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To whom it may concern:

**A MAGNIFICENT COLOURED DIAMOND  
FANCY VIVID ORANGE**

**WEIGHT.....1.25 ct.**  
**MEASUREMENTS.....6.35 x 5.92 x 3.76 mm**  
**SHAPE.....cushion**  
**CUTTING.....modified brilliant**  
**COMMON NAME.....pumpkin**  
**HUE.....orange (O)**  
**COLOUR ORIGIN.....Natural**

**INTRODUCTION**

The 1.25 carat Fancy Vivid orange diamond listed herein, is an exceptionally rare natural coloured diamond and a unique and beautiful collector's item. It is notable for its distinctive orange hue, its very strong saturation, and the "vivid" colour tone.

This exquisite natural orange diamond has several appearance attributes (e.g., hue, lightness, saturation), that contribute to its importance as one of the world's exceptional coloured diamonds.

*"... 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

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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 (hue, lightness, saturation). In other words, it is an extremely saturated orange colour for this particular hue and lightness level, known in the diamond trade as a "vivid orange" colour grade (see GIA-GTL report No. 15728195, dated Feb. 21, 2007).

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 Figure 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.

*"... the orange tint is highly valued by  
collectors for its rarity..."*

G.F. Kunz  
*Diamonds at the Paris Exhibition*  
1889

#### **GENERAL COLOUR DESCRIPTION**

The diamond listed above can be described as an orange (O) hue, with a vivid (i.e., highly saturated and relatively bright) tone. Diamonds with this colour are often graded as Fancy Vivid orange or Fancy Vivid yellowish orange (see GIA-GTL report dated Feb. 21, 2006).

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

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

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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*).

***"... the occasional orange stone whose hue truly  
conjures... cantaloupe... a bonafide pinnacle of  
diamond beauty..."***

D. Federman  
*Orange Diamonds:  
Role Model For Rarity*  
1991

The name "*marigold orange*" denotes a range of bright and deep orange colours resembling the flower (*Calendula officinalis*), an annual garden plant. The name "*flame orange*" refers to the bright/vivid orange colour seen when one looks at the flame of a wood burning fire.

And the names "*citrus orange*" and "*mandarin orange*" refer to the outer skin of a ripe citrus orange (*Citrus aurantium*), or a mandarin orange (*Citrus nobilis*), both highly saturated orange colours. Whereas, the name "*autumn orange*" refers to the characteristic orange colours associated with autumn foliage, a mixture of brown and yellow with orange.

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

*"... the occasional orange stone whose hue  
truly conjures... pumpkin... There are just  
enough of these stones to nourish dreams of  
owning one. But reality nearly always falls  
short of fantasy..."*

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). And there are many different mixtures or "flavors" of orange in natural diamonds, on account of various modifying (i.e., secondary) colours mixed with the basic orange hue (e.g., yellow, brown, pink and red).

According to diamond professionals, the finest orange diamonds have a colour that approaches the peel of a ripe (citrus) orange. Although, objective colour measurements on a large number of natural orange diamonds indicate, that the so-called "*citrus orange*" colour is an unrealistic standard to compare the diamond against, simply because every natural orange diamond examined to date, does contain some slight secondary colour modifier(s), frequently yellow and/or brown, infrequently red or pink (Hofer 1998). Hence, the so-called "pure" orange diamond is possibly non-existent in nature (Hofer 1998, page 325).



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***"... a pure bright orange, also known as pumpkin  
or mandarin... are so rare that even informed industry  
writers liken a search for such a diamond to a quest  
for finding a pure red diamond..."***

S.C. Hofer  
*Collecting and Classifying  
Coloured Diamonds*  
1998

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 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 so-called "pure" orange diamonds (see photograph on page 6).

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"* (possibly yellow and orange, or pink and orange)?

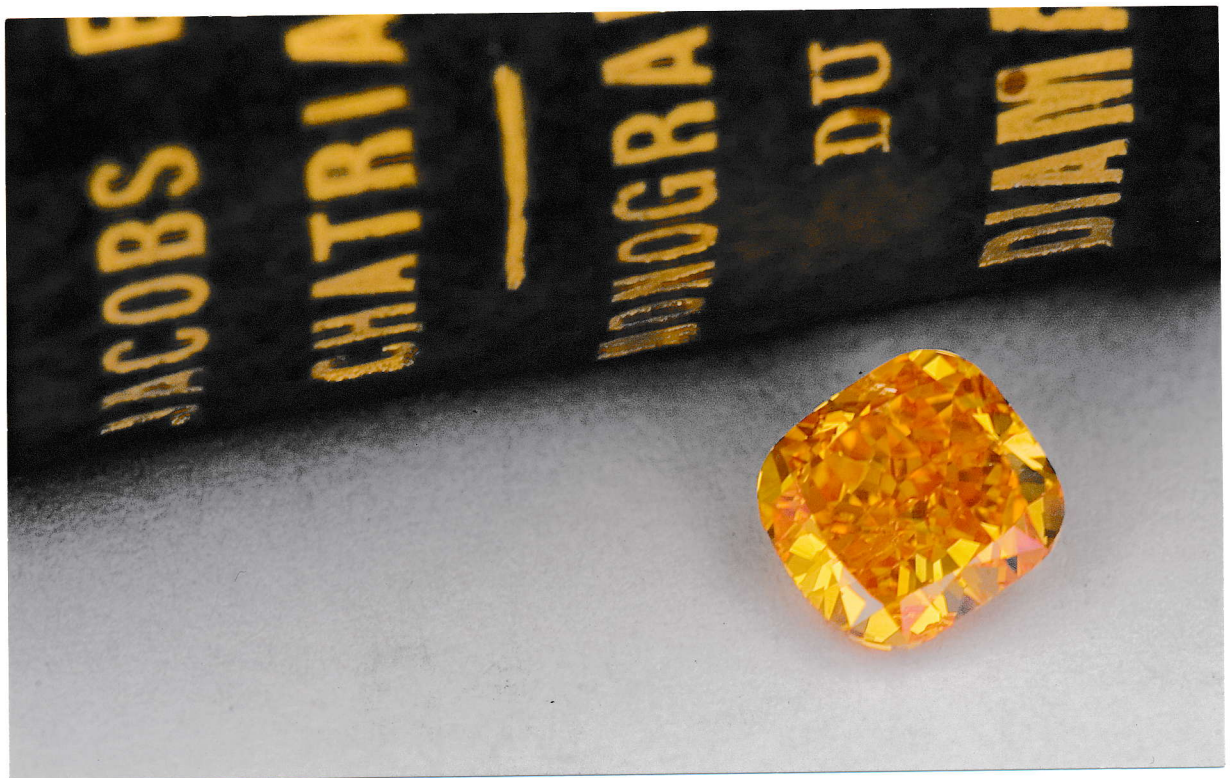
Wallis Cattelle, in his book Precious Stones (1903), lists orange as a colour variety, being separate and distinct from red, canary (yellow), and brown colours. Further, in his book The Diamond (1911), Cattelle speaks of *"the orange diamond"*, in the same breath as apple-green and emerald green, as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

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### **PHOTOGRAPH**

The 1.25 carat Fancy Vivid orange diamond resting next to a copy of Jacob and Chatrain's historically important book on diamonds, Monographie du Diamant (Jacobs 1880).

This is one of the few historical diamond books to discuss orange diamonds, and especially the so-called "pure" orange diamond, which the authors were familiar with through their research and observations.



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These same sentiments and observations -- regarding the beauty and rarity of orange diamonds -- have been recorded by various diamond authors and diamond collectors over the past one hundred years (Eknayan 1904).

*"... of great interest to the members of the diamond 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 1.25 carat diamond is a beautiful and unique expression of what nature is capable of producing in crystalline carbon. In this case, we are seeing a unique member of the orange colour variety (i.e., a Fancy Vivid 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 ( $a^*/b^*$ ) also indicate that this orange diamond measures toward the yellowish orange region, yet very close to the "pure" orange region within 3-dimensional colour space. In the face-up direction the on-axis internal reflections create the distinct impression there is a vivid yellowish modifier present, hence this is what is known today as a "pure" orange hue in a natural diamond (see GIA-GTL report).



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Deciding the difference between a vivid yellowish orange diamond and a vivid "pure" orange diamond is difficult, even for the skilled diamond grader, diamond connoisseur or diamond collector. For example, if the diamond grader or collector relies solely on his/her (subjective) colour memory for remembering orange diamonds seen in the past, they might find it difficult to decide on the final colour, or to agree with someone else's colour description. This is because someone else has remembered a different set of criteria for visually judging yellowish orange from "pure" orange diamonds. Therefore, it is critical to rely on more rigorous (i.e., objective) methods of describing colours (hues), involving colour comparison or colour measurement (Hofer 1998; King 1994).

Since the strength, or lack, of yellowish (secondary) colour modifier may be difficult for most 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. The problem with comparing this so-called "unknown" orange diamond with other so-called "known" orange diamonds, is that not all gem laboratories acknowledge the same hue range for defining "pure" orange diamonds. In fact many diamond grading laboratories employ a fairly "wide" range of hues (including yellowish orange) within the grade of "pure" orange (Hofer 1998, page 325).

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 against known orange colour samples, the subtle yellowish modifier will become recognizable. This is neither a "bad" nor a "good" thing, it is just the way nature has mixed colour within natural orange diamonds. Hence, from a commercial point of view, this is what the diamond industry currently regards as a "pure" orange hue, whereas from a more fundamental colour perspective (i.e., modern colour science), this hue would be considered yellowish orange, with an extraordinary tone (i.e., vivid).

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 (see photograph on page 9). While there are distinct disadvantages of comparing a 3-dimensional transparent object (i.e., diamond) against a 2-dimensional opaque object (i.e., chip), this visual comparison will help to confirm that this stone is a unique orange hue, and help to distinguish it from the narrow hue range of so-called "pure" orange colours (Hofer 1998; Munsell 1998).



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### **PHOTOGRAPH**

The 1.25 carat Fancy Vivid orange diamond shown in the face-up direction while resting on a page from Robert Ridgeway's famous book Color Standards and Nomenclature (Ridgeway 1912).

Notice the 1.25 carat stone is right next to the so-called "pure" orange chip, which helps the novice observer to recognize the unique "flavor" of orange in this particular "vivid" orange diamond. Also, notice the exceptionally strong orange colour in this stone, and the even distribution of colour seen at this particular viewing angle. Both the strong colour and the even colour distribution result from the reflection of light inside this well-made radiant-cut diamond (i.e., multiple internal reflections).



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For the connoisseur, the 1.25 carat Fancy Vivid orange is a magnificent example of what nature is capable of producing within the orange colour family. In reality, there are so few diamonds that actually approach the "pure" orange hue range, simply because the requisite absorption of blue and green wavelengths (due to impurities in the diamond) do not occur with any frequency in nature, hence they are extremely rare. This fact is what makes the search for coloured diamonds so interesting and challenging, i.e., trying to decide by eye if a certain so-called Fancy Vivid orange diamond meets the criteria of the collector's eye, compared against what the collector has seen in the past.

In my opinion, the (apparent) face-up colour in this 1.25-carat jewel is unquestionably unique and spectacular to the eye. In particular, the variety and expression of reflected "pure" orange and yellowish orange hues, with "vivid" tones, captures the viewer's attention and holds it like a fine work of art. The moment I set eyes on this gem, I was reminded of the magnificent orange colours seen throughout nature (e.g., sunsets, fruits and flowers).

*"... to the East, where jewels of great worth were  
always regarded as the peculiar treasure of Kings...  
... jewels which outrivaled the brilliant hues of  
Oriental sunrise and sunset, and which gave, as  
they still do give to those who have them in  
possession, an abiding sense of power and of glory."*

F. Stopford  
*The Romance of the Jewel*  
1920

In the final analysis, this Fancy Vivid orange diamond is so rare, and the face-up colour is so unique, and saturated, and beautiful due to the expert cutting, that this stone is truly a one-of-a-kind diamond. Hence, the collector who is searching for an unusual orange diamond, must appreciate the possibility that finding an orange diamond with more purity (i.e., less yellowish), within this size range, may not present itself for several decades due to the rarity within this one colour variety.

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*"... Exceptionally fine coloured diamonds have no fixed price, and, as with fine paintings, set rules do not hold..."*

S.H. Ball  
*Precious Stones*  
1937

The 1.25 carat Fancy Vivid orange diamond is one of these so-called "masterpieces of the natural world". I react emotionally to such rare and beautiful coloured diamonds, and so do the world's elite coloured diamond collector's and connoisseurs.

*"... The diamond... its beauty, and the purity of its colour... of a bright... orange colour..."*

B. Hertz  
*Catalogue of the Hope Collection*  
1839

## **LIGHTNESS**

The measured (inherent) lightness plots within the light-medium (Lt-Md)  $L^* = 55-65$  category. This is somewhat unusual for an orange variety diamond, especially when you consider the extreme saturation. This is because the majority of orange diamonds exhibit inherent lightness within the medium (Med) 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) orange colour in the face-up (see photograph on the inside cover).



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If, for example, this diamond was darker (i.e., medium lightness), it would show a tinge of brownish in the face-up due to the effect of the cushion shape outline and modified brilliant style cut. However, because the inherent lightness of this stone is slightly lighter than the majority of orange variety diamonds, it allows the true brightness of the orange colour to show itself in the face-up direction. Especially the colour seen towards the ends of the table facet areas, which looks bright and highly saturated (i.e., a vivid orange colour, referred to as a "*pumpkin orange*" in the diamond trade).

### **SATURATION**

The saturation (i.e., strength of colour) plots within the very strong (VSt)  $C^* = 60-70$  category, reaffirming this stone has an inherently "vivid" colour. With regard to natural orange variety diamonds, the very strong (VSt) category represents the highest range of saturation measured to date with a gemstone colorimeter (Hofer 1998).

Hence, any orange variety diamond that plots within the very strong range is an exceptionally rare gem, what diamond collectors might refer to as a "museum caliber" stone, i.e., a gem worthy of being on display in any natural history museum in the world. For example, the Splendor of Diamonds exhibit, on public display from June through September in 2003, at the National Museum of Natural History, featured an outstanding orange variety diamond known as the "*Pumpkin diamond*" (King 2003). Of interest to the coloured diamond connoisseur, the "*Pumpkin diamond*" measured within the strong-very strong (St-VSt)  $C^* = 50-60$  saturation range (Hofer 1997). Therefore, this 1.25 carat stone is measurably more saturated than the famous "*Pumpkin orange*" diamond.

Together, the lightness and saturation (i.e., colour tone) of this 1.25 carat 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. In addition, this 1.25 carat stone exhibits the highest level of colour saturation for this particular hue angle, thus it is truly a one-of-a-kind orange diamond.

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Collectors and coloured diamond connoisseurs refer to these light to medium (lightness) and 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 colours such as (orange) fruit, (orange) candy, and/or (orange) vegetables that have taste and flavor.

***"... the stone was virtually finished. It was now an extraordinary color -- warmer than a pumpkin and much brighter than an apricot."***

E. Blauer  
*Cutting Colored Diamonds*  
2004

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*" and/or "*mandarin orange*" reflections that can intrigue the eye of the casual admirer, as well as challenge the eyes of a connoisseur or collector (see photograph on the inside cover).

Sincerely,

FANCY COLOUR DIAMOND CONSULTANTS



Stephen Hofer  
Author: *Collecting and Classifying Coloured Diamonds*

**ORIGINAL**