

A motorway slip road into a lunar crater? Or what?

By GFH Lloyd

An example of a feature which looks strange at first, but had a simple explanation.

I got up early on the 17 October to look at the Moon at 3rd Quarter. I noticed the feature called Lacus Mortis, which is a five-sided plain, (perhaps an old crater, east of Eudoxus. I saw a bright streak of light, which I jokingly labelled "A slip road into the crater".

Despite poor seeing, I made this drawing. The sunlight was from the right (west), being a 3rd Quarter Moon.

The bright "Slip road" had some shadow each side. Then I took photos (see details later). This (right) shows the features quite well and the streak of light with shadow each side of it.

I looked up this area in my book of the USA Lunar Orbiter IV (1967) photos. This is the bottom photo. Naturally, it shows lots of detail, but was taken looking almost vertically down. An important difference from mine is that this one was taken at 1st Quarter Moon. So the sunlight was coming from the left (east) – the opposite way to when I saw it.

So where I saw a bright streak, this photo shows a narrow shadow from a slip fault, with the higher ground on the left (east), which casts a shadow at 1st Quarter Moon.

But the morning I saw it, there was some shadow both sides of the fault. The reason must be that the nominally flat ground on the east of the fault slopes just enough to be shadowed at this Moon phase. This shows how interesting the Moon can be, how things change with the light, and how odd appearances can have simple explanations.

Technical details: The Sun's Selenographic Colongitude was about 152°. My telescope is an Orion 250mm, f4.8 Newtonian. For the drawing I used a Tele Vue Powermate x5 Barlow lens with a 17mm eyepiece (giving a magnification of x350) and an "Afocal" camera set-up using a x3 Barlow lens and 26mm eyepiece with my Olympus compact digital camera's zoom lens set to 24mm focal length. I took 3 sets of about 100 photos each which I processed with Registax 5 and Photoshop Elements 7.

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