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To whom it may concern:

A MAGNIFICENT COLOURED DIAMOND
FANCY VIVID YELLOWISH ORANGE

WEIGHT	0.66 ct.
MEASUREMENTS	5.33 x 4.36 x 3.02 mm
SHAPE	rectangle-octagon
CUTTING	modified brilliant
COMMON NAME	pumpkin
HUE	yellowish orange (y-O)
COLOR ORIGIN	Natural

INTRODUCTION

The 0.66 carat Fancy Vivid yellowish orange diamond described herein, is a magnificent and beautiful coloured diamond. It is notable for its distinctive yellowish orange hue, its vivid saturation, and for the well-made rectangle-octagon shape, modified brilliant cut facet design.

> *"... Of the other colors in which the diamond occurs, orange... is nevertheless very beautiful..."*
>
> W.R. Cattelle
> *The Diamond*
> 1911

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This gem is a desirable collector's item on account of the unique position that the inherent body colour occupies within 3-dimensional colour space (i.e., an extremely saturated orange diamond), and the superb job the cutter did to get the most saturated orange colour into the face-up, by making a so-called "radiant cut" diamond, and by choosing the exact placement and relative size for each facet.

This is the type of orange diamond that belongs in any serious coloured diamond collection (e.g., Bronstein 2000; Hofer 1998, page 31, No. 43; and page 331 Fig. 9.113). An orange diamond of this character will surely add depth, diversity, and stunning beauty to any collection of fancy colour diamonds, and/or greatly enhance a selection of orange diamonds within an existing coloured diamond collection.

> *"... Collectors lucky enough to own the occasional orange stone... know they possess one of the world's rarest diamond treasures..."*
>
> D. Federman
> *Orange Diamonds: Role Model for Rarity*
> 1991

GENERAL COLOUR DESCRIPTION

The diamond listed above can be described as a yellowish orange (y-O) hue, with a vivid (i.e., highly saturated) tone. Diamonds with this colour are often graded as *Fancy Vivid yellowish orange* or *Fancy Vivid orange* (see GIA-GTL report dated Aug. 06, 2004).

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Fancy Vivid yellowish orange diamonds are also described in the historic diamond literature and in the trade (verbally) with various common colour names such as; *amber orange, autumn orange, cantaloupe orange, flame orange, mandarin orange, marigold orange, pumpkin orange* or *sunrise orange* (see Hofer 1998).

This use of common colour names provides a simple and less formal way of describing so-called "vivid" yellowish orange and "pure" orange diamonds among connoisseurs and collectors.

For example, *"cantaloupe orange"* refers to the average colour associated with a ripe slice from the interior (i.e., fleshy) portion of a cantaloupe melon (*Cucumis melo cantaloupensis*). Whereas, *"marigold orange"* denotes a range of bright and deep yellow-orange colours resembling the flower *(Calendula officinalis)*, an annual garden plant.

The name *"autumn orange"* refers to the characteristic orange colours associated with autumn foliage, a mixture of brown and yellow with orange. The name *"flame orange"* refers to the bright/vivid yellowish orange colour seen when one looks at the flame of a wood burning fire. And the name *"mandarin orange"* refers to the skin of a ripe mandarin orange (*Citrus nobilis*), a highly saturated orange colour.

> ***"... a brownish orange stone, reminiscent of peak-color autumn foliage, that is among the most beautiful diamonds we have seen..."***
>
> D. Federman
> *Orange Diamonds: Role Model for Rarity*
> 1991

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In this case, I chose the name *"pumpkin orange"* to describe this rare diamond, because this diamond's vivid yellowish orange hue looks somewhat like the colour of the outer rind (skin) of the large fruit of the pumpkin vine *(Curcurbita pepo)*.

> ***"... the occasional orange stone whose hue truly conjures... pumpkin..."***
>
> D. Federman
> *Orange Diamonds: Role Model for Rarity*
> 1991

NATURAL ORANGE DIAMONDS

Natural orange variety diamonds have been admired for more than a century by collectors and diamond connoisseurs (Jacobs 1880; Streeter 1884). Their unique expression of orange colour encompasses many different tones, including pastel *"cantaloupe orange"* colours, bright *"flame orange"* colours, vivid *"pumpkin orange"* colours, through the deep *"autumn orange"* colours. (see Hofer 1998, page 331, Fig. 9.113)

According to diamond professionals, the finest orange stones have a colour that approaches the peel of a ripe (citrus) orange. Although, this is an unrealistic standard to compare the diamond against, because every natural orange diamond contains slight secondary colour modifier(s), frequently yellow and/or brown, infrequently red or pink (Hofer 1998).

> ***"... there was recently offered for sale at public auction... a specimen known as the Orange diamond... the stone seemed literally to shoot tongues of yellow fire from its facets... it was a round brilliant..."***
>
> G. Orpen
> *Stories About Famous Precious Stones*
> 1890

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"... beautiful deep orange diamonds..."

G.F.H. Smith
Gemstones
1949

The colour orange also has a distinguished literary history within the diamond industry, dating back to the seventeenth century, although most references to orange diamonds are from the nineteenth century.

For example, Harry Emanuel, in his book Diamonds and Precious Stones (1867), said that "diamonds are found in all colours and among these are the red and orange". Archibald Billing, in his book The Science of Gems, Jewels, Coins and Medals (1875), states that "diamonds are found in every colour of the rainbow: red, orange, yellow, green, blue, and black".

Of particular importance to the discussion of yellowish orange diamonds, are the statements published by Jacobs and Chatrain, in their book Monographie du Diamant (1880), who describe their observations on both yellow-orange and pure orange diamonds.

Also, Edwin Streeter, in his book The Great Diamonds of the World (1882), makes a clear distinction between ruby red diamonds and diamonds of "fire" (orange and yellowish orange) colour, and in Precious Stones and Gems (1884), Streeter mentions an "apricot-coloured" diamond that is described as "a mixture of peach and orange."

Wallis Cattelle, in his book *Precious Stones* (1903), lists orange as a colour variety, being separate and distinct from red, canary (yellow), and brown colours. Further, in his book *The Diamond* (1911), Cattelle speaks of "the orange diamond", in the same breath as apple-green and emerald green, as being "rare and desirable and very beautiful".

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> *"... of great interest to the members of the trade... gems of gold, orange, pistache green, and other hues, that were far from the color that is ordinarily credited to crystalline carbon."*
>
> A. Eknayan
> *A Rare Collection of Coloured Diamonds*
> 1904

For the connoisseur and collector of coloured diamonds, this 0.66 carat diamond is a beautiful and unique expression of colour which nature is capable of producing in crystalline carbon. In this case, we are seeing a unique member of the orange colour variety (i.e., Fancy Vivid yellowish orange).

HUE

When the (inherent) body colour of this diamond is measured with a Rennilson-Hale Gemstone Colorimeter, the hue plots within the orange colour region (i.e., it is an orange variety diamond). The colour measurement data also indicate that this orange diamond measures nearer to the yellowish orange region, rather than the pure orange region within 3-dimensional colour space, thus it is appropriate to define this gem as a yellowish orange (hue) diamond.

Deciding the difference between a vivid yellowish orange diamond and a vivid pure orange diamond is difficult, even for the skilled connoisseur or collector. If the collector relies solely on his/her colour memory for remembering orange diamonds seen in the past, they might find it difficult to agree with someone else, who has remembered a different set of criteria for visually judging yellowish orange from pure orange diamonds. This is why it is critical to rely on more rigorous (i.e., objective) methods involving colour comparison or colour measurement (Hofer 1998; King 1994).

Since the strength of the yellow (secondary) colour modifier may be difficult for most novice observers to estimate, the collector is advised to compare this diamond with other "known" (i.e., previously graded) orange diamonds in order to get a "visual feel" for the combination of yellow and orange in this rare gem diamond.

To the novice eye, this exquisite gem may appear pure orange colour at first glance. Yet, upon further examination under average daylight (6500K) illumination, and using visual comparisons with known orange colour samples, the subtle yellowish modifier will become recognizable. For the curious collector, it may be helpful to compare this diamond against a set of material colour standards (i.e., colour chips), especially a true pure orange colour chip. This will confirm that this stone is a unique yellowish orange hue, and visually distinguish it from a pure orange, its nearest neighbor within 3-D colour space (Hofer 1998; Munsell 1998).

LIGHTNESS

The measured (inherent) lightness plots within the light (Lt) L* = 65-75 category. This is somewhat unusual for an orange variety diamond, because the majority of orange diamonds exhibit inherent lightness within the light-medium (Lt-Md) through medium-dark (Md-Dk) lightness categories.

The fact that the inherent lightness of this diamond is in the "lighter" range of tones than the majority of orange diamonds, provides a clue for why the stone appears such a "bright" (i.e., vivid) yellowish orange colour in the face-up. If, for example, this diamond was darker (i.e., medium lightness), it might show a tinge of brownish in the face-up due to the effect of the rectangle-octagon shape and modified brilliant cut (i.e., Fancy Deep yellowish orange).

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Because the inherent lightness of this stone is slightly lighter than many orange variety diamonds, it allows the true brightness of the orange colour to show itself in the face-up direction, especially the colour under the table facet, which looks very bright and highly saturated (i.e., a vivid yellowish orange) colour, referred to as a *"pumpkin orange"* in the diamond trade.

SATURATION

The saturation (i.e., strength of colour) plots within the strong-very strong (St-VSt) C* = 50-60 category, reaffirming this stone has an inherently "vivid" yellowish orange body colour.

Together, the lightness and saturation (i.e., tone) of this diamond verify this is a unique and rare collector's gem. As stated previously, the majority of orange diamonds do not occur at this lightness level, nor do they exhibit this level of saturation (strength), hence this is a true "vivid" grade diamond from a technical standpoint of measuring the inherent colour tone.

Collectors and coloured diamond connoisseurs refer to these light through medium (lightness) and strong through very strong (saturation), orange tones, as having "different flavors of orange" (i.e., exhibiting various bright/vivid colour tones in the face-up of a polished stone), that remind us of other highly saturated orange colours such as (orange) fruit, (orange) candy and/or (orange) vegetables that have distinctive "orange" taste and flavor.

Because this diamond is well-made (i.e., having a perfect combination of brilliance and strong colour in the face-up), it presents a magnificent spectacle of *"pumpkin orange"* reflections that can intrigue the eye of the casual admirer as well as challenge the eye of a connoisseur or collector.

FACE-UP COLOUR

When viewed in the face-up direction under average daylight (D65) illumination, the yellowish orange colour appears stronger and more concentrated in the face-up, especially towards the ends of the table facet.

This effect of seeing a stronger (i.e., more saturated) colour in certain areas of the face-up is known as a *geometry-induced colour*. In other words, the geometry of the "radiant-style" cut has induced a stronger (i.e., more saturated) yellowish orange colour in the face due to the behavior of light inside the stone.

For example, within the two "end" areas of the table facet, there are certain bright and/or vivid "pure" orange coloured facets that appear strong *"pumpkin orange"* or *"flame orange"* colour, similar to the tone and purity of orange colour seen in certain varieties of pumpkins, or among the flames of a wood burning fire.

In order to achieve this effect, the cutter needed to polish the diamond in such a manner so as to cause the majority of light rays inside the stone to reflect multiple times (i.e., multiple internal reflections), and travel a relatively long pathway inside the diamond. This was achieved quite well in this diamond by selecting a rectangle-octagon shape, with a modified brilliant cut with four pavilion main facets (i.e., a so-called "radiant-style" cut).

When we examine the face-up colour critically, we see that in certain facets (under the crown areas), where the light rays are traveling a relatively longer path inside the stone and exiting along our line of sight (i.e., *on-axis*), the colour hue appears bright yellowish orange (i.e., vivid yellowish orange).

In other areas of the face-up (under the table facet), where the light rays are traveling a relatively long distance and exiting at some angle away from our line of sight (i.e., *off-axis*), the saturation also appears much stronger than the inherent body colour, with a vivid yellowish orange (almost "pure" orange) appearance. It is in these areas (where the colour is concentrated) that the eye of the diamond grader is focused when he/she is grading the diamond for colour in the face-up direction (i.e., *characteristic colour*).

The final colour perceived in the face-up direction, which takes into account all the colours reflecting from all the facets (i.e., a mosaic composition) properly justifies this gem as having a vivid yellowish orange colour in the face-up.

For the connoisseur, this stone has reached its highest expression of colour in the face-up direction. The radiant cut with four pavilion main facets, has a positive effect on the face-up colour, creating stronger apparent orange reflections, especially under the table facet and towards the four corner areas.

The modern radiant-style cut with its four-fold symmetry on the pavilion also distributes the colour over the entire face-up, giving this gem a high degree of colour symmetry, and adding exceptional brilliance and scintillation.

The distribution, concentration, and balance of orange coloured reflections can only be appreciated and enjoyed by holding the gem and gently tilting it back and forth, enabling the viewer to see the unique pattern of vivid yellowish orange facets reflecting within a rectangle-octagon shaped outline.

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FLUORESCENCE

Another positive aspect of the face-up colour, is that the vivid yellowish orange colour appears brighter (i.e., lighter and more saturated) when this stone is viewed under average daylight illumination (6500K lamp), because of the strong fluorescence.

> *"... The color orange in diamond... combined with a strong fluorescence... is the orange equivalent of a fancy intense orange..."*
>
> H. Harris
> *Fancy Color Diamonds*
> 1994

In this stone, the strong yellow fluorescent colour combines with the inherent yellowish orange body colour, resulting in a beautiful and bright *"pumpkin orange"* coloured diamond in the face-up. Almost as if the rays of the sun were striking the outer rind of a pumpkin fruit, causing the orange hued gourd to appear an even brighter and more saturated orange colour at that moment.

Diamonds in which the fluorescent colour is additive (i.e., combined) along with the inherent body colour, are often referred to in the diamond trade as *"daylight stones"*. This is a reference to the stronger and brighter yellowish orange colour that is seen in daylight.

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Experienced coloured diamond connoisseurs and collectors (i.e., diamantaires) refer to such "super saturated" Fancy Vivid yellowish orange diamonds as having *"gem orange"* colour. Still others use a variety of common colour names to express their excitement for such an unusual amount of orange colour in a natural diamond, such as "super orange colour", or "vivid orange", or some other reference to the colour of the (orange) citrus fruit.

The apparent "vivid" colour strength in the face, places this stunning yellowish orange diamond in a class by itself, a rare, unique, one-of-a-kind natural orange diamond.

Sincerely,

FANCY COLOUR DIAMOND CONSULTANTS

Stephen Hofer
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Fancy Vivid Yellowish Orange

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