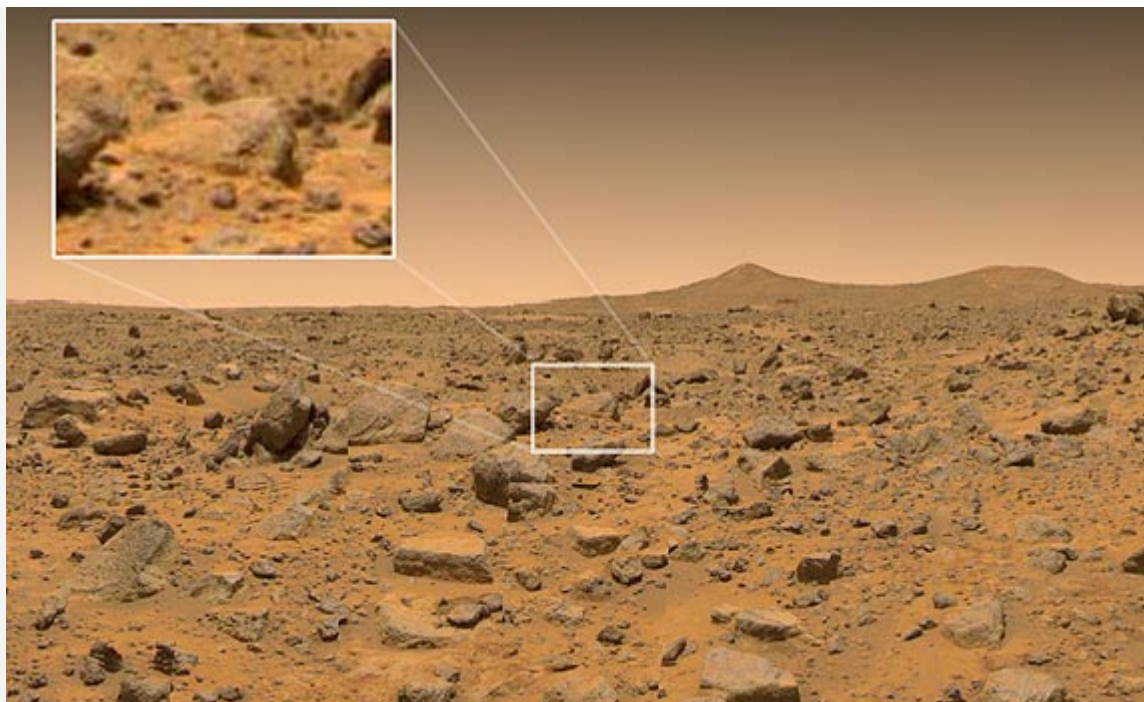


**News Archive 2009**

**Rock formation on Mars a reminder of the collapse of the Berlin Wall**

*5 November 2009*

**DLR researchers named a volcanic rock on Mars 'Broken Wall'**



Broken Wall – a rock formation on Mars reminiscent of the fall of the Berlin Wall

The Berlin Wall fell 20 years ago. From 1961 to 1989, this concrete wall, many miles in length, divided not only a city but also the whole of Germany. A shattered rock formation on Mars is a reminder of the event that changed the world on 9 November 1989. 'Broken Wall' was the name given in 1997 by Berlin scientists at the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) to this 'wall rock', undoubtedly the furthest distant from the original wall. This volcanic rock was discovered near the landing site of the US Mars Pathfinder space probe, which landed on the Red Planet on 4 July 1997.

**Symbolic proposal for a name**

Animation: The line taken by the Berlin Wall

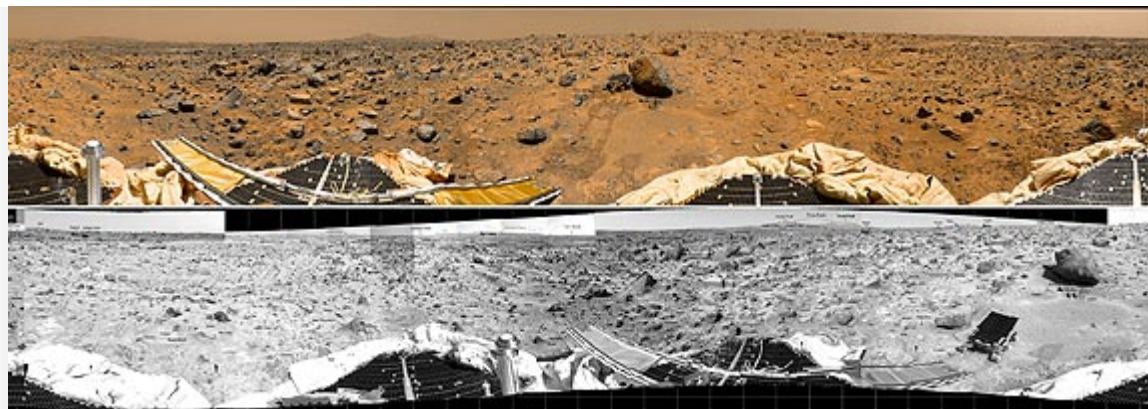
"'Broken Wall' is intended to remind us all of that event, so meaningful to all of us: the collapse of the Berlin Wall. In the same way, the successful collaboration since 1992 between scientists and technical experts from what are known as the 'new' and 'old' federal states of Germany (or former East and West Germany) at the DLR Research Center at Berlin-Adlershof is properly honoured," explains Prof. Ralf Jaumann from the DLR Institute for Planetary Research. The DLR scientist is also the 'spiritual father' of

'Broken Wall': it was he who, as part of his involvement in the 1997 Mars Pathfinder Mission in the USA, proposed this symbolic name.

"When we scientists started to evaluate the images of the area around the landing site, we were looking at a magnificent composite panorama, made up of the individual images taken by Pathfinder. To the west of the probe landing site, we were viewing a rock formation running from north to south, which vaguely reminded us of the remains of a collapsed wall," recalls Prof. Jaumann. The actual line taken by the Berlin Wall and the historical changes made to a number of Berlin squares and landmarks were compiled for us by DLR's German Remote Sensing Data Center (Deutsches Fernerkundungsdatenzentrum; DFD) in a series of animations entitled 'Berlin, a Journey Through Time' (Berliner Zeitreise) (see link in right-hand column).

#### **Original image as a gift for the incumbent Mayor of Berlin**

The idea for the name of the rock formation discovered on Mars initially attracted vehement criticism: on small yellow slips of paper, scientists at Mission Control in the Californian town of Pasadena initially favoured designations drawn from well-known comic-book and cartoon figures such as Barnacle Bill, Scooby-Doo, Yogi Bear, Twin Peaks or Mini Matterhorn. Despite their completely different backgrounds, with different historical legacies to inform them, the DLR notion of 'Broken Wall' was well received by the international team of researchers. A short while later, the rock was duly recorded as 'Broken Wall' in the NASA catalogue of names for Mars rock formations.



The environment of the Mars Pathfinder landing site

In Berlin, the city divided for 28 years, the Earth-bound chapter in the cosmic 'wall rock' story was closing. In the autumn of 1997, the DLR researchers associated with Prof. Jaumann presented Eberhard Diepgen, the then incumbent Mayor of the Berlin, an original of the image of 'Broken Wall' from mission control in Pasadena.

The history of 'Broken Wall' is also recounted in the book entitled 'Die Berliner Mauer in der Welt' (The Berlin Wall in the World), which was published in September 2009. On the occasion of the 20th anniversary of German reunification, the Federal Foundation for the Reconciliation of the SED Dictatorship (Bundesstiftung zur Aufarbeitung der SED-Diktatur – where SED is the acronym for Sozialistische Einheitspartei Deutschlands, the Socialist Unity Party of Germany) published this work, which lists all the known places where 'genuine' fragments of the Berlin Wall are still to be found – as well as an obvious exception: one chapter is also dedicated to 'Broken Wall', the formation discovered on Mars.

#### **Exoplanets: Who hears today of the fall of the Berlin Wall?**



The DLR Institute for Planetary Research also deals with the quest for planets outside our solar system – known as 'exoplanets'. To this day, the question as to whether any of the heavenly bodies outside our own Solar System support life remains unanswered. However, purely hypothetically, where would television signals be arriving today that were transmitted 20 years ago, when the Berlin Wall came down on 9 November 1989? Given that electromagnetic waves travel through space at the speed of light, the information about the collapse of the Wall has only expanded to within a certain radius of planet Earth.

"At a distance of about 20 light years, still within the Milky Way, our own galaxy, we have the star known as Gliese 581," reports DLR researcher Dr Ruth Titz. Four planets are orbiting this star: Gliese 581b, 581c, 581d and 581e. The last three of these may be rocky planets, similar to our own Earth. Under certain conditions, planets 581c and 581d could have water in its liquid state – a potential sign of life existing there. "Television pictures of the collapse of the Berlin Wall could very shortly be received by inhabitants of these planets, if such creatures exist and if they have developed a technology for receiving electromagnetic waves," states Dr Titz.

However, the dimensions involved here are, in the full sense of the term, astronomically large. The nearest star is 4.2 light years away from Earth. The nearest star with a known planet, Epsilon Eridani, is 10.5 light years away from our home planet. A light year corresponds to almost 9.6 million million (US trillion) kilometres.

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