

Re: Mars Viewmaster

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- *From:* American <samuelransom@xxxxxxxxxxxx>
 - *Date:* Tue, 8 Apr 2008 08:28:27 -0700 (PDT)
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On Apr 7, 11:41 pm, BradGuth <bradg...@xxxxxxxx> wrote:

On Apr 7, 6:17 pm, Totorkon <aertr...@xxxxxxxx> wrote:

On Apr 7, 12:37 am, Willie.Moo...[@xxxxxxxx](mailto:xxxxxxxx) wrote:

On Apr 6, 3:51 pm, Totorkon <aertr...@xxxxxxxx> wrote:

On Apr 6, 5:12 am,
Willie.Moo...[@xxxxxxxx](mailto:xxxxxxxx) wrote:

Why would we want to
explore Mars?

Because it has water, weather, the possibility
of life and a geologic
history extending back to the formation of
the solar system.

Why is that important? BECAUSE these are useful for
eventual
settlement.

As a preamble to its

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eventual settlement and
development. Duh!

Why would we want to do
that?

To expand the resources
available to industrial
humanity beyond what's
available here on Earth.

Why Mars?

Because all the elements are
there for survival – its a
stepping stone
to other worlds – 120,000 of
them circling the Sun in the
asteroid
belt, and the Kuiper Belt.

The gravity well of mars makes it more of a
pothole than a pitstop on
road to utilizing the resources of the
asteroids.

Depends on the details.

Lets compare Ceres and Mars

Since the humanity presently resides on Earth, 'utilizing the
resources of the asteroids' means using interplanetary
resources to
improve life on Earth in a meaningful way, and that means
you've got

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to send people and equipment to the resource and support them there while the develop it, and then bring the resources back to Earth.

So,

To get from Earth to Mars means you've got to project stuff from Earth with a speed of 12.1 km/sec – and use aerobraking to land..

To send stuff back from Mars means you've got to project stuff from Mars to Earth with a speed of 5.3 km/sec and use aerobraking to land..

And we have a technology that we KNOW makes propellant and breatheable oxygen from Mars' atmosphere of CO₂. So, we don't need as many supplies.

Now,

To get from Earth to Ceres means that you've got to project stuff from Earth with a speed of 15 km/sec – and use rockets to ad another 3 km/sec to 'land'

To send stuff back from ceres means you've got to project stuff from Ceres to earth with a spee of 7 km/sec and use aerobraking to land.

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We don't know precisely the conditions on Ceres, and cannot know for sure how to structure things to take advantage of the resources there.

OBVIOUSLY – Mars is an easier nut to crack (both are hard) – and for that reason MARS WILL BE DONE FIRST.

So, no matter whether you're coming or going – Mars is ahead of all other bodies in the solar system – VERY NEARLY THE SAME AS THE MOON.

To get to Mars and back requires $12.1 + 5.3 \text{ km/sec} = 17.4 \text{ km/sec}$
To get to the Moon and back requires $10.8 + 4.8 \text{ km/sec} = 15.6 \text{ km/sec}$

In fact using Zubrin's idea of 'living off the land like Lewis & Clarke' we can build an upper stage that is capable of 5.3 km/sec and use it for BOTH Lunar and Mars exploration – check it out;

Project a stage to 6.8 km/sec with a booster, – and fire off toward a Mars trajectory. Land on Mars with aerobraking, refuel on Mars, and come back.

Project a stage to 10.3 km/sec – and fire off toward Lunar trajectory. Land on the moon with rockets, take off from the moon with rockets.

You need a bigger booster to go to the Moon than you do to go to Mars

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with this setup.

Mars is easy to get to, there are resources there, that's why vonBraun wanted to go to Mars first. Its the first step in our development of the solar system.

Sabatier Reactors have been built and operated in space.

Please site source.

Nuclear Reactors have been built andoperated in space.

Only thermal electric generators have been used, and none have been built there.

You are engaging in word games,to make yourself seem right by making me seem wrong.. Might I suggest that neither of us are wrong, as all nuclear systems – whether reactors or RTGs are examples of thermal electric systems – and all systems that have operated in space have been built on earth.

Your statements are quite accurate and do not conflict with my statements which are also accurate. Why you phrase them

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in such a way as to make it seem mine are not accurate – is at present unknown to me..

The five ton entry for the nuclear reactor includes all the hardware it drives, including the rover and chemical plant.

The nuclear reactor would be placed a kilometer away from all other operations.

Is that the exact distance? Do you have a reference? Again, I have no quibble with the accuracy of what you say, only asking what's the point? I already mention the rover.. Obviously, since the unshielded or lightly shielded reactor would put out a substantial amount of radiation, it would be separated from the ship before it was powered up.

A 12,000 sq ft umbrella?
How does that work? It doesn't!

Pound it in the ground?
How on an unpiloted ship?
You're not thinking clearly.

The reflectors would be no more than a couple of meters in diameter

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That means to collect enough power you'd need lots of them.
What are
their unit weights? What is the total weight?

On mars, the 0.38 g, small force of the wind
and lack of rain or
snowfall might make this alternative
advantagous.

These are true, what's the point? I never said that wind or
snow or
rain was a problem. Again, you're engaging in word games
to make
yourself seem right even while avoid rationally discussing
the issues
of total mass, and ease of use.

for pounding probes into the ground isn't far
fetched.

I didn't say it was. I only asked, without humans around,
how would
that get done? You have avoided the question by playing
word games.

The human
equivalent is a common means of soil study
on earth.

This is totally nonsensical in the context of my questoin.

Using the same
technology to set up a power source could be
very practical.

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How? You haven't answered how. You've only waved your hands.

Here, let me propose something – because you didn't.

You're talking about some sort of rover taking a bundle of umbrellas, driving each of them into the ground like a stake into the ground – and unfurling them, while being careful to make sure they're all wired up for operation and sending power back to the ship

Clearly, that operation is far more difficult to achieve than trundling a reactor some distance away – while unfurling a cable behind itself. Especially when one considers the power requirements of the rover and where that's coming from.

Although a light weight inflatable concentrator, attached to the ship itself, would work well to reduce the mass of the system and if the heat were used along with electricity in a high temperature electrolyzer, efficiencies would be quite high in making hydrogen.

Can you give an example of an existing system?

I've already said if you send me an e-mail requesting information – or visiting my website

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<http://www.usoal.com>

I'll send you a photo of one.– Hide quoted text –

– Show quoted text –

The type of 100 Kw mininuke power plant meant for mars has moving parts (turbine and pumps) that make it nearly ten times more efficient than an rtg. While such is a necessity for a humaned mission, it is way overkill for for robotic missions.

Mars direct has a maximum research area of roughly 1/2000th the surface of mars. there should be atleast 100 robotic missions before that first voice from the surface. It will be cheaper, it will advance technology more and it will provide a cache of samples from half the planet surface for the first inhabitants to study.

If we discovered an entire cache of those little freeze dried Martian skeletons, so what?

Mars is still a dead, nearly frozen to the core and a rather pathetic little planet, at best it's humanly lethal and otherwise way more spendy than China can afford, and China can afford to invest 10 fold as much as we can.

. – Brad Guth

No, China WON'T afford it, if WE CAN afford it first!

As soon as Americans understand what the mystery is with the selling out of American industry, they will find out how easy it is for the government make money by granting tax credits to industries that can lay off their own employees.

If eligible manufacturers can import the same commodity at one half the price from a foreign source, then why can't government collect some of the loot made by the increase in revenue from sales tax?

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Unfortunately, this also has the reverse effect that fills the jobless ranks, and sooner or later, turns everyone into a ward of the state, at the expense of the "selling out" of America's ability to compete in the marketplace. In THIS scenario, the "middle income earner" gets busted – through their own employer's swindle, that inflates their usury against the honest man, directing more of the "used" to the bottom of the income ladder instead of to the top – forfeiting their rights as sovereigns – this is because there is no longer anything "special" to accomplish in an industry that chooses not to modernize itself, and chooses NOT a new ground that is ALREADY "fertile enough", were it not for the arrogant, the greedy, and self-absorbed populists, who are in the business of snaring, smearing, and/or dragging down any person who is not like themselves, or refuses to conform to their "world agenda".

This is what our population has become infected with – the complete banishment of new ideas fertile enough, given some brand exposure, to replace the swell of what has become culturally familiar to internationalists, rather than scientifically useful to "industrialists". Currently, the Fed STILL limits industrial growth of the U.S. to 4 per cent.

What the Fed never considers, or are unwilling to consider, or are not educated enough to consider, is the potential of their own citizenry who are not dependent on anything the Fed says or does. Besides, the markets that our own federal government has attached itself to no longer represent a majority of U.S. citizens NATIONALLY. Therefore, the system presently works AGAINST the citizen, the individual, the entrepreneur, and the sovereign at a NATIONAL LEVEL.

Patent approvals for demonstrable ideas are not fast enough or cheap enough to even make it to brand exposure, let alone some level of integrity with peer recognition or approval, because "business method patents" swamp their progress. The peers themselves need to be protected against the powers that work against the mass production of revolutionary patents. The financial institutions themselves need to be revolutionized in their lending practices. If the old system is unwilling to change, then they must get out of the way for newer technology to move forward.

The "space age" is the vehicle that can deliver the U.S. from the current problems with our increasing energy needs. Even if the public remains unwilling, or does not "believe" in the resources that space exploration has to offer, then they will have to forfeit their own ingenuity in the market–

place to the ingenuity that reinvents the market.

Notice that not one single market needs to move in the direction of space exploration, until some particular exploration is able to receive its funding.

The mining of asteroids, particularly metals & precious metals should, at first, hinge on cheaper earth-to-orbit technology, and be all-inclusive of ANY exploration done within the Venus-Earth-Mars system, AND CONTINGENT UPON PRECIOUS METALS being used to supplement the cost of the project, so that the overall project does not affect the outcome of those who wish to remain being "disconnected" from the enterprise. Those with a "vested interest" have at least some good faith prospect for continuing to pursue development in order to achieve a return on their "scientifically intuitive" investment.

That is the main thrust WHY the prospect of asteroid mining seems so attractive – it offers us some real monetary payback – just like the California gold rush of 1848 – 1855, but THIS TIME, it's a bit more like an exact science:

http://home.comcast.net/~samuel_ransom/Modeling_a_Regolith_Handling_System.htm

In addition to the link above, a design and component listing has already been completed for a regolith cannister handling system, which will accept 2' diameter cannisters for autostorage and retrieval. The regolith refining operation can be performed either on-site or shipped to a remote location by freighter.

The proposed operation has the capability of processing nearly 20 tons of 'accepted regolith' per day, refining either platinum, gold, or silver by % total volume of cannister, dependent upon the sensitivity of the gamma detector and concentration of metal in the compounds.

This project would supplement a manned mission to Mars, AFTER A MINING MISSION, in order to drive the funding that a Mars mission would definitely require, EVEN BEING OUTSIDE of the public interest, but definitely "marketed" with the potential of achieving enormous success.

American

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