The experimental data collected are summarized in Tables 4 to 6 and Appendix A. These data are represented graphically in Figures 1 to 8.

The results obtained in this study agree with those in previous sorbent studies. In general, synthetic sorbents exhibited greater initial capacities and reuse potential than the organic sorbents. In heavy oils, some sorbents showed a "priming" effect whereby higher oil capacities were obtained upon reuse than on initial use. Finally, decreasing hydrocarbon layer thickness resulted in an increase in water pickup.

A summary of the initial oil capacity and the reusability of each sorbent is found in Table 4. The potential reuse has been classified as:

· N/A - not applicable or not reusable;

· LOW - I to 2 reuses;

· MEDIUM - 3 to 4 reuses; and

· HIGH - 5 or more reuses.

The results are discussed in further detail in Sections 3.1 and 3.2. The thin-film test results are summarized in Table 5. Table 6 shows the sorbents exhibiting the highest water pickup during the reuse and thin-film tests. The 48-hour immersion results are presented in Table 7 and discussed in Section 3.3.

All organic sorbents were provided in loose forin, either contained or uncontained in manufacturer packaging. For the purposes of this study, the sorbent material was contained in improvised screen bags or in the package material provided by the manufacturer, when available. Sawdust and Foam "X" were tested uncontained, in loose form, and therefore could not be tested for reuse. The initial oil capacity and water pickup data for organic sorbents have been plotted in Figures 1 and 2.

Among the seven organic sorbents tested, wool exhibited the highest capacity and maximum reusability. Wool could be used for a maximum of ten reuses in cyclohexane and toluene, and five reuses in diesel, crude oil and Bunker C.

Two wood products, sawdust and CCD wood chips, were tested. Wood products adsorb the oil and therefore, sawdust exhibited much greater capacities than the wood chips due to its larger surface area. No reuse was possible with the sawdust, but the wood chips could be reused with cyclohexane. Several sizes of CCD wood chips were available. The smallest size was chosen for testing since it was better suited for renovering oil by pressing than were the larger chips.

As in previous studies, Oclansorb--a modified peat moss product--showed a higher capacity for toluene and diesel than for the other test liquids. Reuse was low with the lighter hydrocarbons and high with the heavier oils.

Alfob, a processed cellulosa fibre product, exhibited a higher capacity with Bunker C than with the other oils. However, reusability of this sorbent was low in all test liquids.

Cork showed highest initial capacities with toluene and diesel, and a low capacity with Bunker C. Reusability was medium to high in all test liquids.

Low absorbent capacities were obtained with clay and no reuse was possible. This product does not lend itself very well to pressing as a method of removing oil as it is not compressible. The clay sample sank almost immediately in diesel; therefor no data were recorded.