

### EXHIBIT III

#### DIAMOND TESTS

1. Hardness (diamond is No. 10 on Moh's hardness scale — nothing else can scratch it except another diamond).
2. X-ray diffraction pattern.
3. Density (3.5 grams per cubic centimeter).
4. Index of refraction (2.419 as compared to glass, which is 1.4 to 1.6, depending upon wavelength of light and composition of glass).
5. Chemical analysis (immersed in sulphur selenium mix). Burning in oxygen forms CO<sub>2</sub>.
6. Inertness to chemical attack at room temperature, including hydrofluoric acid.
7. Unique electrical and thermal characteristics in that diamonds are poor electrical conductors but good conductors of heat. Thermal conductivity is of the same order of magnitude as metals, 50 to 100 times higher than quartz or ordinary rocks, even better than iron or copper.

#### Moh's Hardness Scale

1. Talc	Trenton	
2. Gypsum	Girls	
3. Calcite	Can	
4. Fluorspar	Flirt	
5. Apatite	And	Memory
6. Orthoclase (feldspar)	Other	Crutch
7. Quartz	Queer	
8. Topaz	Things	
9. Corundum (sapphire)	Can	
10. Diamond	Do	

These minerals were selected because they are constant in hardness and represent logical steps from the softest to the hardest. However, the degree of difference between each does not correspond to the ratio of their numerical order.