Module B. Colour from the Cosmos

Lesson 11 - Processed Diamonds

*Clarity*

Clarity is a variable that is straight-forward and intuitive. It describes the internal and external imperfections of a stone. In fact, all diamonds are in some way flawed (imperfect); to be truly "flawless" is extremely rare. Flaws in a diamond are most commonly solid mineral inclusions, but blemishes can also include fluid-filled inclusions, clouds, feathers, or external features such as scratches, abrasions or burns. Many of these flaws are inherent in the stone and are present in the rough form as well. Diamond cutters will often sacrifice carat weight of a diamond by removing included sections of a rough diamond in order to improve clarity.

Clarity rankings range from I (included) to FL (flawless). The GIA has devised a clarity grading system which includes six main categories and further subdivisions. This six-tiered scale is meant to be used by trained gemologists using only a 10x power magnification loupe (a gemologist's magnifying lens). The reason for the specific "10x power magnification" requirement as a standard is that some sort of inclusion will eventually be detected in most (all?) stones if a high enough magnification is used. Thus, for classification purposes, it is only rational that simple tools are used, rather than an expensive laboratory equipment.

**GIA definitions for clarity grading:**

**Flawless** (FL): no blemishes or inclusions when examined by a skilled grader under 10X magnification.

**Internally Flawless** (IF): no inclusions when examined by a skilled grader, and only insignificant blemishes under 10X.

**Very Very Slightly Included** (VVS1 > VVS2): contains minute inclusions that are difficult for even a skilled grader to locate under 10X. VVS1: extremely difficult to see, visible only from the pavilion or small and shallow enough to be removed by minor repolishing. VVS2: very difficult to see.

**Very Slightly Included** (VS1 > VS2): contains minor inclusions ranging from difficult (VS1) to somewhat easy (VS2) for a trained grader to see under 10X.

**Slightly Included** (SI1 > SI2): contains noticeable inclusions which are easy (SI1) or very easy (SI2) to see under 10X. In some SIs, inclusions can be seen with the unaided eye.

**Included** (I1 > I2 > I3): contains inclusions which are obvious to a trained grader under 10X, can often be easily seen face-up with the unaided eye, seriously affects the stone's potential durability, or are so numerous that they affect transparency and brilliance.

To the consumer, inclusions tend to be viewed in a negative light. However, to gemologists and geoscientists, these inclusions can hold a wealth of information. Solid and fluid inclusions can provide information on the formation of diamonds in their stability zone and allude to their growing conditions. These inclusions can also provide evidence of the original source of the stone or proof that it is not synthetic or has not undergone certain treatments.