

ANOMALOUS STRUCTURES IN PARACELSUS "C" ?

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20160515 Updated 20161210 (includes link to analysis paper and flyovers)

Fran Ridge;

In 1962, Carl Sagan spoke on the possibility of discovering alien artifacts on the Moon stating that "forthcoming photographic reconnaissance of the moon from space vehicles - particularly of the back - might bear these possibilities in mind." ASU scientist, Paul Davies wrote: "Alien technology might also manifest itself in minings or quarrying activity, or even construction work." One of his papers mentioned "Geo-engineering structures":

"If aliens used lunar material as a resource, they may have carried out mining or quarrying activities, or even have built large structures that could still be detected from photographic surveys. The main difficulty in identifying the scars of major geo-engineering work would be to distinguish them from naturally occurring features. A round open-cast mine, for example, may after some millions of years come to resemble an impact crater or collapsed lava tube at first sight, and only a careful analysis of the topography might reveal signs of artificiality. Excavations with more distinctive topography (spirals, rectangles, etc.) would be more conspicuous. Because we have no idea of the motives, capabilities or agenda of a very advanced alien technological community, we cannot guess what form of surface modification might ensue from an alien presence, even a fleeting one, on the moon. It therefore pays to be as broad as possible when seeking signs of past geo-engineering activity."

There has been a lot of controversy for the last few decades about such structures on the Moon, but always a reasonable doubt. The objects in Paracelsus C could be an important discovery, but most likely the only way to settle the issue scientifically would be an amazing trip back to the Moon, but this time with an unmanned lunar rover. A manned mission would simply be too dangerous. You see, Paracelsus C lies on the BACK side. But I think Sagan would have given a thumbs up.

In 2012 an interesting article appeared in UNIVERSE TODAY in April of 2012. "ASU Researchers Propose Looking for Ancient Alien Artifacts on the Moon". Two researchers at Arizona State University had made a rather controversial proposal: have the public and other researchers study the high-resolution photographs of the Moon already being taken by the Lunar Reconnaissance Orbiter (LRO), to look for anomalies that may possibly be evidence of artifacts leftover from previous alien visitation, possibly thousands of years ago. The theory is that if our solar system had been visited in the past, the Moon would have made an ideal base from which to study the Earth. The paper had just been published in the journal *Acta Astronautica*. Professor Paul Davies and research technician Robert Wagner admit that the chances of success were very small, but argue that the endeavor would be worth the minimal investment required. The photographs were already being taken on a regular basis by LRO. Any interesting finds could be examined by others including imaging professionals. Shape-recognizing software could also be used to help discern any possible artificial artifacts from natural ones. Apparently, what they didn't know or hadn't time to see, was they had already imaged a fascinating set of targets on the lunar Far Side.

Nothing was mentioned about the possibility that such artifacts might have been placed there by early man and the Earth went through another extinction. But man or alien, the discovery and proof of a structure on the Moon would be the news of the century.

The screenshot shows a web browser window with the URL `wms.lroc.asu.edu/lroc/view_lroc/LRO-L-LROC-3-CDR-V1.0/M118769870LC`. The page title is "LROC Observation M118769870L" and the main content area displays "EDR: LRO-L-LROC-2-EDR-V1.0/M118769870LE CDR: LRO-L-LROC-3-CDR-V1.0/M118769870LC".

On the left side, there is a metadata table:

Product	M118769870LE
Pds dataset name	LRO-L-LROC-2-EDR-V1.0
Pds volume name	LROLRC_0002
Instrument host	LRO
Instrument	LROC
Original product	nacl0001e95e
Product version	v1.8
Mission phase name	NOMINAL MISSION
Rationale desc	TARGET OF OPPORTUNITY
Data quality	0
Nac preroll start time	(DOY:022) 2010-01-22T03:23:22
Start time	(DOY:022) 2010-01-22T03:23:22
Stop time	(DOY:022) 2010-01-22T03:23:36
Spacecraft clock partition	1
Nac spacecraft clock preroll count	285823402:33423
Spacecraft clock start count	285823402:57331
Spacecraft clock stop count	285823416:48345
Target name	MOON
Orbit number	2636

Below the metadata table is a large grayscale image of the lunar surface, showing a prominent dark shadow cast by a crater rim. A small inset image in the top left corner of the main image shows a zoomed-in view of a specific feature. The browser's taskbar at the bottom shows the Windows logo, search bar, and system tray with the time 3:59 PM on 6/19/2016.

Figure 1

The "structures" on Lunar Reconnaissance Orbiter frame M118769870L

Upper object: 15 m tall, 40 m long (130')

Lower object: 10 m tall, 60m long (200')

In late May I began compiling a report a few weeks after my colleague, Ananda Sirisena, sent an email with an attachment of images that looked like dark "towers" on the surface of the Moon. When I searched for images of towers on the Moon, not only did these "towers" show up, but "structures" and some NASA image sources were suggested in a non-NASA website. All of the attention seemed to be focused on "walls" & "towers" and all lumped into the same basket. The location of all of the objects were suppose to be in the area of Paracelsus, a crater system on the lunar Far Side. After quickly confirming the "structures" in an official LRO image (see Figure 1) I put the Lunascan Project verification team to work and began an investigation of the the most interesting features we're ever seen on our nearest neighbor. A few weeks later I began drafting another separate report on the elusive "towers" which were interesting, but thought to be different objects somewhere else, up to 85 km to the NE, but still in the region. Within a few weeks it was obvious that both the "towers" and the "structures" were one and the same. And there was a good possibility there was more to come with the images from the Clementine mission of 1994. We soon had images from eleven (11) different NASA missions, from 1971 to 2014! And our colleague, Mark Carlotto had already produced two "3D flyovers". At this point I knew we had to void both complicated and confusing reports and begin a new comprehensive paper on these objects. I submit that M118769870L is what Carl Sagan might have been referring to in 1962, and was echoed by ASU scientist Paul Davies in 2011 while LRO was still imaging the Moon. But first, take a look for yourself at M118769870L:

Going to the NASA LRO site click on

http://wms.lroc.asu.edu/lroc/view_lroc/LRO-L-LROC-3-CDR-V1.0/M118769870LC

This will take you DIRECTLY.....to LROC Observation frame M118769870L. Go to the center of that vertical frame and left click three times until you see the targets. Center the objects. Left click again three more times to obtain full magnification. This is the original unredacted NASA image obtained by the Lunar Reconnaissance Orbiter (LRO), one of over hundreds of thousands of images throughout the mission, and transmitted from the Moon to Arizona State University for systematic processing and cataloging. The date was January 22, 2010 and the LROC was on orbit 2636 at 53.5 km when it was on the lunar Far Side taking these incredible pictures at .55 meters per pixel. These images represent some of the highest resolution to date.

DISCOVERY

Right after the first leads were received from Ananda I discovered two web sites, *Alien*

Anomalies and UFO Sightings Daily, which had posted and copied this information over two years ago on January 11, 2014. These sites briefly discussed tall building-like structures within Paracelsus crater with estimated measurements of .35-.45 km across (totally incorrect) and graphically rendered in Figure 2, and #7 was the image that Ananda had originally transmitted to me. In the other frames there were other objects, some with the orientation and processing changed. Image 3 didn't appear to be the same object. Everyone was calling them "anomalies", "walls", "towers". For 2-1/2 years the story had not been thoroughly investigated.

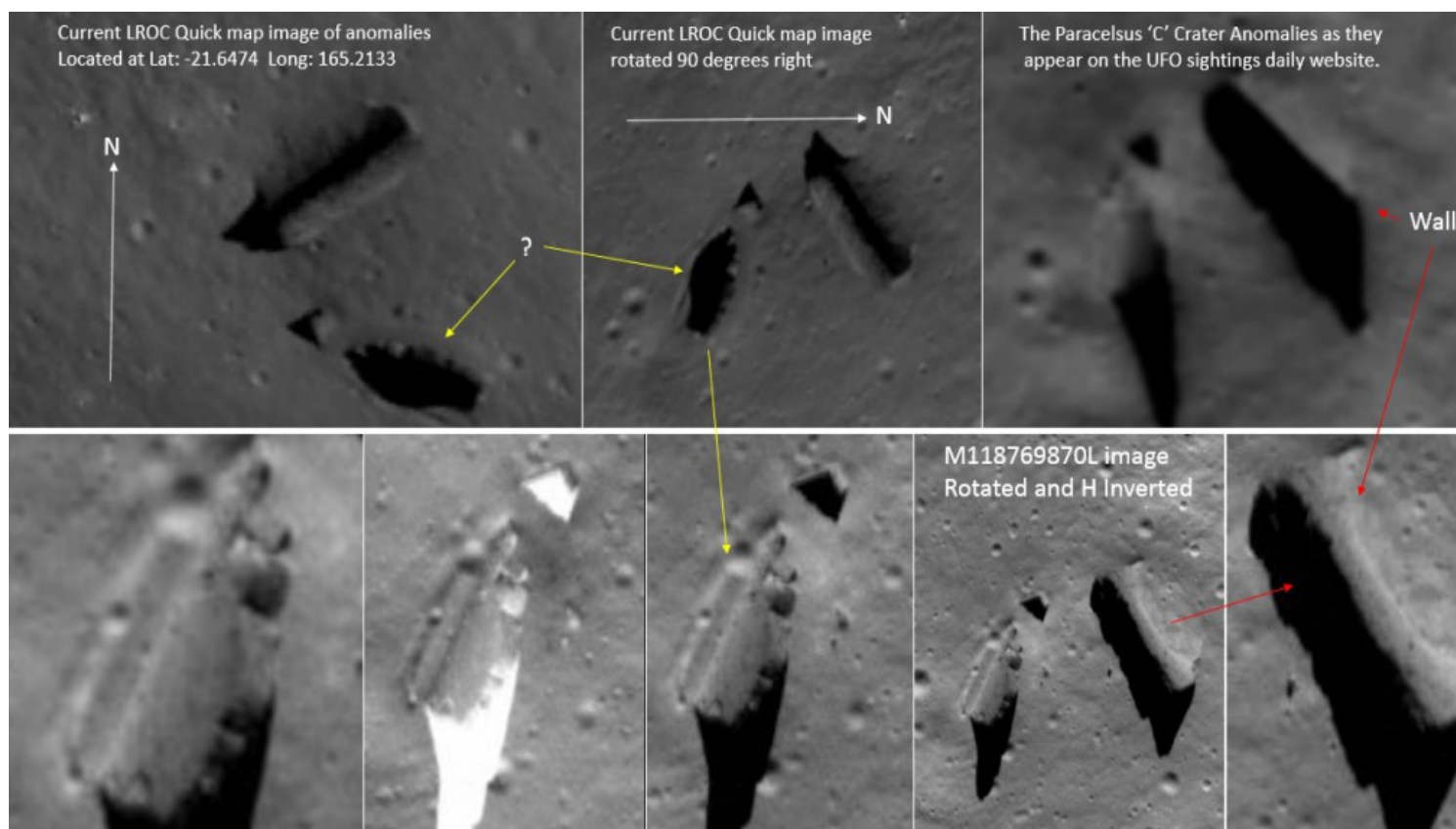


Figure 2

All of these images were supposed to be from the same area. They were allegedly from original NASA image sources, AS15-M-0083 (&84) and AS15-P-8868. They were distorted, rotated, H-inverted, and enlarged. It turns out that they are all one and the same targets seen under varying resolution.

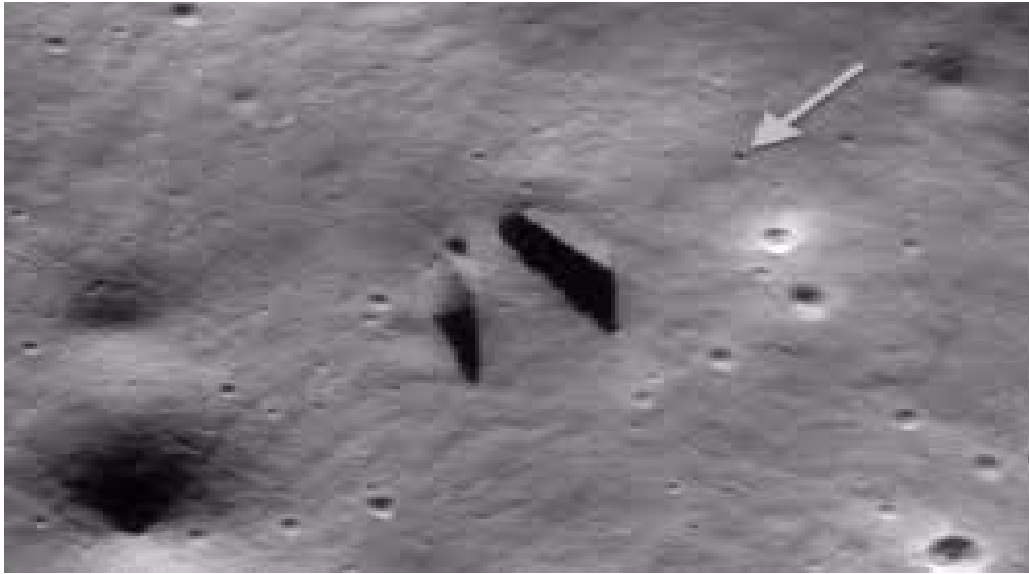


Figure 3.

Internet image showing "walls" or "towers" allegedly found on an Apollo 15 photo.

According to the anomaly web sites, the Paracelsus Crater anomaly story was based on some other people's work, especially a fellow by the name of Scott Waring, and additional research and an accurate location was supplied by others, such as Lat: -21.6474 Long: 165.2133, which indicated to them an image from the Apollo 15 Panoramic Camera (AS15-P-8868), target being the crater Paracelsus.

As you can see from the LROC image printscreen in Figure 1, the objects are very interesting for several reasons, and one of the first things needed was to find the same "structures" on other images. Out of many thousands of images taken of the Moon by the LRO, was this one from the lunar Far Side missed by NASA?

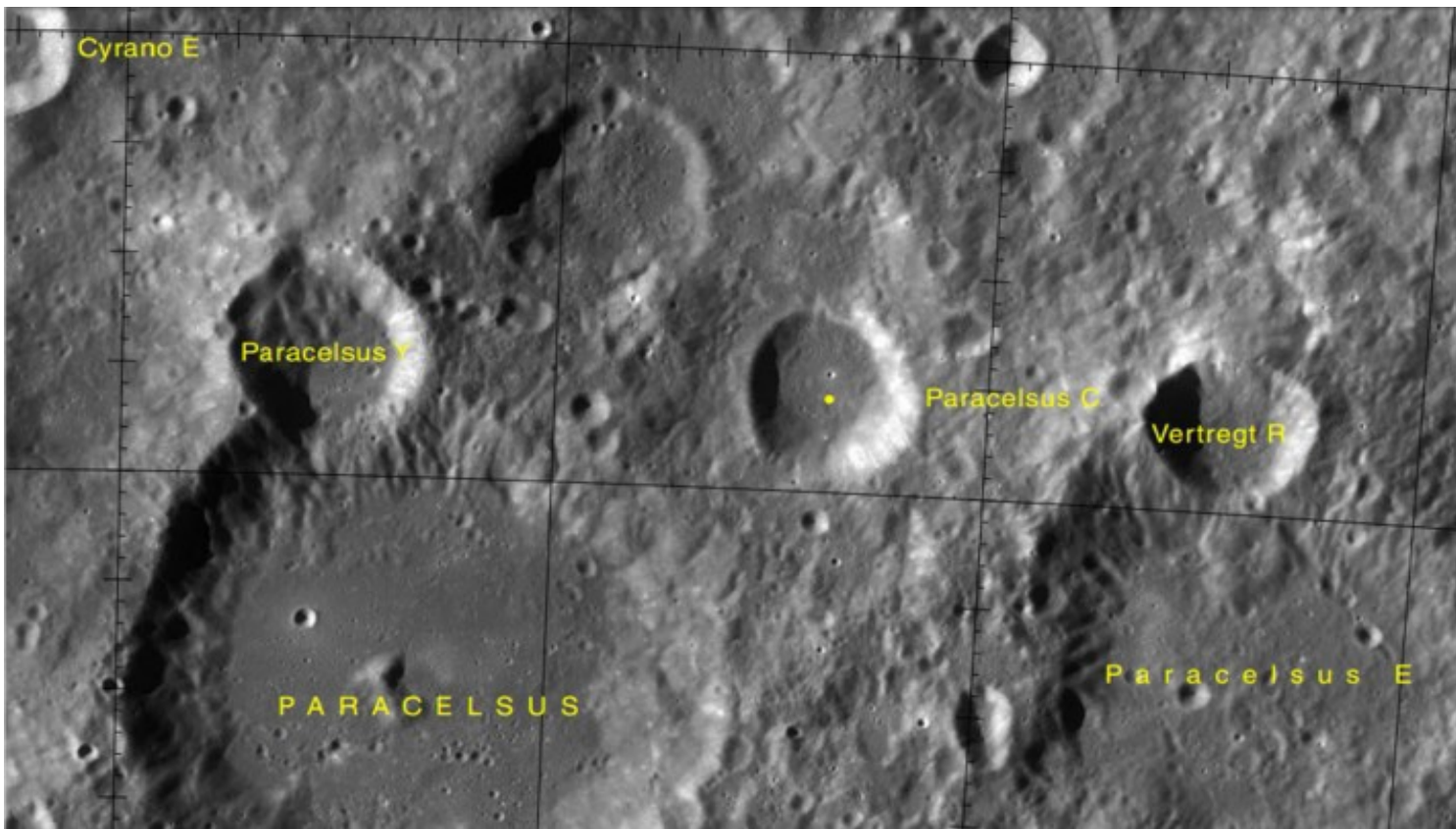


Figure 4
Cropped from LRO WAC Chart 103

In Figure 4 you can see the satellite crater, Paracelsus "C" dead center. The primary crater Paracelsus is to the left and "E" to the right. I was under the mistaken impression at first that the "structures" were in "C" and the "towers" somewhere in the primary crater, a lot of territory to cover.

APOLLO PANORAMIC CAMERAS

The Panoramic Camera obtained pictures of narrow strips, 20 kilometers wide in the direction of spacecraft motion and 320 kilometers long across the spacecraft's ground track. These pictures had extremely high resolution, showing features just 1 to 2 meters across. Photographs with both cameras were taken so that there was substantial overlap in the ground coverage of consecutive photos. This allowed the technique of stereo photography to be used to determine the heights of features shown in the photos. Under ideal conditions, the heights of these features could be determined to an accuracy of better than 10 meters. The results of this stereo photography were used in producing topographic maps.

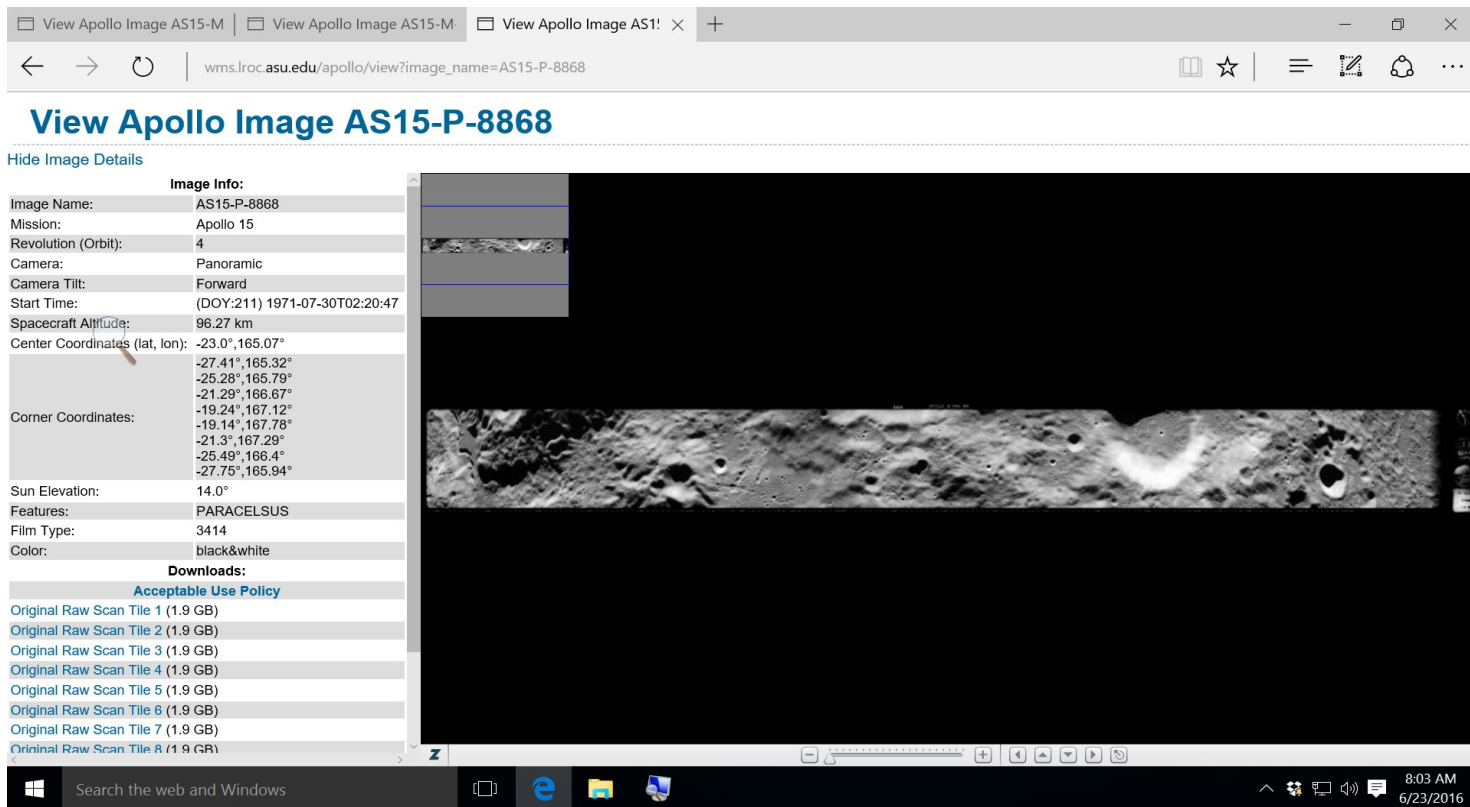


Figure 5.
Printscreen of AS15-P-8868
[S15-P-8868 Click here](#)

At 7 PM, on June 17th, I was able to locate the "twin towers" on an NASA Apollo Panoramic Camera image, AS15-P-8868. It is a slow and tedious job scanning the full frames of these images and I had to do it in-between my crowded work schedule and had just gotten to about the middle of LRS7 (Left-Right Scan segment 7) when "they" literally leaped out at me. I did a screen print (Figure 5). The support data for AS15-P-8868 states there were 8 tiles, so those tiles are larger than the 14 pc-screen-filled segments or strips I was scanning, and I re-estimated that the targets of interest probably resided in tile 3. Ananda Sirisena confirmed this and downloaded all 8 tiles in tif format. The Apollo 15 Panoramic Camera was in orbit around the Moon at 96 km altitude on July 30, 1971, and the sun elevation was 14.0 degrees.

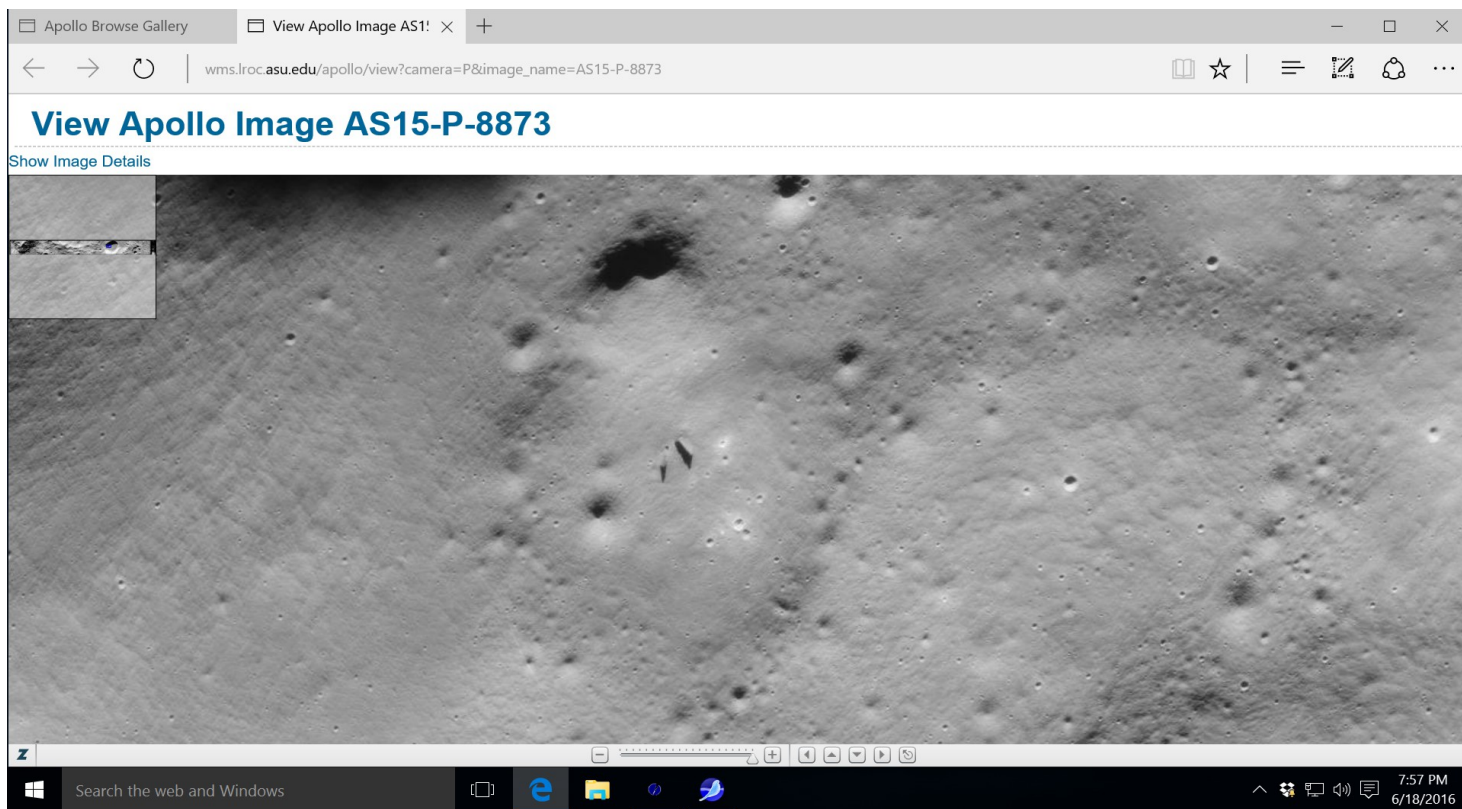


Figure 6.
printscreen of AS15-P-8873
[For full AS15-P-8873 Click here](#)

Within hours of my discovery, Ananda had found the same identical "towers" on an additional Apollo image, AS15-P-8873. This was a very important discovery. Now we had two different and very high resolution Apollo Panoramic Camera images of what we thought were "towers". The difference in viewing angles, as well as the sun elevation and the data from the shadows cast by these objects, would give us the opportunity and the ability to calculate the size and height of these very interesting features. What were once thought to be shadows in craters that were possibly photoshopped to get straighter edges and look artificial, turned out to be exactly what they appeared to be in the unredacted NASA Apollo images. And instead of shadows in craters, the objects appeared to be standing right in the middle of a flat area (exactly like the structures in the M frame of the other "structures" mentioned earlier) that resemble a wide shallow depression.

In an attempt to predate the existence of the "structure" anomalies in 2010 we began looking at Apollo Panoramic and Metric images of the 1970's, in particular Apollo 15 which was actually July of 1971. With the target coords from LRO/ASU M118769870L being

lat: lon:

THE APOLLO METRIC CAMERA

The Apollo Metric (mapping) Camera obtained pictures of the surface covering 165 kilometers on a side, with a horizontal resolution of 20 meters, based on a nominal spacecraft altitude of 110 kilometers.

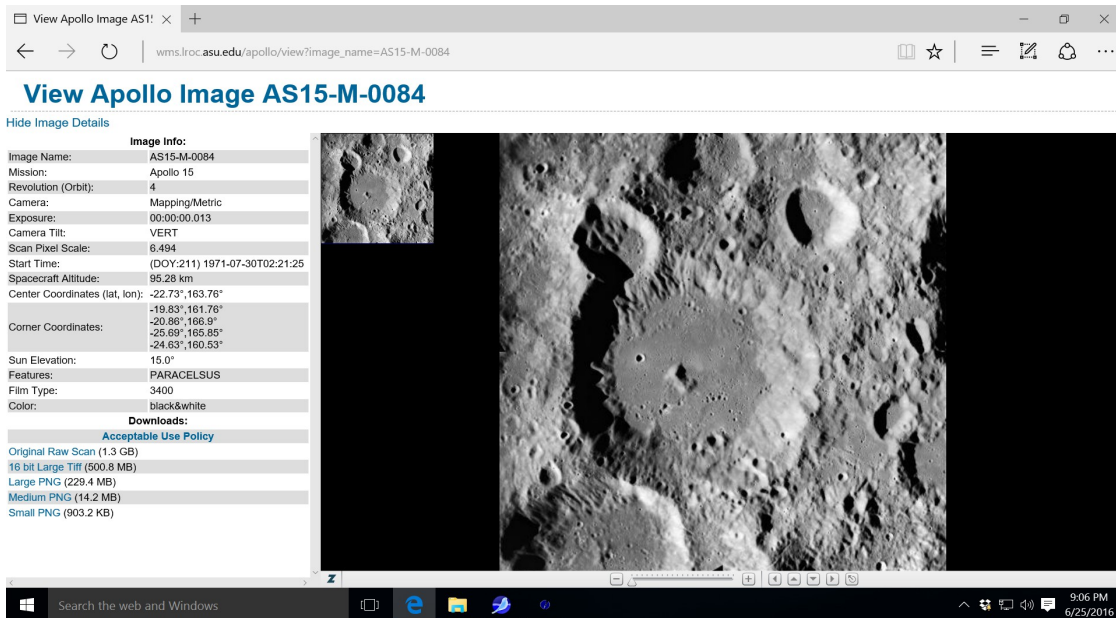


Figure 7.

AS15-M-0084

[AS15-M-0084 Click for best view here](#)

Figure 7 above shows the image taken by the Apollo 15 Metric Camera. There are actually two metric camera images of Paracelsus, one a slightly different view (frame 83) both showing a wider area of the target zone in 83-km wide crater Paracelsus (at 95 km up) on July of 1971. This one has Paracelsus more centered.



Figure 8. Eleven missions and mission dates

Figure 8 illustrates that we have to-date seven Apollo-15 images (*) and four LRO "M" frames (three of which we are coming to). Mark Carlotto has created two 3D "flyovers"

of the targets and an analysis provided later. Ananda Sirisena is still searching for Clementine images (1994).

(* Three more Apollo Metric Camera images had been found containing the targets on June 28th by Ananda Sirisena: AS15-M-0081, 0082, and 0085, naturally adjoining 0083 & 0084)

Using those same coordinates for LRO we had discovered three (3) other LRO "M" mission frames of the "structures", all four imaged on different dates from 2010 to 2014, with varying light conditions, sun angles, LROC altitudes, etc.

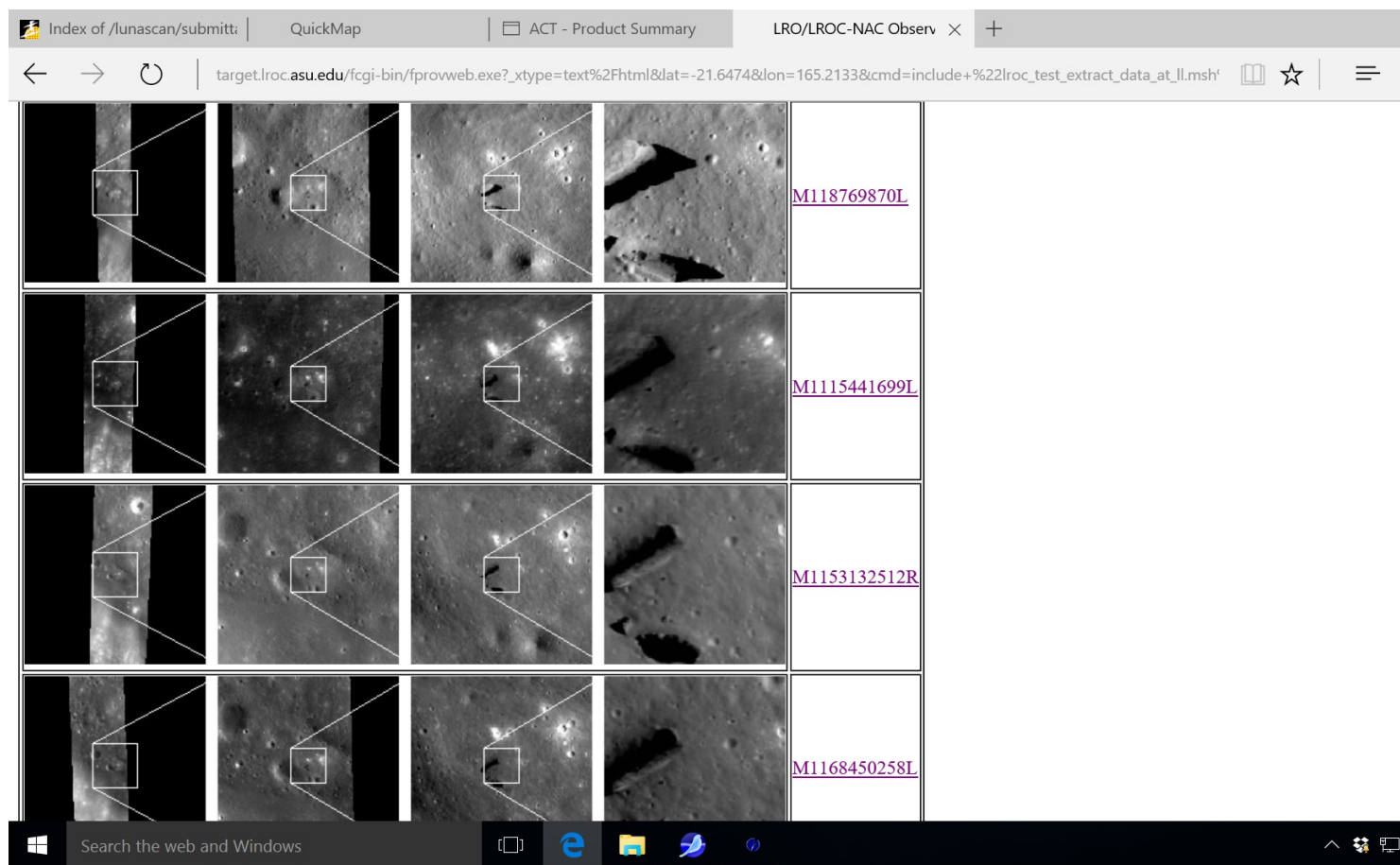


Figure 9.
The Four LROC Images at Coords

Ananda & I both discovered three other LROC frames which are graphically shown in Figure 9, the ActReact QuickMap, Projected NAC's at a given point. Lat -21.649, Long 165.224 had the targets but they were almost out of frame. Lat -21.6474, Long 165.2133 were dead-on.

M118769870L is the same one shown above in Figure 1. To see any of these in full glory right at the NASA LROC site simply Google up the full M number and click on that Observation line. With those you can zoom in thanks to Adobe Flash.

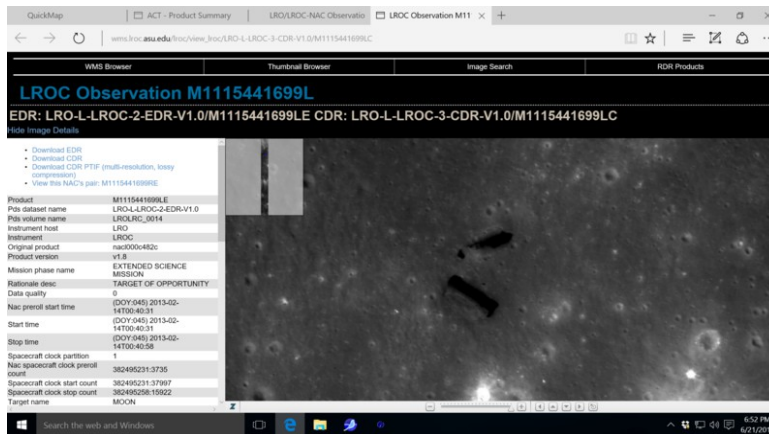


Figure 10
M1115441699L, taken on February 14, 2014, orbit 16613.

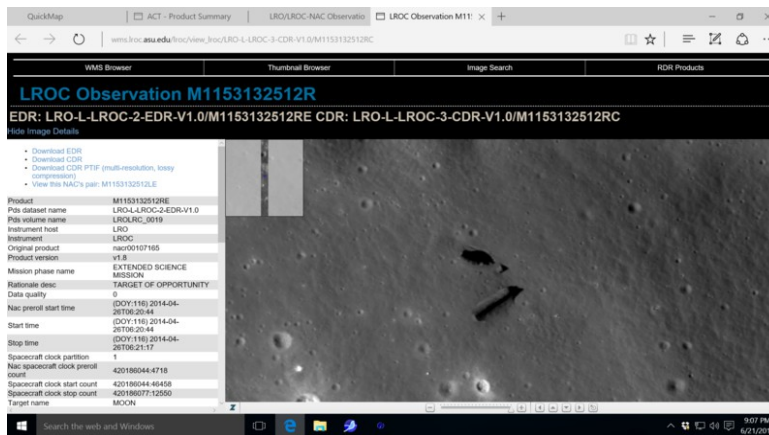


Figure 11
M1153132512R, taken April 25, 2014 on orbit 21914.

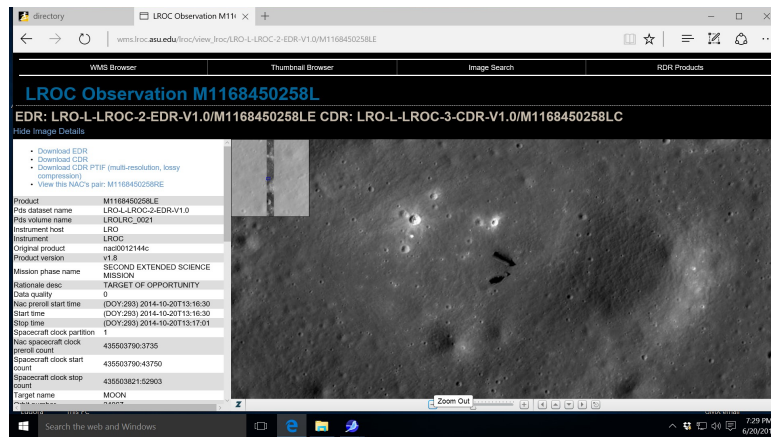


Figure 12
M1168450258L, taken Oct 20, 2014.

SOME COMMENTS REGARDING M118769870L

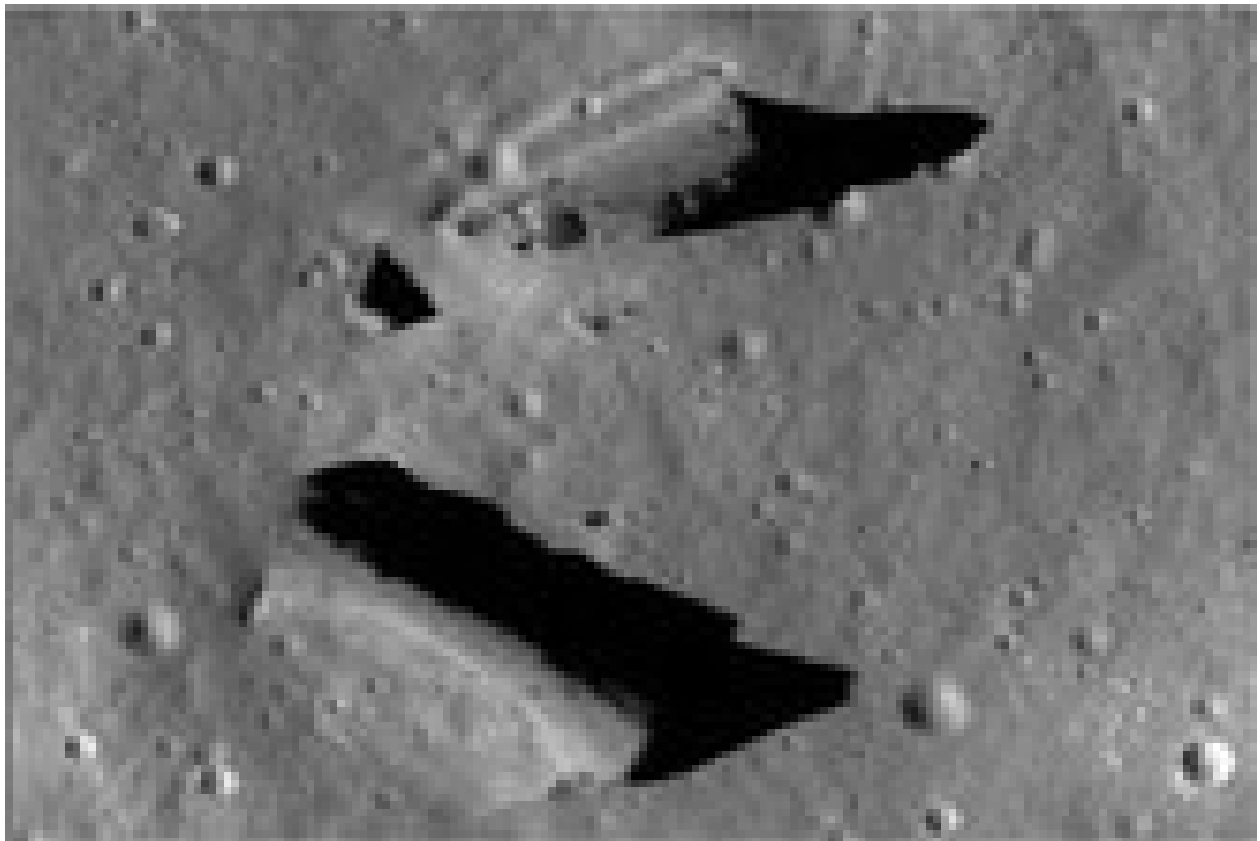


Figure 13. M118769870L (Cropped BU)

Be advised, the frame from LRO/ASU is actually upside down and South is at the top. The LROC (LRO Camera) was in a polar orbit and was coming over the pole heading

south at the time of this imaging. Notice how the lunar regolith appears to have been ramped up against the bottom object (can't see the north side due to shadow), and also the smaller "ramped" area on the upper image.

Dr. Mark Carlotto was one of the first consulted. He is a fellow member of SPSR and had helped us on the Blair Cuspid study in 1996.

Carlotto: "Not towers, I agree. But they are interesting features. Great that you found them at LRO."

However, Mark was unable to help us on the analysis at that time, but has since helped us file an analysis which is a separate report. Mike Swords popped the obvious question regarding this discovery.

Swords: "So, just how big are the structures?"

The first big lead in the analysis came from Brad Sparks.

Sparks:

"A degree of selenographic longitude is 28 km at the 21.64 degs latitude and the strip image is supposed to be 0.09 deg longitude wide hence about 2,500 meters wide. Measuring with my ruler, the longest object image is about 2.3% of the 2500 m width or about 60 meters (200 ft) long. The smaller one is 2/3 of the longer one, or about 40 meters (130 ft) long....The craters are almost half filled with shadow so I am guessing that sun's elevation angle is maybe about 20 degs so the approximately 40-meter long shadow cast by the upper (smaller) object would correspond to an object height of roughly one-third or say 15 meters or so. The longer object is casting less of a shadow, about 30 m long so it would be about 10 m high."



Figure 14. Enlargement of top object. Note angled wall at bottom left (See shadow).

These are not "walls" or "towers" of any kind. The consensus has been that "we don't know what they are, but we know what they are not." They have some height, this one estimated at 15 meters as the shadows clearly suggest, and the width and length (40 meters or 130') are of relatively good size as well. This is not any kind of a discarded launch vehicle, rocket stage, fuel tank, that had landed on the Far Side. There is not the slightest indication of an impact, no ejecta, etc., except the normal craters near the objects. The internet images of crashed or discarded space hardware all show bright splatter patterns.

One comment not mentioned in this report, but had been brought up previously, was that the sun angles were problematic. "Dark shadows in the wrong direction" on the structures compared to the nearby craters. Analysis shows that all the shadows are correct. One must remember, this is not a retouched internet copy. This is an authentic image, right from LRO, handled, processed and cataloged by the contracted Arizona State University team.

Mike Swords, still interested in the size of the objects, commented further.

Swords:

"The small size makes these interesting. Had they been miles long I'd have pretty much lost interest. The littlest thing {the 'right angle' between the two larger shadow-throwing things} intrigues me, as it could be that looking at it you'd see an artificial-looking angular "wall" rising to a sharp point ...

maybe....Be nice to get other Sun angles."

In 1996 David Williams helped us in our re-discovery and confirmation of the Blair Cuspids with his finding a second Lunar Orbiter image overlapping ours. I had to run this report by him first before contacting anyone else in NASA. His reply arrived on July 6th:

David Williams:

"It certainly is an interesting looking feature. I would guess that NASA is more focused on two types of areas for future rover exploration. Those would be areas that show signs of possible near-surface water ice, such as the deep craters near the poles, and those that show evidence of deep penetration by impacts, such as the South Pole Aitken Basin, where they would want to study deep crustal and possibly mantle material. At least that's my best understanding of the types of things they are concentrating on right now."
(NASA Space Science Data Coordinated Archive, Goddard Space Flight Center, Greenbelt, MD.)

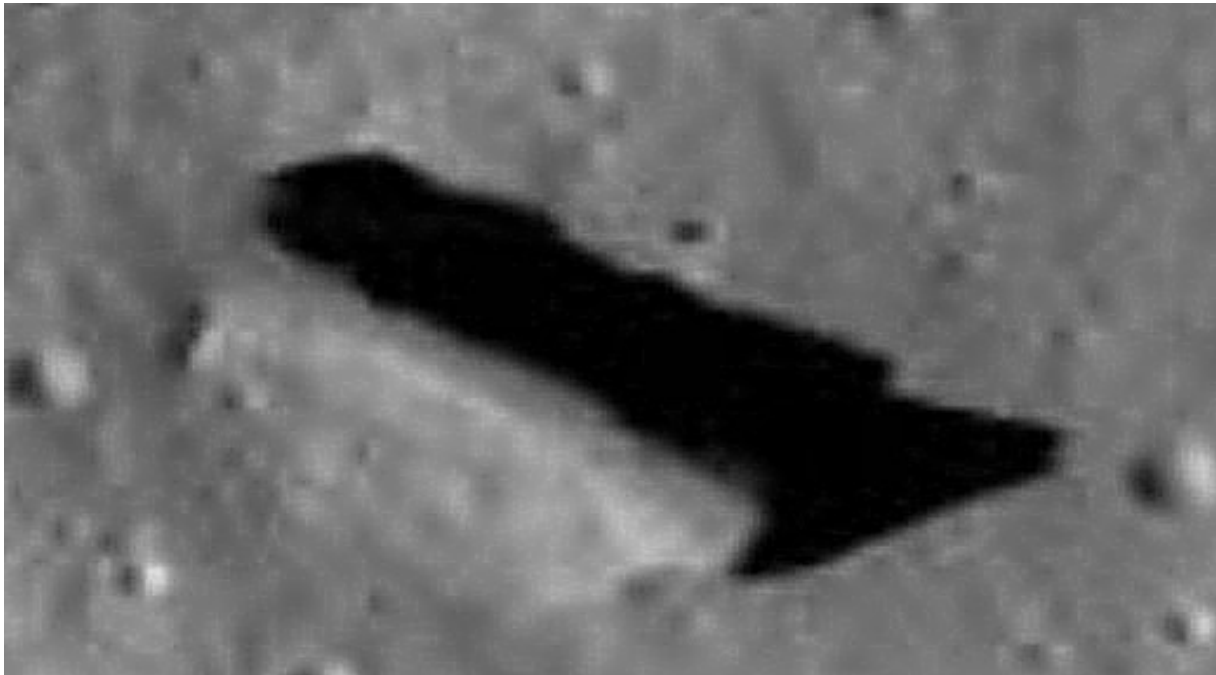


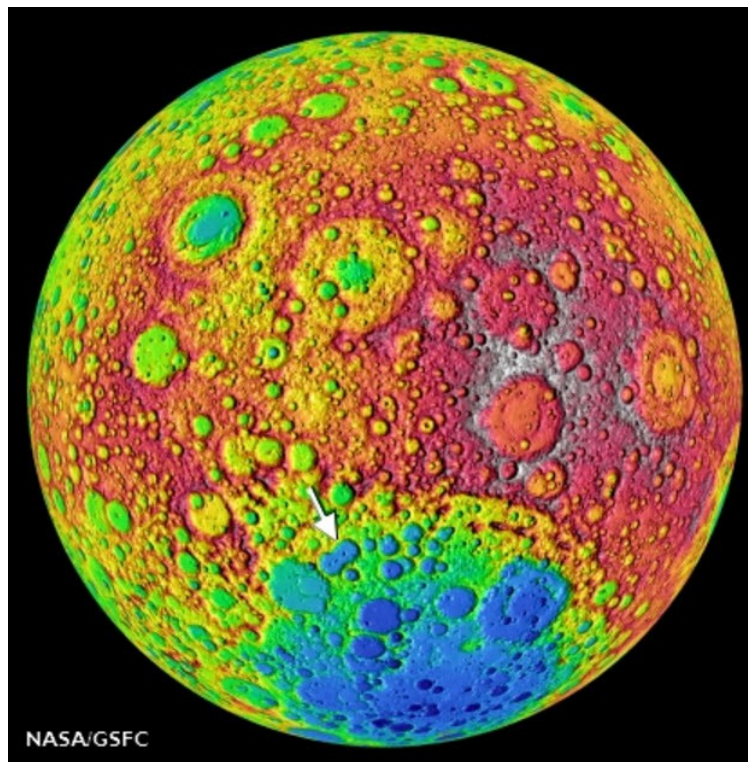
Figure 15.

This smaller object is longer than the upper "structure" and the shadows indicate it to be about 60 meters or 200' in length, with a height of about 15 meters. The structure seems to have been reinforced as if a bulldozer had shoved lunar regolith up against it. The

crater to the left of the "ramp" seems to indicate that the structure was built before the crater was formed and this indicates the structure may be very, very old.

This places the targets in Ridge Section 141, entitled "VanDeGraaf", on the lunar Far Side:

<http://www.astrosurf.com/lunascan/0141dir.htm>



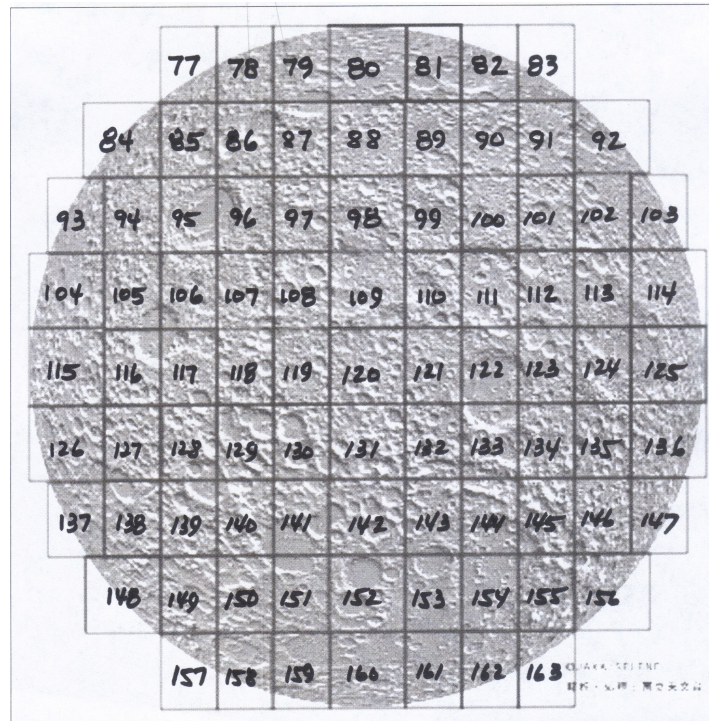


Figure 13

The false-color map shows areas of similar materials on the lunar Far Side surface. The arrow marks the location of the "structures" in Paracelsus, which is NW of the "figure 8" crater known as Van DeGraaf, both of which lie within the boundaries of Ridge Section 141. Had I known about the anomalies in 2013 when I created the charts I would have named Section 141, Paracelsus, which resides in that section.

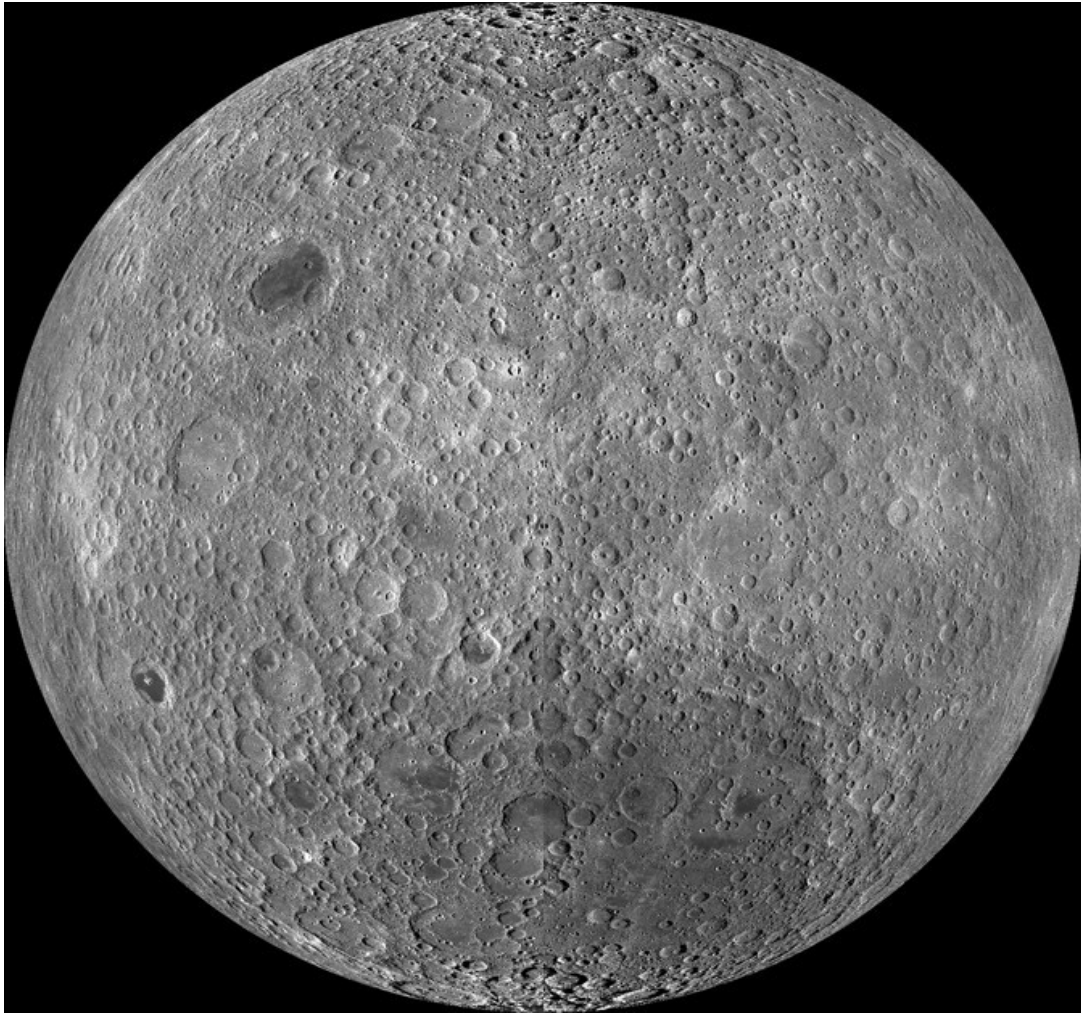


Figure 14. Lunar Far Side

This is a very high resolution LROC image of the full back side or Far Side of the Moon. The "figure 8" crater and the Paracelsus region can be easily be seen. Paul Davies of ASU wrote about footprints of alien technology and mentioned one type of search of particular interest here:

Paul Davies, ASU:

"Large-scale mineral processing or geo-engineering: Mining or quarrying could leave scars that would persist for geological times, although the evidence may well by now be buried beneath overlaying strata (just as the 65 million year old Chixculub impact crater, associated with the death of the dinosaurs, is no longer visible). But buried quarries or mineral dumps could still be revealed from geological surveys. Quarrying or construction on the moon or asteroids would persist conspicuously for much longer, and scrutiny of the Lunar Reconnaissance Orbiter data would be a useful exercise. Exotic technologies, such as those exploiting magnetic monopoles or dark matter

energy sources, might leave distinctive microscopic traces in the geological record, such as tracks in mica."

Fran Ridge:

The crater Van de Graaff is near Paracelsus. The SW section has a central peak, while the NE floor is slightly smoother in form. Orbital studies of the Moon have demonstrated that there is a local magnetic field in the vicinity of this formation that is stronger than the natural lunar field. This is most likely an indication of volcanic rock underneath the surface. The crater also has a slightly higher concentration of radioactive materials than is typical for the lunar surface. I'm looking for such anomalies right in the area of the targets of interest, but so far haven't found any.

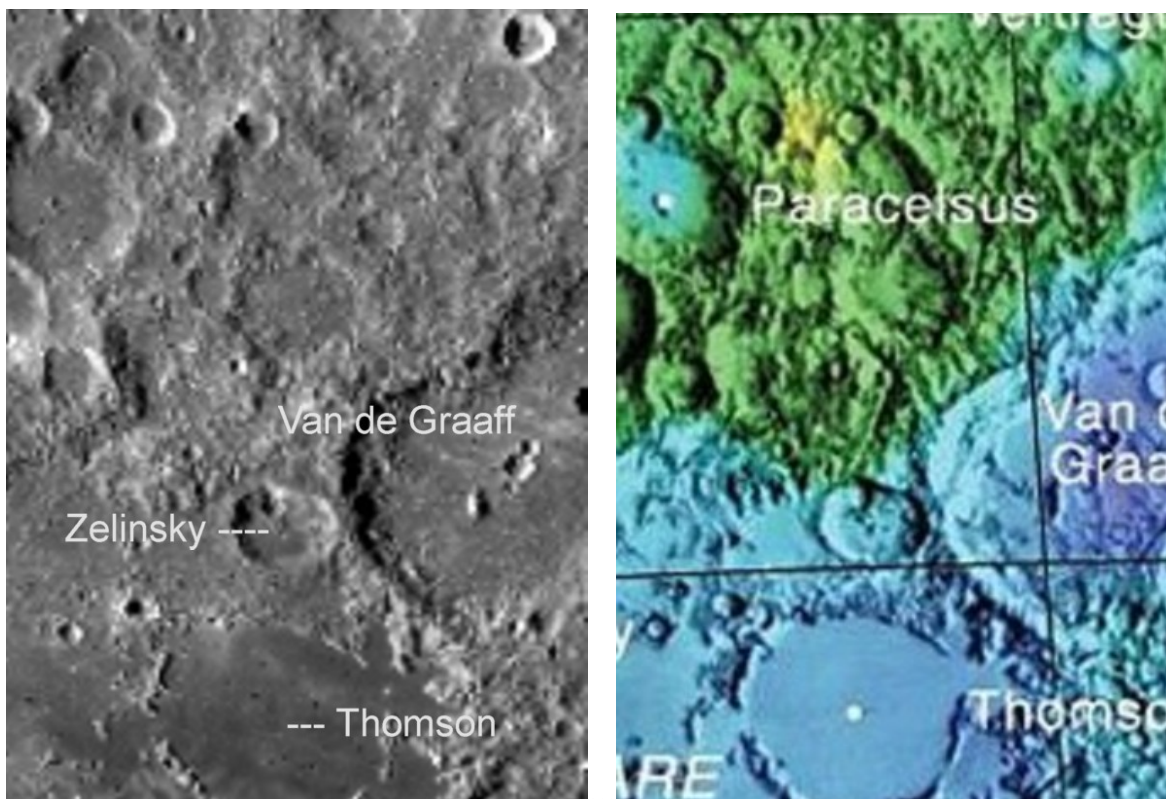
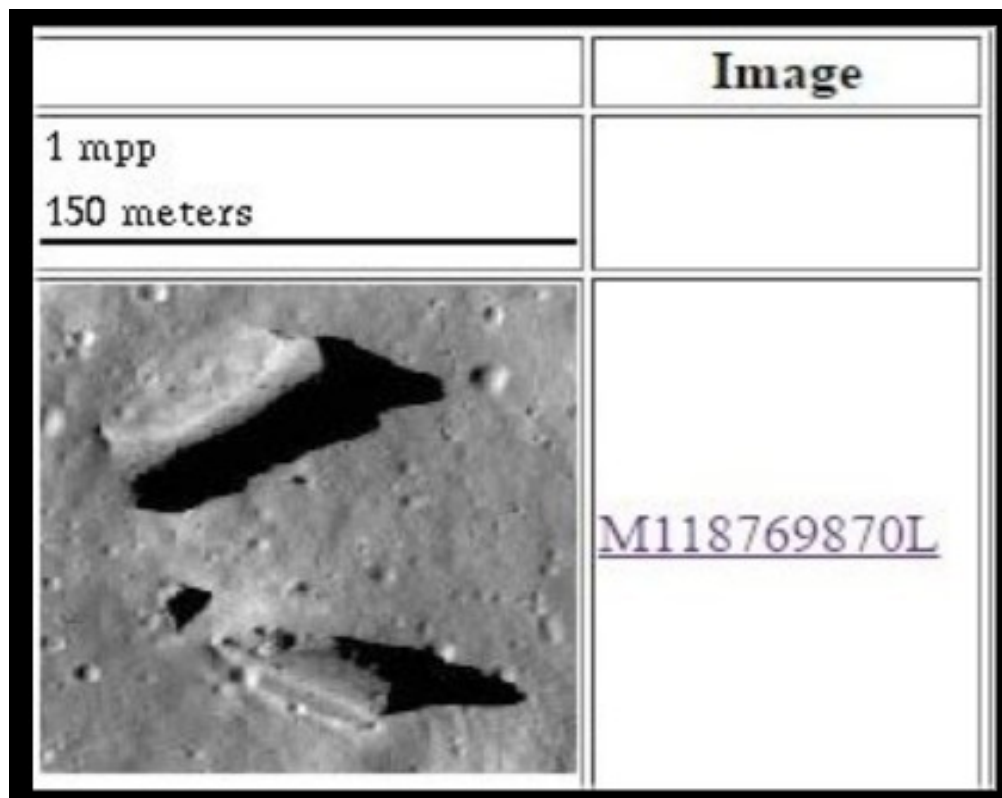


Figure 15
Ridge Section 141, VanDeGraaf

Further confirmation of size and field came from Lunascan Project & SPSR member, Ananda Sirisena, who provided this:



From Projected NAC's at a given point

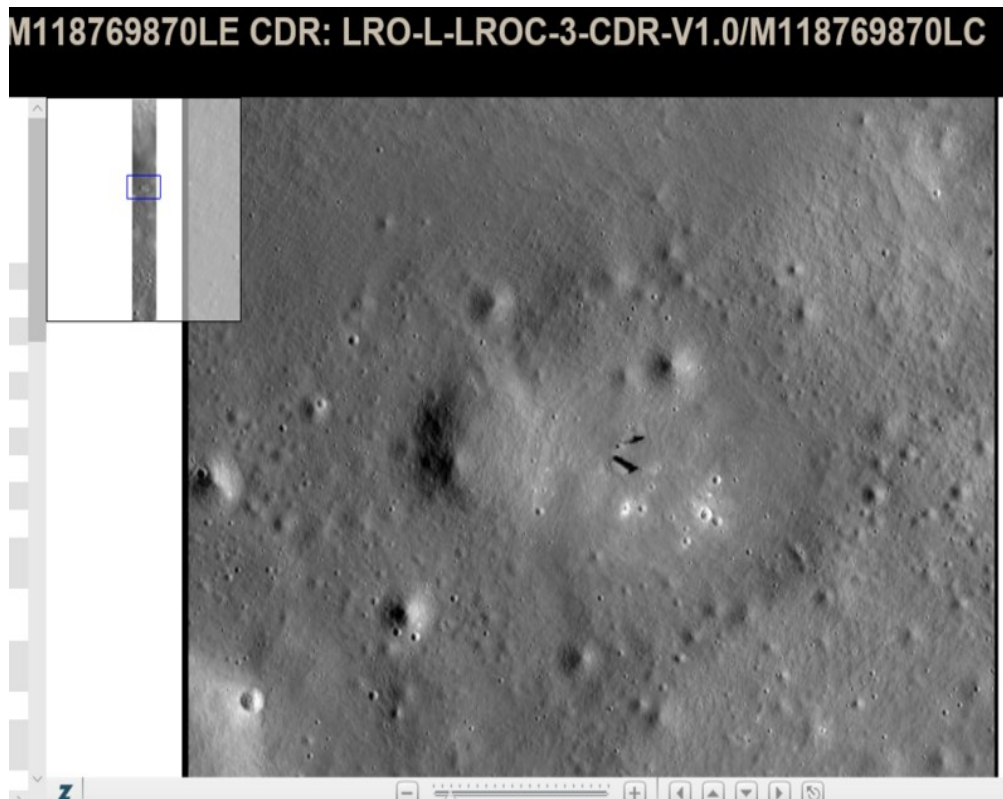
Greg Orme:

If you drop something into a pool of water, you will get a rebound effect in the middle where the object was dropped, and then waves will spread out around it. This rebound effect in the middle is the same phenomenon that causes central peaks in craters.

Fran Ridge:

Greg, You missed the most important part of the information regarding central peak formation. The difference is just the scale: An impact that forms a $>\sim 15$ -km-diameter crater on the moon will cause the rock to act like the liquid to the point that you get the rebound effect and form a central peak. Smaller craters on the moon will not have central peaks, and larger craters above ~ 120 km will form a peak-ring. The transition diameter for these features -- a simple, bowl-shaped crater; a "complex" crater with a central peak; a peak-ring crater -- is inversely proportional to gravity. So, on Earth, the transition diameters are smaller -- you only need to get a ~ 3 -4-km-diameter crater before you can form central peaks. On Mars, the transition diameter is around 6 km. To a lesser extent, target material strength will affect the transition diameter, as well. But in the end, the central peaks are formed by rock rebounding, being

pushed back up by the strength of the underlying rock after the initial impact event. Central peak formation happens within minutes of the impact itself, even in craters 10s-km across. The Paracelsus C objects are too small and within too small an area to be parts of central peaks.



Objects "appear" to be the center of activity.

Ananda Sirisena:

One needs to look at the complete context of the images of these objects. They are not in the center of the Paracelsus C but in the south-west quadrant of the whole crater. They are certainly worthy of further investigation. One finds "natural" rocks in the middle of craters, generally. Any advanced race can modify "natural" objects to suit a purpose, such as we do when we make tunnels through mountains. That does not mean the mountain is "not natural", just the tunnel is artificial. So our lines of detecting natural/artificial features can be a very complex science.

Fran Ridge:

Don't forget that while the anomalies are not in the center of Paracelsus C (which is 24 km wide BTW), they ARE almost dead center in a shallow bowl-

shaped area that to me reminds me of a construction site. And the crater to the left has some anomalous detail we haven't gotten into yet. When Rich Vitello and Rob Duvall and I initially spent considerable time on phone conversations regarding this find in early June, this area and the crater were part of that discussion. After that (and for many weeks) all the attention was focused on the 150 meter wide area of the structures themselves. I am still very interested in this scene.

Since this discovery report was written, besides the analysis paper (by Dr. Mark Carlotto, Fran Ridge & Ananada Sirisena), I have discovered a number of interesting images, reports, and papers concerning exposed and collapsed lava tubes. My attention was then redirected at the anomalies at Paracelsus C with the possibility of surfaced ends of lava tubes, but there does not appear to be any evidence of LTs in the region to start with. And the two anomalies being almost dead center of a shallow bowl-shaped cleared area still stirs my interest.

Be advised that since the analysis paper was drawn up the "flyovers" listed below may not be active links.

FLYOVERS BY DR. MARK CARLOTTO

The two YouTube "flyovers" and 'image analysis' are linked below, as well as our official analysis.

3D View of Paracelsus C in M-frame M118769870L
<https://www.youtube.com/watch?v=zbdUV-MhN-0>

"Creased structure" in M frame M1168450258L
<https://www.youtube.com/watch?v=ScvEVRcLazA>

"Image Analysis of Unusual Lunar Structures in Paracelsus C"
<https://www.youtube.com/watch?v=tL5McOJT2Gk&feature=youtu.be>

Our analysis paper (by Mark Carlotto, Fran Ridge & Ananda Sirisena)
[Analysis of Unusual Structures on the Far Side of the Moon in the Crater Paracelsus \(ResearchGate\)](#)

Fran Ridge,
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Member, Society for Planetary & SETI Research
skyking42@gmx.com