

Long Island on the Moon

Sam Storch

Even the most seasoned deep-sky observer will admit that our nearest neighbor, the Moon, is a great source of visual pleasure. Our satellite can thrill a first-timer, inspire the dreamer, offer high magnification flights over an alien landscape, and provide endless subjects for the imager, the sketch artist, or the poet.

If you live on Long Island you live on a spit of land over a hundred miles long and anywhere from a couple of miles to more than a dozen miles in width. Did you know that there is an easy to spot feature on the Moon that is "officially" 110 miles long, and from 1 to 13 miles wide? Indeed, there's something like Long Island on the Moon!

The Alpine Valley (Vallis Alpes on the fancier lunar maps) cuts like the gash of a hatchet right through the Alps Mountains, found on the rim of Mare Imbrium. Begin by finding Mare Imbrium and the easy crater Plato, notable for its flat, dark floor. Plato was "flooded over" when the impact that caused the entire Imbrium Basin changed a lot of kinetic energy to heat, softening and melting lunar rock into a splashing sea of molten rock.

From Plato, slowly look at the rim of mountains around the dark mare basin, and you will see the "gash" of the Alpine Valley. It turns out that the "Long Island on the Moon" was the result of a river of molten rock flowing outward from the basin. Images of the feature made with high magnification show a thin, sinuous, and winding crack, or rille, running the length of the valley floor. Perhaps a lava tube collapsed, leaving its visual imprint for our inspection.

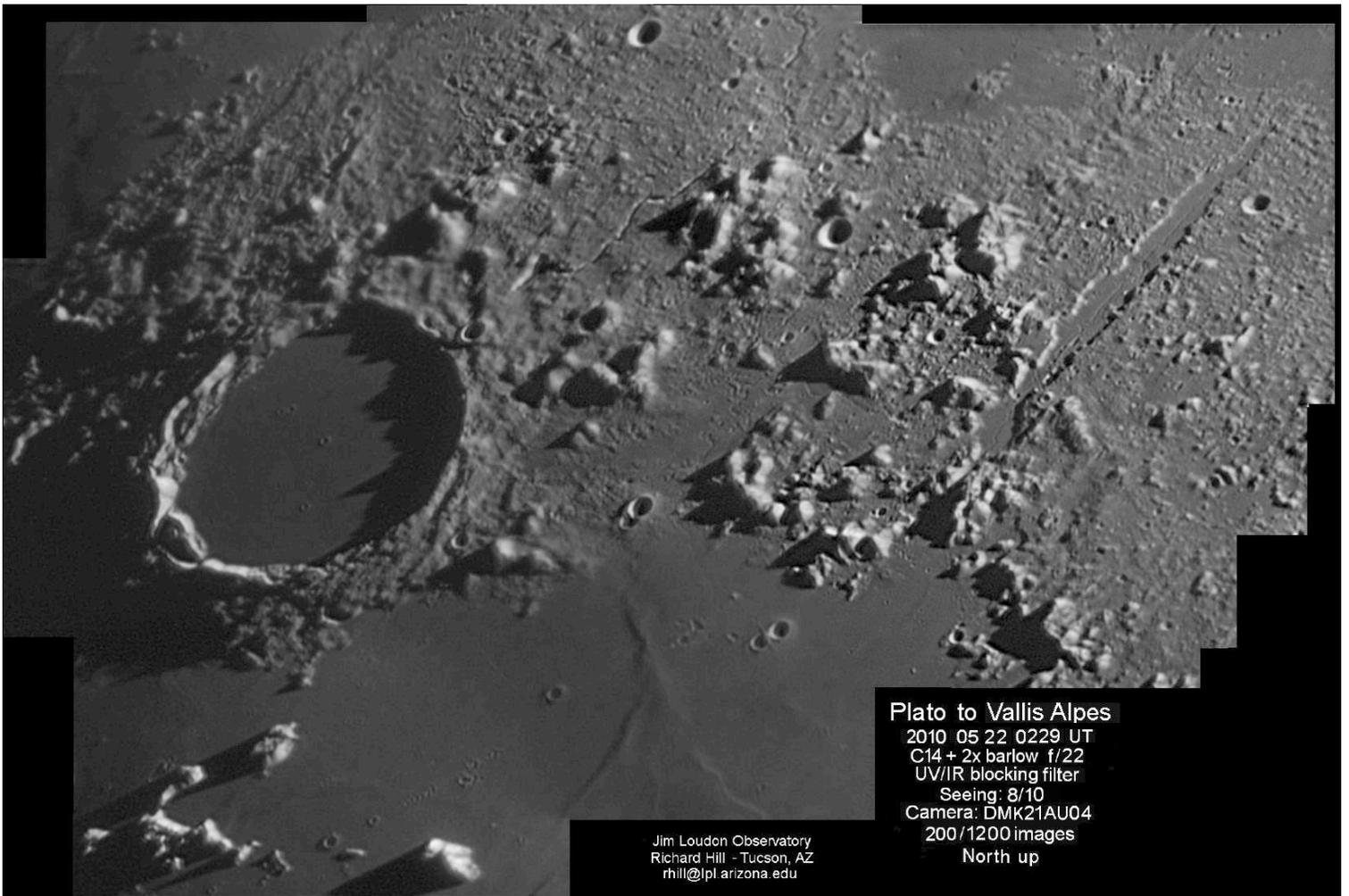
What's a lava tube, you ask? Sometimes a car's radio antenna picks up a coating of ice during a winter drive on a sleety day. If, at the end of the trip the antenna lowers into the fender, often a hollow pencil of ice remains standing for a bit before collapsing into oblivion. Such is the nature of the lava tube.

Meanwhile, even low magnification in a small telescope is enough to find the Alpine Valley. The best time to look is just after first quarter, when the feature stands out in bold relief. Every time I see a waxing gibbous moon, I think of finding the Alpine Valley and imagining it as Long Island. Can you see where Huntington or Southold or Sayville would be on the Moon? Careful inspection will even show you Brooklyn, which is, after all, part of Long Island. I've "spotted" Brooklyn, Merrick, Lindenhurst, Blue Point, and Montauk myself!

If you have the wonderful Rukl atlas, you'll want to turn to Chart 4, but really, you can do this with no help at all. Still, I couldn't help myself and have included an image anyway, but with no labels to spoil things.

All you need to remember is "Imbrium, Plato, Alpine Valley."

So? Can you see your house from here?



Plato to Vallis Alpes

2010 05 22 0229 UT
C14 + 2x barlow f/22
UV/IR blocking filter
Seeing: 8/10
Camera: DMK21AU04
200/1200 images
North up

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Plato, the edge of the Imbrium Basin, and Vallis Alpes.

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