Are Professional Coin Grading Companies All They Claim To Be? By Lee Brewer 10/20-12/20

Abbreviations Used:

TPG: Third Party Grading Service PCGS: Professional Coin Grading Service

Introduction: TPGs have gained a reputation among many numismatists as being "**the**" unquestionable experts of the coin hobby. The internet's growth greatly facilitated this mindset as greater masses of people were exposed to slabbed coins through eBay and other online venues. This paper presents verifiable data and legitimate questions about the accuracy/ veracity of TPG grading expertise and claims. This paper's goal is to to promote a scientific and verifiable standard in coin grading.

Note: PCGS data is presented since this company has gained a reputation in numismatics as being the "best" coin grading service. Evidence supporting their alleged reputation is the higher prices PCGS slabs typically realize on the market. It is proposed that problems found within the "best" service indicates a look at secondary services is also warranted.

Content Note: For verification purposes this work contains annotated webpage links and screenshots extant on October 5, 2020. The paper's content centers around the "No FG" Kennedy Half dollar varieties which the reader, if not interested in these coins, should understand are being used as examples towards exposing facts vs. claims.

Precaution to readers: Human nature emotionally defends what a person likes, enjoys, has faith in, and/or has spent money on. The reader-verifiable data in this paper may solicit an emotional reaction! The reader must "choose the red or the blue pill" for themselves.

To stave off ad hominem responses, I plainly state my personal position to be:

- 1. TPGs are not evil. They are a collective group of people running a business. Their main goal, as with all businesses, is to make a profit.
- 2. Numismatics is about a person finding fun in collecting coins and doing it their <u>own</u> way, so liking or not liking slabs is neither "right or wrong."
- 3. This paper is an educational presentation exposing facts meant to aid discerning the actual levels of expertise in TPGs compared to their own claims, (October of 2020)and to help collectors make more educated decisions.

Grading companies openly say grading is subjective. Many collectors are likely unaware that any slabbed coin, cracked out and resubmitted (even) to the same company is <u>never</u> <u>guaranteed</u> the <u>same grade</u>. That last statement is a very important point to remember.

Just one grade point for some coins can make thousands of dollars difference in what the market will pay. Yet that one expensive grade point is not a verifiable piece of data about the <u>coin itself</u>. That grade point is just ink on the label that disappears if the slab is cracked open and the coin removed. Therefore a TPG-profitable "cracking and resubmitting game" exists in which people keep paying TPGs in hopes of obtaining that one higher, and much more valuable, "ink" grade point.

In the 1990s, TPGs had a scientific grading system using computers¹ and other technology. PCGS themselves claimed a much higher accuracy² rate using the system. However, the more scientific standard was abandoned, and collectors were told the general 1990s mistrust of computers (most people at that time not own/use/trust computers) was to blame. The less accurate and more subjective system was reinstated. It is obvious if a coin can be graded to one and only one grade every time there would be no more cracking and resubmitting game. Were loss of profits from this "game" also a reason for returning to non-scientific subjectivity?

Our modern cell phones are almost miraculous compared to 1990's computers,,,and almost everyone carries one with them. Since the more accurate technology was there 20-25 years ago (almost antique by definition!), it is time we **return** to a verifiable technology - whose accuracy due to technology advancement would be even better.

Two additional notes:

1. It is my personal opinion a coin grading phone app could be made. The iPhone uses infra red (IR) sensors to collects 30,000 (!) data points which are analyzes in a micro second. The iPhone recognizes its owner under different lighting (IR is not dependent on regular lighting) and or physical conditions (mustache, beard, sunglasses, hat, etc.). Would a coin grading app be all that different? Are we to believe human graders can/do collect and analyze 30,000 data points accurately on each coin they grade?

2. I have heard it said that a computer cannot judge eye appeal, so machinery/computers should not grade coins. Considering eye appeal is currently up to the buyer with the current systems in place, it seems arguing against computer grading on this point is moot. Grading companies put high grades on coins with low eye appeal all the time. A computer grading



system would not change this situation. A verifiable system would simply make a legitimate scientific assessment of the physical condition of the coin still leaving coin aesthetics to humans.

This paper is going to focus on one area of graded coins: "No FG" variety Kennedy Half Dollars.

A No FG variety is one where the designer's initials (FG for Frank Gasparro) do not appear in their normal position between the tail feathers and Eagle's left claw on the REV.

Online resources indicate no trace of the designer's initials is a must for a coin if that coin is to be acknowledged as an actual No FG variety:

1. COinage: accessed 9/3/20 <u>https://www.coinagemag.com/no-fg-kennedy-half-dollars-are-cool-varieties-that-</u>

can-be-found-in-circulation/

"To qualify as a no-FG variety, the Kennedy half must not show any evidence of the FG initials whatsoever."

2. US COin Guide: accessed 9/3/20

<u>https://coins.thefuntimesguide.com/no-fg-kennedy-half-dollar-errors/</u> *"For a coin to be a true no FG half dollar error, it has to have absolutely no sign of the FG at all.* <u>Not even a trace under 5x magnification!</u>" {emphasis added}

3. COINWEEK: Acessed 9/3/20

https://coinweek.com/dealers-companies/pcgs-dealers-companies/no-fg-kennedy-half-dollarswhat-are-they-what-are-they-worth/

" If the FG initials can't be found under 5x magnification, then the coin is a No FG variety. However, there must be no trace of the FG initials – <u>light indications of the lettering do not count</u> <u>as a No FG variety</u>, and numismatists don't presently recognize <i>"Weak FG" as a variety." {emphasis added}

4. PCGS: accessed 9/3920

https://www.pcgs.com/news/what-are-no-fg-kennedy-half-dollars-worth

" If the FG initials can't be found under 5x magnification, then the coin is a No FG variety. However, there must be no trace of the FG initials – <u>light indications of the lettering do not count</u>

as a No FG variety, and numismatists don't presently recognize "Weak FG" as a variety." {emphasis added}. Note this example was quoted by item #3 in COINWEEK.

Other such references to the mandatory "no trace of the FG initials" as gualifications for a No FG variety are not difficult to find with a search engine.

Websites also mention the initials can be missing off of any date Kennedy half dollar. The explanation is that polishing (done to extend the life) of the die by workers can eliminate the initials. However, there are a number of dates more popular with collectors for not having these initials: 1966 SMS (Special Mint Set Issue), 1972-D, and 1982-P.

These three dates will be presented as they appear, in error, by PCGS. But before the actual pictures, there is an important screenshot from the PCGS website which needs to be read, and the main points remembered throughout this paper. https://www.pcgs.com/pcgs-grading-process-video



GRADING

The coins are now ready for grading. Each order is distributed to graders based on their particular skill and expertise. While the graders are generally trained to handle coins from virtually all eras, they are assigned coins based on their strengths. The sheer number of graders assigned to each coin can also vary depending on the type of coin submitted. In all cases, at minimum, 3-4 graders are assigned to every coin for grading and verification.

As each grader receives the order, they will enter the order number into the computer. This provides the contents of that order on the PCGS grading screen. Grader #1 will then enter his grade for the coin in question (and for each coin within the order until the order is completed) and close the order on his screen. Once Grader #1 has completed grading the

1. The red underline shows PCGS claims, "Each order is assigned to graders based on the grader's particular skill and expertise." The implication seems to be a Kennedy half would be assigned to a grader especially skilled in Kennedy Half Dollars.

2. The green underline indicates PCGS claims "graders...are assigned coins based upon their strenaths." Again, a claim seems to be being made that a Kennedy Half Dollar would specifically be graded by a Kennedy Half Dollar grading expert.

3. The blue underline shows PCGS claims a "...minimum...3-4 graders are assigned to every coin for grading and verification."

From the above it seems **PCGS** is claiming that 3-4 expert graders specifically having an expertise in Kennedy Half Dollars will assess submitted Kennedy halves. It would seem we should believe the hobby experts using 3-4 trained graders, especially 3-4 trained graders with a specialty in Kennedy halves will obviously be able to identify major Kennedy Half varieties.

A systematic presentation of mislabeled No FG halves follows from least evident to very evident. By the time the 1982-Ps are presented, there will be another major problem presented which should have been known by the experts of the hobby, considering a person like myself, with no professional training in coin grading understands/knows/can identify legitimate No FG halves.

1966 "no FG" SMS Examples

On 10/2/20, the PCGS website listing some 1966 SMS No FG halves was accessed. The page showed a list of what PCGS (3-4 trained graders with Kennedy expertise) labeled as being the No FG variety. Following are three of the actual PCGS photos. included also is a list of all halves from the website. Use a search engine to find "PCGS certification number" and you can type in any of the numbers to access pictures of those half dollars online (or click the URL links included in this document).

Example 1 shows a minute trace on a mis-labeled No FG half. It could be argued a grader using 5X magnification might have missed the partial letter G (the end of its open curve remains), but a novice like myself looking for No FG varieties instantly sees the partial G:



Example 1: PCGS #37808230

Note the zoomed area shows remnants where the initials should be. Is this area corresponding to the high points of the FG an example of "absolutely no sign of the FG at all?" In this case the alleged 3-4 specialist professional Kennedy graders thought so. **Sold** for **\$625.00** (https://www.pcgs.com/cert/32787065).



Example 2: PCGS #32787065

Number 32787065 has an easily seen letter G still showing. It is my personal experience that a coin with this much remnant, when in hand and tilted to the light, easily shows the remnant to the naked eye. How did this one get by the 3-4 expert Kennedy specialists? No given selling price (https://www.pcgs.com/cert/37808230).



Example 3: PCGS #370656500

Some readers may argue the above obvious G is just a rare slip-up by PCGS. I would tend to agree **if** only one grader was grading the coins, **and** that grader were **not**, as claimed, an expert grader of Kennedy Half dollars. One grader looking at coins all day long would likely get fatigued and let something like this slip...but three trained Kennedy professionals?

Remember if the grading company claims are true, this half dollar was wrongly classified as having no FG by not only 3-4 expert graders, but by 3-4 expert Kennedy Half Dollar grading specialists. What does this obviously mislabeled example imply about grading company claims? Did the person who paid the company to grade this coin (and the others above) get what they paid for?

Worse yet, what does this blatant error say when we find out from PCGS (<u>https://www.pcgs.com/cert/37065650</u>) that this mislabeled coin <u>sold</u> as a 1966 SMS No FG" FS-901 (013.9) for <u>\$625.00?</u>

Again please note, examples like this can be found in slabbed Kennedy Halves from other companies like NGC and ANACS (and probably others) as well.

Following is the aforementioned link to the website showing various PCGS designated 1966 "No FG" slabs. I included notes on the halves with partial and ghosted FGs. It might be a 5X magnifier would miss "ghosts." But, as has already been stated, it has been my personal experience that "ghosted FGs," when tilted at angles to a light source, can be seen by the naked eye:

The webpage containing a list of 1966 SMS halves slabbed as "SMS No "FG" FS-901 (013.9) is included below:

https://www.pcgs.com/coinfacts/coin/1966-50c/images/6709

Note a listing of "**Ghosted**" indicates very slight remnants appear to be in the picture such as found on coins where, in hand, tilting them to the light can make the FG appear to the naked eye. Since, in hand, Ghost FGs can appear to the naked eye, a Ghost FG cannot meet the "absolutely no trace" requirement of this variety.

- 1. MS68 MS68 #37808230 Grading Error G shows - https://images.pcgs.com/CoinFacts/37808230 163979466 2200.jpg - 68
- 2. MS67 OK
- 3. MS66 #37065650 Grading Error Obvious G - <u>https://images.pcgs.com/CoinFacts/37065650_167987900_2200.jpg</u> - 66
- 4. MS66 OK
- 5. MS66 OK
- 6. MS66 OK
- 7. MS66 #32787065 Questionable appears to show Ghosted FG remnants. https://images.pcgs.com/CoinFacts/32787065_46903174_2200.jpg
- 8. MS65 #81785173 Very slight top and ending of G possibly Ghosted FG. https://images.pcgs.com/CoinFacts/81785173_53701316_2200.jpg
- 9. MS65 #28592850 Questionable G remnant Ghosted zoom shows G's curve https://images.pcgs.com/CoinFacts/28592850_45678150_2200.jpg
- 10. MS65 #12043141 OK (possible dirt speck & not a G ending remnant) https://images.pcgs.com/CoinFacts/12043141_150144257_2200.jpg
- 11. MS64 OK
- 12. MS64 #81785172 Ghosted top of G remnant, slight curve, and flared G tail all faint. Zooming shows G https://images.pcgs.com/CoinFacts/81785172 53695950 2200.jpg
- 13. MS64 OK
- 14. MS64 OK

By clicking on the individual pictures, you will be taken to a page with a PCGS large picture. It should be noted pictures can lead to subjective opinions as well.

1972-D "No FG" Examples

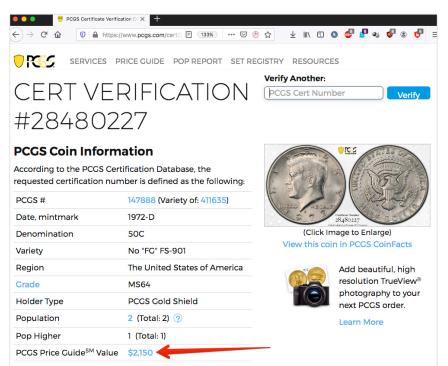
Very rarely a 1972-D half with no trace of an FG can be found. Following examples show the initials were polished off, and that *polishing also diminished tail and leg details from the same areas*. None of these examples were made from a die actually missing the FG. *Example 1: PCGS* #37808230

Blue circle shows normal FG appearance, yellow circle shows remnants on this half.



The weak details surrounding the area where the FG sits should be an immediate indicator an FG is/was there. As with many 1972-D halves that can be found, the tops of the F and G were protected from being totally polished off by proximity to the edge of the Eagle's leg. Those FG

remnants appear,on this example, as faint bumps. The remnants disqualify this coin as being a true No FG variety. It also should be noted that by zooming in, the curve of the G can be seen as slightly enlarged because of the polishing. The technical specifications (https://www.pcgs.com/ cert/28480227) show this slab **sold** for **\$2.150** as a No FG!



Example 2: PCGS #37808230

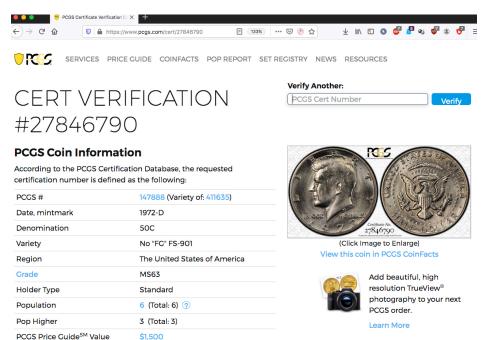


And obvious remnant/bump of the top of both letters is seen. The yellow oval closeup shows a ghosted F (look at the normal F and then to the ghosted area and it become evident). If the yellow area is ignored, and the large image itself is looked at a little closer (check the website), a ghosted G appears. Note as mentioned, zooming in extremely can make a ghost harder to see.

The red "Tail of G" arrow shows where the tail of the ghosted G shows when not so highly magnified.

Do the obvious bumps qualify this coin as "no trace of the FG can be present?"

The webpage: https:// www.pcgs.com/cert/ 27846790, tells us this alleged "No FG" slab <u>sold</u> for \$1,500.00.



Example 3: PCGS #38743262



A little zooming on the large picture shows (or see it online) an obvious Ghosted FG. The

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	PRICE GUIDE COINFACTS POP REPOR	T SET REGISTRY NEWS RESOURCES
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PCGS Coin Inforn	nation	Provide States ON
According to the PCGS Ce certification number is de	rtification Database, the requested	
PCGS #	147888 (Variety of: 411635)	
Date, mintmark	1972-D	IN SOS RETERE
Denomination	50C	Certificate Number 38743262
Variety	No "FG" FS-901	(Click Image to Enlarge)
Region	The United States of America	View this coin in PCGS CoinFacts
Grade	MS63	Add beautiful, high
Holder Type	Standard	resolution TrueView®
Population	6 (Total: 6) 🧑	photography to your next PCGS order.
Pop Higher	3 (Total: 3)	Learn More

PCGS Price GuideSM Value

\$1,500

price of there!

https://www.pcgs.com/cert/38743262

yellow oval shows, like the previous example, the bumps help define the Ghosts are present as do the visible polished curve and end of the G. Again, ignoring the yellow oval, a slight zoom on the picture (or seeing it large online) shows the Ghosts to be there. Selling \$1500.00 for a ghosted FG the traces are

Example 4: PCGS #38761730



This one is not hard to detect at all. A ghosted FG can be seen in the original image. The yellow oval shows a closeup. Check the image at the website in large view and the Ghost is not

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SERVICES PRICE	GUIDE COINFACTS POP REPO	RT SET REGISTRY NEWS RESOURCES	
CERT VERI #38761730		Verify Another:	
PCGS Coin Information According to the PCGS Certification Database, the requested certification number is defined as the following:		Carlo	
PCGS #	147888 (Variety of: 411635)	411635)	
Date, mintmark	1972-D		
Denomination	50C	Gertificate Namber 3876/1730	
Variety	No "FG" FS-901	(Click Image to Enlarge)	
Region	The United States of America	View this coin in PCCS CoinFacts	
Grade	MS64+	Add beautiful, high	
Holder Type	Standard	resolution TrueView®	
Population	1 (Total: 1) 🧿	photography to your next PCGS order.	
Pop Higher	O (Total: O)	Learn More	
PCGS Price Guide SM Value	\$2,250		

hard to see. In hand, and tilted to the light, this FG probably shows up very well.

This time the 3-4 Kennedy Half specialist grading experts' label only cost some collector **\$2,250.00!** https://www.pcgs.com/cert/ 38761730

The following list indicates what slabbed coins were shown on 1972_D No FG PCGS webpage in October of 2020. The slabs shown since that day have changed as of the day of this writing. Links to each of the coins are included so the reader can find and evaluate the notes:

1972-D No FG main URL (October 2020):

https://www.pcgs.com/coinfacts/coin/1972-d-50c-no-fg/images/411635

- MS64+ Error Ghosted FG <u>https://images.pcgs.com/CoinFacts/38761730_180362610_2200.jpg</u> - 64+
- MS 64 -Error Ghosted FG <u>https://images.pcgs.com/CoinFacts/28480227_178817680_2200.jpg</u> - 64
 MS30 - Error - Ghosted FG
- https://images.pcgs.com/CoinFacts/38743262_56756569_2200.jpg 63 4. MS63 - Error - Ghosted FG
- https://images.pcgs.com/CoinFacts/27846790_37928719_2200.jpg 63
- 5. MS63 Error Ghosted FG more difficult to see than previous listings/ https://images.pcgs.com/CoinFacts/11696101 171631671 2200.jpg - 63
- 6. AU55 Error Remnants of FG obvious https://images.pcgs.com/CoinFacts/38796359_180281379_2200.jpg - 55
- 7. AU55 OK (maybe bump remnant of G top) https://images.pcgs.com/CoinFacts/37181648_170420134_2200.jpg - 55
- 8. AU53 Error Ghosted FG https://images.pcgs.com/CoinFacts/24975846_29690509_2200.jpg- 53

1982-P "No FG" Identification and Examples

By now the reader who has been following the links and seeing the pictures online for themselves should have been exposed to enough problems with the No FG slabbed halves to understand that to THE experts, "No FG" does not always mean "there is no trace of the FG on the coin" despite company claims. Yet again, because we are dealing with pictures, and not coins in hand, some subjectivity is in the evaluation presented so far. The 1982-P halves are different though.

When dealing with THE coin experts, collectors pay fees in good faith that what they are receiving is the most professional and knowledgeable service that can be had in numismatics.

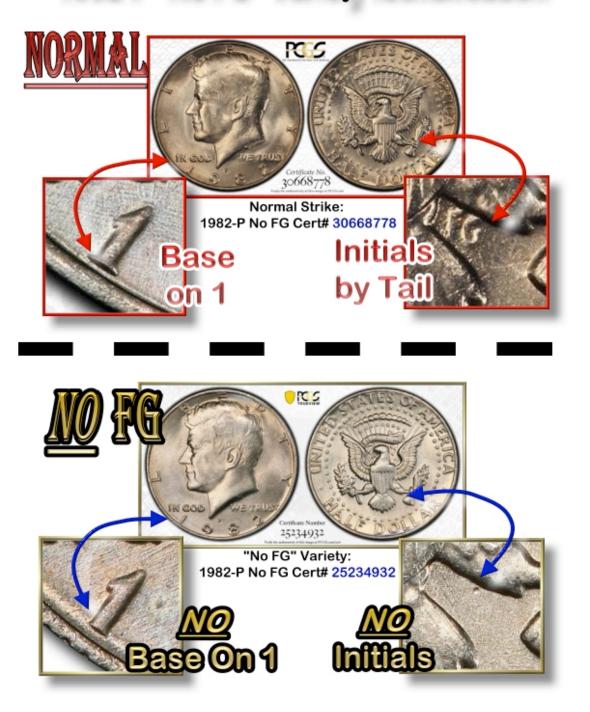
Should not, therefore, all of the groups of 3-4 expert Kennedy Half specialist graders know: 1.. There was an 1982-P half dollar die where, unlike in the other years, the **initials were never engraved into the die** - hence ACTUAL No FG coins were made in this year? 2. All actual No FG 1982s-P halves differ from normal halves b/c the **1 in the date has no base on it**?

Therefore identifying an actual No FG 1982-P half is easily done without even looking at the REV of the coin: if the 1 in the date has a base - the coin is normal!

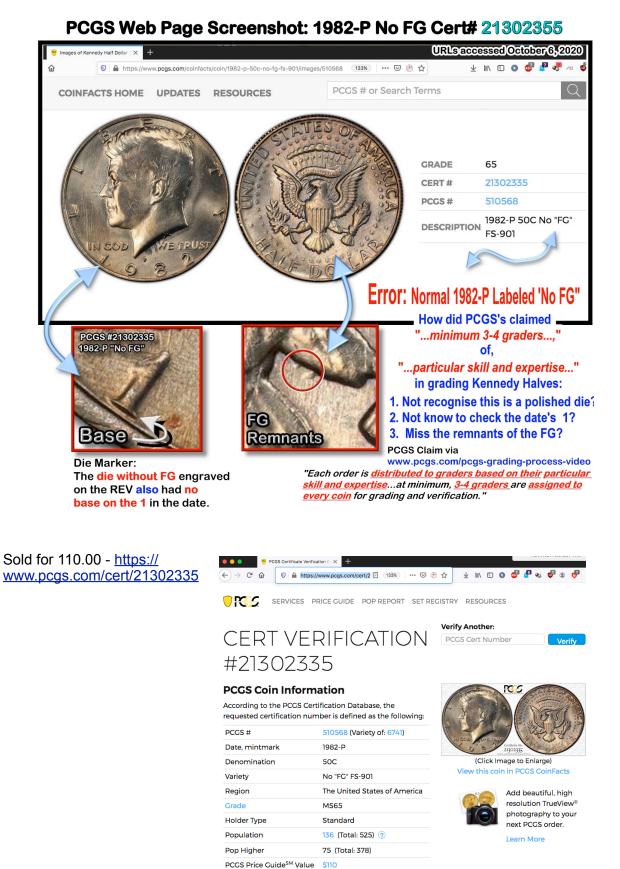
Yet the grading professionals' records of this fact are far from perfect and coins made from Fg dies are labeled as No FG varieties:

The following graphic is a simple No FG identification aid for the 1982-P No FG variety. This information **should** be known by **the** experts of numismatics, however, the following information is not included on their websites, (as of the date of this writing and probably will change after this paper is released to the public)), nor does it seem their 3-4 expert Kennedy Half specialist graders are aware of how to Identify an actual No FG 1982-P half dollar...as testified to by slab examples following the 1982-P :No FG: Variety Identification" graphic on the next page.

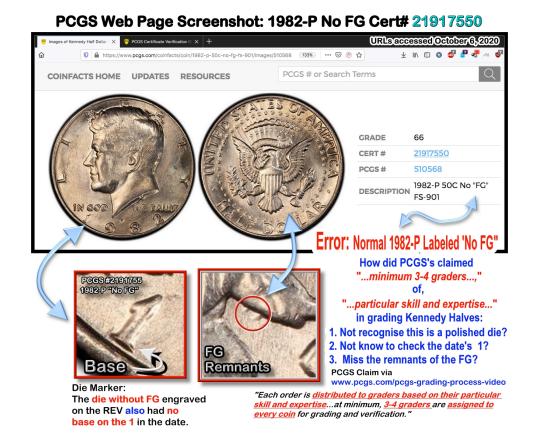
"1982-P "No FG" Variety Identification

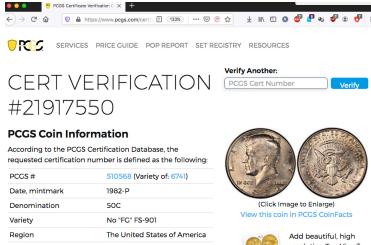


Example 1: PCGS #21302335



Example 2: PCGS #21917550





https://www.pcgs.com/cert/ 21917550.

Sold for 200.00

PCGS #	510568 (Variety of: 6741)
Date, mintmark	1982-P
Denomination	50C
Variety	No "FG" FS-901
Region	The United States of America
Grade	MS66
Holder Type	Standard
Population	71 (Total: 342) 🧿
Pop Higher	3 (Total: 32)

PCCS Price GuideSM Value \$200



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Example 3: PCGS #26596027



<u>skill and expertise</u>...at minimum, <u>3-4 grade</u> every coin for grading and verification."

🤭 PCGS Certificate Verification Co

Sold for 200.00 https://www.pcgs.com/cert/26596027

base on the 1 in the date.

9		
PCGS #	510568 (Variety of: 6741)	
Date, mintmark	1982-P	
Denomination	50C	
Variety	No "FG" FS-901	
Region	The United States of America	
Grade	MS66	
Holder Type	PCGS Gold Shield	
Population	71 (Total: 342) 🧑	
Pop Higher	3 (Total: 32)	
DCCE Drice Cuide SM Value	\$200	

PCGS Price GuideSM Value \$200

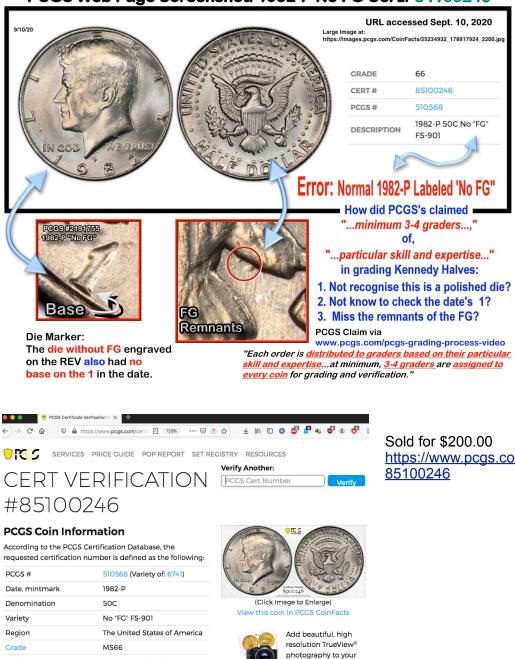


(Click Image to Enlarge) View all images View this coin in PCGS CoinFacts



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PCGS Web Page Screenshot: 1982-P No FG Cert# 84100246

https://www.pcqs.com/cert/

PCGS #	510568 (Variety of: 6741)
Date, mintmark	1982-P
Denomination	50C
Variety	No "FG" FS-901
Region	The United States of America
Grade	MS66
Holder Type	PCGS Gold Shield
Population	71 (Total: 342) ᠀
Pop Higher	3 (Total: 32)
PCGS Price Guide SM Value	\$200

Here was the list in October 2020 of the slabbed No FG 1982-P halves. 1982 No FG Main URL:

https://www.pcgs.com/coinfacts/coin/1982-p-50c-no-fg-fs-901/images/510568 https://images.pcgs.com/CoinFacts/25234932_178817924_2200.jpg

- 1. MS67 OK <u>https://images.pcgs.com/CoinFacts/25234932_178817924_2200.jpg</u>
- 2. MS66 ERROR https://images.pcgs.com/CoinFacts/85100246_178823145_2200.jpg
- 3. MS66 OK https://images.pcqs.com/CoinFacts/82269273 56230417 2200.jpg
- 4. MS 66 ERROR https://images.pcgs.com/CoinFacts/26596027_32213633_2200.jpg
- 5. MS66 OK https://images.pcgs.com/CoinFacts/12760593_41526145_2200.jpg
- 6. MS66 OK https://images.pcgs.com/CoinFacts/22084511 31494615 2200.jpg
- 7. MS66 ERROR https://images.pcgs.com/CoinFacts/21917550_31494597_2200.jpg
- 8. MS65 OK https://images.pcgs.com/CoinFacts/26577072_31953424_2200.jpg
- 9. MS65 ERROR https://images.pcgs.com/CoinFacts/21302335 120097204 2200.jpg
- 10. MS64 OK https://images.pcgs.com/CoinFacts/38107503_176099548_2200.jpg
- 11. MS63 OK https://images.pcgs.com/CoinFacts/39526045_197548675_2200.jpg
- 12. MS58 OK https://images.pcgs.com/CoinFacts/26577080 31953474 2200.jpg

At least this time there is only a 1 in 4 chance of error. But how does just **one** of these errors get through the grading system if the system is as claimed? It is suggested one or more of the following seems plausible:

- 1. Grading service expertise is highly overrated.
- 2. A minimum of 3-4 graders is not always used -- just how could this many graders miss this obvious rookie level error?

3. Submitted coins are not, as claimed, graded by people with specific expertise for those specific coins.

People who put blind faith in the label of a slab have, as shown, spent a lot of money and not gotten what they thought they were paying for. A scientific system of grading coins would alleviate this situation from occurring.

Another situation which may be tripping up more collectors is the brilliant marketing strategy by these companies to make a competition by having registered sets online. People may enjoy trying to put together the best registry set, and this goal puts a lot more attention on what the label says rather than the coin itself. One 1972-D alleged No FG is seen to have sold for over 2,000.00, yet the coin does not meet the criteria of "no trace of the FG initials can be present." Would that coin have sold for so much had there been no registry sets or competition to get a top graded example of a coin?

The time has come for the games to stop being played and a scientifically legitimate method of grading coins to be used (reinstated!). While the above info is only about Kennedy Half dollars, how many more problems like this might exist that have gone unnoticed b/c people are paying for ink instead of the coin itself? Is this half dollar scenario the ONLY problem the grading experts have? Likely not.

In fact the author, though not a Jefferson nickel specialist, is aware that grading companies have problems identifying which REV (1938 or 1940) might be on a 1939 Jefferson nickel unless the coin is good enough condition to show the steps well. The companies - **the** experts - seem totally unaware the 1938 REV has no serif on the top of the S in PLURIBUS, and the 1940 version does. The types are simple to distinguish by people not trained to be one of **the** experts! What can you find?

It is sincerely hoped this work will somehow lead to a more legitimate system for grading. it likely will not be as profitable for companies, but by now out technology certainly can make a scientifically verifiable coin grading system...and possible/likely rather inexpensively such as using a phone app.

A pill of Red or Blue? Its up to you.

ENDNOTES

¹Computer Grading document from: <u>http://www.coingrading.com/compgrade1.html</u> accessed Dec 1, 2020

"Computer Grading

And what does the future have in store for the grading of coins? Will coins ever be processed through a grading center on a long conveyer belt, subjected to laser inspection, fingerprinted by image analysis, and sealed in a tamper-proof case, all without human intervention?

What will happen to my "wonder toned" coin? Can a computer objectively state that one coin is superior to another based on color? Who said one color is more eye appealing than another? Is this just another way to de-humanize the collector?

These are all common questions asked on the bourse floor whenever the subject of computer grading is discussed. All are legitimate questions that need answers. But before we address these questions, let's first look at what's currently going on in the marketplace.

On May 16,1990 PCGS announced a major breakthrough in a computerized system that grades coins. The system, PCGS Expert, utilizes robotics, image enhancement, image processing and an online image database for its integrated computer system. The system will perform four primary functions:

- 1. automated computer grading of coins
- 2. computer aided grading
- 3. image archiving
- 4. digital fingerprinting

I. The most important aspect of the system is the automated computer grading. According to PCGS, the Expert goes through a nine step process before a final grade is assigned to a coin. These steps are:

1. Multiple images of the coin under various lighting conditions are captured in digital form using a high resolution camera.

2. All or various portions of the captured images are computer enhanced to bring out important features of the coin.

3. The key regions of the coin are examined in great detail to identify, classify, measure, and score all flaws.

4. Secondary regions of the coin are examined to identify flaws that exist in busy background regions such as hair, letters, and rim. These flaws are then classified, measured and scored.

5. A light flow and reflectance analysis is used to precisely measure the mirror as well as the inherent lustre of the coin.

6. Key areas of the coin are examined to measure the strength of the strike including the hair.

7. Thousands of parameters are generated from the various analyses and these are then synthesized into the key components of the coin including obverse and reverse marks, strike, lustre, eye appeal, mirror, toning, and exceptional conditions.

8. The results are combined using a large set of "expert rules" to establish the final grade.

The process by which PCGS grades has been well thought out, but there will be a need to compare the finished product with the one that is already there. There will be some worry that there may be one trading level for computer graded coins and another for coins already graded.

Initially, PCGS grades Morgan Dollars by computer and will first concentrate on developing computer grading for coins with high submission volumes such as \$20 Saint-Gaudens, Walking Liberty Halves, and Proof Franklins.

Here are the other aspects of the computer grading which might become just as important:

2. Computer aided grading will be used in special circumstances to aid the human graders in making a final determination of the grade of the coin.

3. Image archiving will store one or more images of the coin for future reference. This storage method will aid the development of computer grading of coins with smaller populations.

4. Digital fingerprinting will provide additional support in the determination of the authenticity of a coin and will aid in the determining if a coin has been tampered with. It will also be a useful tool for positively identifying coins for the title disputes and other purposes.

An important aspect of their announcement was that PCGS will, for now, utilize a human verifier on all coins graded by the Expert system.

Several other companies are also involved in the development of computer grading. They include such diverse groups as Amos Press (Coin World), and CompuGrade, a New Orleans-based numismatic research and development entity. All of the current grading services besides PCGS have expressed interest in computer-grading, but so far no other system has been developed.

Now let's answer some of the questions that we originally discussed.

On the positive side, computer grading systems can be highly consistent, often achieving rates as high as 90%. This is more accurate than any single human grader. By using digital fingerprinting, the service can keep records on all of the coins that they have graded. A "grading set" containing several hundred examples is far superior to that of one that contains one or two examples.

The computer grading systems can also be quite cost effective. The human resources that are currently used to grade coins are expensive, and are subject to time limitations in the amount of work they can do in a day. A technician can operate a computer for long periods of time, enabling turn-around time and cost to come down. (Whether or not the services pass along these savings to the consumer depends on the extent of competition in the marketplace).

Now for the negative: Do we really need to have such sophistication for what is essentially a hobby? A lot of people scoffed at David Hall when he first introduced PCGS. But look how far we have come in the last four years. Grading has finally become better defined, and people have taken a stand behind their grades. Computer grading is a natural evolution in the grading process. Its acceptance in the marketplace will be determined by the consumer. If it is able to grade at high degrees of consistency, and at the same time reduce costs to the consumer, then it will be a welcomed addition. If not, it won't be accepted at all.

Can a coin's eye appeal be judged by a computer? At this time the answer is no. This is truly a subjective analysis, that may be resolved with time.

Should we accept computer grading as an integral part of numismatics? The answer is a qualified yes. The fact is that we couldn't stop progress even if we wanted to. So, use the computer wisely, but realize that right now it works best along side human beings."

²It should be noted companies can/do refer to accuracy rates of their graders and grading systems. However, the subjectivity of the systems means a mathematically sound accuracy percentage is not possible to determine!

Scenario: 1889 Morgan dollar labeled as MS67, but the label is hidden.

Grader 1 grades the coin as MS65, grader 2 gives MS66, grader 3 gives MS67, grader 4 gives MS66, and grader 5 gives MS65. So Grader 3 is the only one who got the "**correct/right** grade."

Now the same Morgan dollar is cracked out, resubmitted and this time is labeled as MS66. So now grader 3 all of a sudden is "wrong" while graders 2 and 4 got the "**correct/right grade.**" This scenario shows how subjectivity cancels acccuracy

Ans yet the above scenario is not fictional! In the Youtbe video entitled, "CoinWeek: We Take the PCGS Grading Challenge! - 4K Video:"

https://www.youtube.com/watch?v=cuSk3Mrb1uA accessed Dec 2020,

Coinweek editor Charles Morgan is trying to find out how "good" his grading skills are. So Mr. Morgan examines a number of slabs with hidden labels/grades, writes down what grades he would assign the coins, and has his answers "checked" by former PCGS president, Mr. Ron Guth, against what they both call the "correct" grades actually written on the slabs. Mr. Morgan is given a score as to how many coins he graded "right/wrong" and allegedly finds out how "good" he is at grading coins.

But wait a minute! This PCGS grading challenge is not actually determining anything other than if Mr. Morgan can guess correctly what the labels read at present. Any of Mr. Morgan's now "correct" answers might become "wrong" if the coin is cracked out/resubmitted/re-slabbed! And every "wrong" guess Mr. Morgan made now could possibly become "correct" with a re-slabbing!

The entire video is nothing but entertainment and good PR. But the results allegedly arrived at are close to nonsensical. If there is no one right/wrong answer, then a person cannot answer correctly or incorrectly.

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