USED OIL
FACT SHEET

There are three constituents of motor oil:

1. **Base stock**, which is refined or re-refined petroleum. It composes 65%-70% of motor oil product; this is what most of us think motor oil is.

2. **Viscosity enhancer**, which is natural or synthetic rubber. It composes about 15% of the motor oil product. As oil heats, it thins out and is less able to lubricate; this is why viscosity enhancers are added. Rubber expands as it heats, making the oil more effective as an eingine/motor lubricant, and able to be effective over a broad range of temperatures, summer time through winter time, and through the temperature change experienced when moving from a "cold" to running motor.

3. **The additive package**, which contains anti-corrosion chemicals, antioxidants, chemicals to guard against water intrusion, and other chemicals to improve performance. It composes about 15% of the motor oil product and is remarkably similar across brands.

Blenders or **Oil Jobbers**, are medium size companies which use recipes (utilizing the three components listed above) to produce and package motor oil for companies such as Valvoline, Exxon, etc.

Re-Refining Process

First, contaminants, such as water and gasoline, must re removed. Then the three constituents are separated.

Viscosity enhancer or rubber, and short molecules from base stock, which are too short to function as lubricant, are collectively referred to as "heavy bottom". This material is sold to and utilized by the asphalt paving industry.

Remaining base stock is blended into new motor oil product. The recovered base stock or "secondary raw material", substitutes for virgin raw material in the blender's recipe.

Most of the chemicals of the "additive package", are used up during the life of the motor oil product. Small amounts, which may be separated out during the re-refining process, are recycled or disposed of as hazardous waste.