ASM Emission Tests:

A comparison of the emissions of automobiles with and without the **CerBond™** added to the engine lubricant Pennzoil 10W30 was performed using the acceleration simulation mode (ASM) emission test for the State of California. The test results, detailed in Table 2 below, provide the measured exhaust concentrations of hydrocarbons (HC), carbon monoxide (CO), and nitrogen oxide (NOx) gases, which are generally considered harmful. The data in the column entitled "Concentration without additive", comprise the results for the first test in which no additive was added to the engine lubricant (5 quarts of motor oil), and the data in the column entitled "Concentration with additive" comprises the results of a second test in which 2 ounces of the **CerBond™** were added to the engine lubricant to result in an overall concentration of **CerBond™** in the lubricant of approximately 1.16% by volume.

Table 2: **1996 GMC Yukon (133,321 miles)**

	Before **CerBond™**	After **CerBond™**	Total Reduction
Emission type	Concentration without treatment and engine speed at 2110 RPM	Concentration with treatment and engine speed at 2149 RPM	Reduction with treatment use
Hydrocarbon (HC)	68 ppm	3 ppm	**95.6%**
Carbon Monoxide (CO)	0.54%	0.04%	**92.6%**
Nitrogen Oxide (NOx)	377 ppm	107 ppm	**71.6%**

Table 3: **1995 BMW 325*i* (70,329 miles)**

	Before **CerBond™**	After **CerBond™**	Total Reduction
Emission type	Concentration without treatment and engine speed at 1960 RPM	Concentration with treatment and engine speed at 1935 RPM	Reduction with treatment use
Hydrocarbon (HC)	83 ppm	35 ppm	**57.8%**
Carbon Monoxide (CO)	0.1%	0.05%	**50.0%**
Nitrogen Oxide (NOx)	217 ppm	131 ppm	**39.6%**

Table 4: 2000 Jeep Grand Cherokee Laredo (27,845 miles)

	Before CerBond™	After CerBond™	Total Reduction
Emission type	Concentration without treatment and engine speed at 1451 RPM	Concentration with treatment and engine speed at 1440 RPM	Reduction with treatment use
Hydrocarbon (HC)	7 ppm	0 ppm	**100%**
Carbon Monoxide (CO)	0.04%	0.0%	**100%**
Nitrogen Oxide (NOx)	131 ppm	68 ppm	**48.1%**

Table 5: 1988 Dodge Caravan (123,767 miles)

	Before CerBond™	After CerBond™	Total Reduction
Emission type	Concentration without treatment and engine speed at 1717 RPM	Concentration with treatment and engine speed at 1871 RPM	Reduction with treatment use
Hydrocarbon (HC)	931 ppm	82 ppm	**91.2%**
Carbon Monoxide (CO)	1.2%	0.17%	**85.8%**
Nitrogen Oxide (NOx)	319 ppm	370 ppm	**-16.0%**

These test results demonstrate that use of the **CerBond™** significantly reduced the concentration of hydrocarbons and carbon monoxide in each case, and significantly reduced the NOx emissions in all but one of the applications. These results support the conclusion that use of the **CerBond™** oil treatment improves engine efficiency (*i.e.*, provides more-thorough combustion of the fuel in the engine), which thereby reduces emissions of hydrocarbons, carbon monoxide and NOx gases.