs.

According to the Minister, technology exists to re-refine used lubricating oils to equivalent properties of unused lubricating oil base stock. Such processes, he said, were now being carried on in other countries such as Germany, Italy and Australia on a commercial basis.

"Despite this," said Mr. Davis, "there is a stigma attached to re-refined oils which makes them difficult to market. This can only be removed if the major oil companies take an active part in encouraging the recycling of such oils."

### Research to save babies' lives

With the support of the Federal Government and the medical profession, Dr. Gordon W. Wood, a chemist at the University of Windsor, Ontario, is undertaking research to help save the lives of new-born babies – especially those born prematurely – who are unable to breathe properly.

If their lungs are not mature, they may well suffer from a form of respira-

tory lung distress called hyaline membrane disease.

A major problem facing the obstetrician in deciding whether or not to undertake a Caesarian operation to deliver a baby prematurely is in determining whether the unborn baby's lungs are mature enough, or whether the baby risks hyaline membrane disease.

The circumstances are often complicated further because the unborn child may have other problems that make the operation desirable. The doctor has to judge the best time to give the child the best survival chance; the better his information, the more accurate his judgment will be.

It is in this area – working toward a more accurate test of the unborn child's lung capacity – that Dr. Wood is working in co-operation with Dr. Gordon M. Jasey, chief of obstetrics at Grace Hospital, and, through him, with other obstetricians in Windsor.

An indicator of the baby's lung capacity is found in the chemical make-up of the amniotic fluid that surrounds the unborn child, which contains certain molecules called phospholipids that are crucial to the working of the lungs. Phospholipids are composed of a polar (water-like) portion and a non-polar (oil-like) portion. Their action in the lung is based on the fact that such "split-personality" molecules exert a major influence on the surfaces of the lung where oxygen is being taken up.

Until recently, the specific analysis of these molecules was not possible without their breaking down. However, the development of a recent technique – field desorption mass spectrometry – provides the opportunity.

Not long ago, the Department of Chemistry and Dr. Wood obtained the instrument needed to do this kind of analysis and he was given an operating grant of \$32,000 by the Health and Welfare Department of Canada to tackle this particular application.

Windsor obstetricians are arranging for the supply of samples, and, through Dr. Jasey, consultation on the results. Dr. Wood and Dr. Jasey do not expect the analysis to be a test in itself, as the technique is too complex for routine hospital work. What they do hope for is information that will lead to the development of a relatively simple hospital test to reduce the number of infant deaths from lung problems at birth.