A Reprint from *Tierra Grande*

Space Cowboys

BY BRYAN POPE

Armchair astronauts with a quarter of a million dollars to spare could soon be paying to go where no men — well, very few men — have gone before.

An emerging trend suggests that at least a few private corporations think there is money to be made in charging civilians a pretty penny for a brief trip to the edge of the earth's atmosphere. If that sounds like science fiction, think again.

Privately funded spaceports flew under most people's radar until one of the world's most phenomenally successful businessmen brought them into the mainstream last year, in the most unlikely of places.

All Systems Go

Elusive Amazon.com founder Jeff Bezos raised eyebrows when he snatched up the 165,000-acre Corn Ranch near Van Horn in Culberson County in 2004. But it wasn't until later, when he announced plans to use the land — mostly desert — to build a private spaceport project that the entrepreneur really grabbed headlines.

Through Blue Origin, Bezos plans to develop New Shepard, a vertical-takeoff, vertical-landing vehicle capable of carrying a small number of astronauts on suborbital, ballistic trajectories as high as 325,000 feet. The Federal Aviation Administration (FAA) issued Blue Origin the first experimental permit for a reusable suborbital rocket in September 2006. Two months later, on a clear, crisp November morning, against the backdrop of the majestic Guadalupe Mountains, Blue Origin successfully test-launched its first reusable launch vehicle (RLV).

The cone-shaped Goddard — picture a big, white gumdrop on four legs — blasted 285 feet into the air and returned safely to the launch site. The exercise, attended only by a small group of Bezos' friends and their families, lasted all of 25 seconds.

Bezos and Blue Origin have been notoriously tight-lipped about the project, but, according to the final environmental assessment issued by the FAA, they plan to continue test launches through 2009. Each test launch will presumably reach new heights and test new technology.

WEST TEXAS' VAST DESERT *is home to more than one spaceport project. Amazon.com founder Jeff Bezos bought a 165,000-acre ranch near Van Horn to be the site of his Blue Origin launch facility. Another entity is developing the West Texas Spaceport near Fort Stockton.*

Larry D. Simpson, editor and publisher of the *Van Horn Advocate*, says the community's response to Blue Origin has been overwhelmingly positive.

"During the construction phase of the infrastructure, which lasted a year, the economic impact was significant," said Simpson, who is also president of the town's chamber of commerce and its economic development corporation. "There were crews in town for the entire period staying in rooms or RVs, eating meals and purchasing goods and services. As time goes on, we anticipate that he [Bezos] will have more people staying here instead of in Washington. In fact, our economic development corporation is seeking funding to construct a 20-unit apartment complex."

Blue Origin may be the most high-profile project in the works, but it's not the only one. About 18 miles southwest of Fort Stockton in Pecos County, a project is under development by the Pecos County/West Texas Spaceport Development Corporation.

According to a report released earlier this year by the FAA, the West Texas Spaceport (also known as Las Escaleras a las Estrellas, or the Stairs to the Stars) has access to more than 4,500 square miles of unpopulated land and more than 10,000 square miles of underused national airspace. The spaceport is primarily a research-and-development site for unmanned aerial vehicles (UAVs) and suborbital rockets.

Finally, Willacy County is home to the South Texas Spaceport, owned by the Willacy County Development Corporation for Spaceport Facilities.

The .16-square-mile site is in Port Mansfield, about 40 miles north of Brownsville. According to the FAA, the site may initially support suborbital and small orbital launch systems and later switch its focus to RLVs. Vehicles will launch from spoil islands (land masses created when a ship channel is dredged) or barges in the Mansfield ship channel, Laguna Madre or the Gulf.

Dr. Michael Bomba, a consultant for Alliance Transportation Group Inc., a transportation planning and data collection company, says spaceports have the potential to make a significant impact on the state's economy.

"Through launch fees alone, launch events can generate a lot of income for spaceports. Spaceports can also create technical employment and possibly increase demand for industrial and communications services," said Bomba, who began researching spaceports as a research associate with the Center for Transportation Research at the University of Texas.

From hosting launch events and space camps to serving as a resource for school science projects, Bomba says there's also no telling how many tangential educational benefits a spaceport could offer.

Houston, We Have a Problem

Although a series of successful test launches and a growing number of potential launch sites around the United States suggest that spaceports are beginning to take flight, it hasn't been smooth sailing across the board.

One site — the Gulf Coast Regional Spaceport in Brazoria County, 50 miles south of Houston — was jettisoned last February when county commissioners voted to dissolve the Gulf Coast Regional Spaceport Development Corp., the corporation charged with creating the facility.

According to Clute's newspaper, *The Facts*, County Judge E.J. King said too much money had been spent on the project with

no known benefit. County Auditor Connie Garner said the county had put $50,000 into the project, while the state had appropriated about $700,000.

"Spaceport infrastructure can be very expensive, the market and many of the companies are small, and the payoff may take years," Bomba said. "For these reasons, small amounts of 'seed' money are not adequate to sustain the effort."

Bomba says it is difficult for spaceports to build up enough revenue to reach financial stability because they have high operating costs and must adhere to stringent FAA regulations. Not to mention that they are often started by companies that have limited financial backing and are pursuing untested or unproven technology.

On top of that, spaceport projects are located in remote rural counties with limited resources, making it even more difficult to succeed without outside subsidies. Bomba says this is why it is important that the state provide financial assistance to local spaceports.

"While the Texas legislature and the governor's office provided some funding to the three spaceports, the funding needs to be much higher," he said.

Bomba said the state provided a total of $2 million for spaceport development. By contrast, the state of New Mexico appropriated approximately $250 million for Spaceport America, which will host Virgin Galactic, while the state of Alaska gave about $60 million toward the Kodiak launch site.

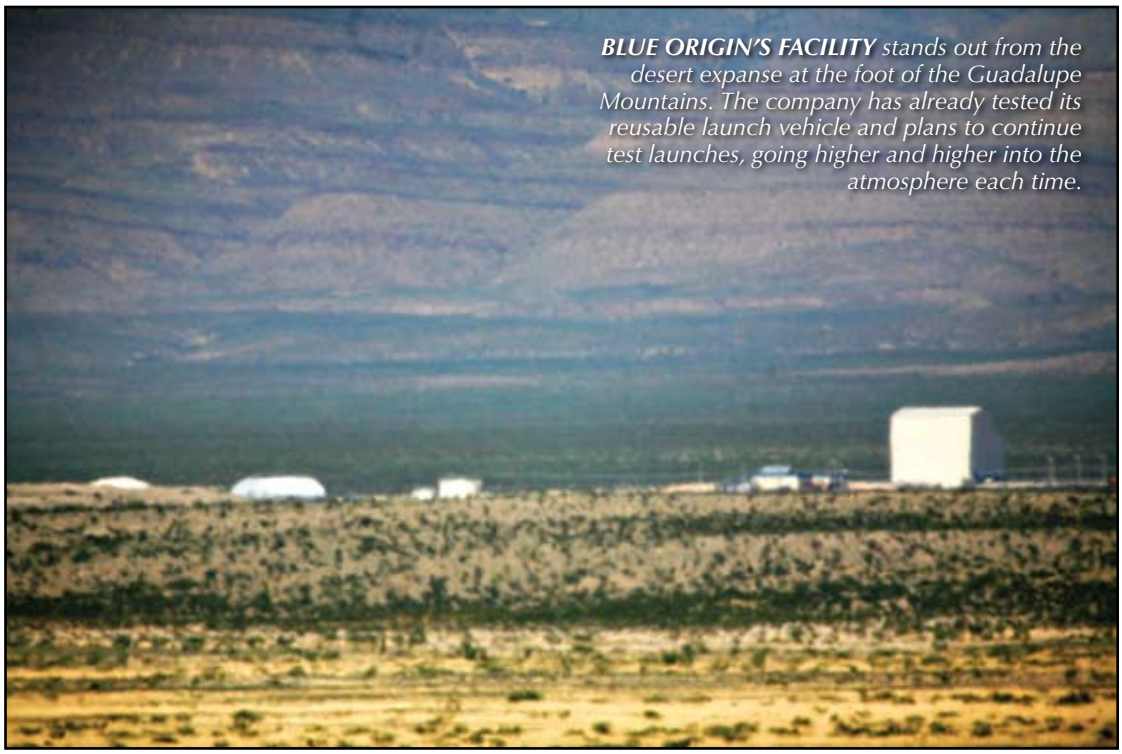
Texas spaceports are in rural areas, so bringing in outside consultants to provide the expertise necessary to make the concept work can be expensive. And then there's the matter of insurance.

"Launch insurance is very expensive and must be paid up front," Bomba said. "If launches are scrubbed or if customers don't materialize, the spaceport is left holding the bill."

The FAA permits required to operate such a facility are also expensive. Commercial space vehicles carry inherent risks, and operating them in the safest possible manner creates a high regulatory burden on commercial space companies and the spaceports.

Risks related to spaceports go beyond economics. There's also the potential for noise pollution and the spilling of hazardous materials, not to mention the risk of, say, a stray rocket engine crashing through one's dining room ceiling.

"The risks are primarily during the preparation and the actual launch event," Bomba said. "Outside of this activity, the site is likely to be relatively undisturbed. The risks from falling debris, while small, can be serious if a vehicle is destroyed in the air."



BLUE ORIGIN'S FACILITY *stands out from the desert expanse at the foot of the Guadalupe Mountains. The company has already tested its reusable launch vehicle and plans to continue test launches, going higher and higher into the atmosphere each time.*

Simpson, meanwhile, says he has so far seen no adverse environmental impact on Van Horn from Blue Origin.

"Jeff's people seem to be very careful not to disrupt or disturb anything that might be environmentally sensitive," he said. "The mainstream news media always seem to suggest a fear of one of the rockets falling into town, and that is further from the truth than anything."

One Small Step

Blue Origin hopes to launch manned space flights sometime in 2010, and more and more companies are beginning to reach for the stars.

PayPal founder Elon Musk's company, SpaceX, is close to building a reliable launch vehicle that will be significantly less expensive than existing expendable rockets. The company has a test facility in McGregor, near Waco.

Other startup commercial space companies that are based in Texas or have offices here include Armadillo Aerospace, Starcraft Boosters (which boasts astronaut Buzz Aldrin among its founders), Excalibur Ltd., and Bigelow Aerospace, which Bomba says has plans for a "manned orbital space complex."

Development and testing may seem like just another small step for man, but give it time. Within a few years, Texas could be a state rich in both ranches and rockets.

Pope (b-pope@tamu.edu) *is an associate editor with the Real Estate Center at Texas A&M University.*

THE TAKEAWAY

Several privately funded facilities designed to someday launch civilians into space are under development in Texas. These spaceports have the potential to offer economic and educational benefits, but they are expensive and could have environmental drawbacks.

MAYS BUSINESS SCHOOL

Texas A&M University
2115 TAMU
College Station, TX 77843-2115

http://recenter.tamu.edu
979-845-2031

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