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Telescope being dedicated in Arizona

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PHOENIX - A troubled, 20-year journey to create the world's most powerful optical telescope is nearing an end, with astronomers hoping to begin using the instrument to look for heavenly breakthroughs early next year.

Even now, the University of Arizona's \$120 million Large Binocular Telescope isn't complete. But officials are planning dedication ceremonies Friday - a sign the project has survived challenges from environmentalists, American Indians and even wildfire.

"The dedication means that we have gotten to a point where the telescope has come together and it's beginning to work," said Peter Strittmatter, director of Steward Observatory, which oversees the project. He also is president of LBT Corp., a partnership of several scientific institutions that built the telescope.

But not everyone is proud of the achievement.

Controversy has swirled around plans for the Mount Graham International Observatory since it got its start 20 years ago atop the 10,700-foot mountain. Opponents contended the observatory would cause the demise of the endangered Mount

Graham red squirrel. And the San Carlos Apache Tribe said development would desecrate a sacred mountain.

Environmentalists and members of the tribe filed some 40 lawsuits - eight of which ended up before a federal appeals court - but the University of Arizona prevailed.

The telescope and mountain observatory, about 125 miles northeast of Tucson, also survived two major forest fires in eight years, the most recent one this summer.

"It's a sad day for anyone who believes that the University of Arizona cares about ethics, biology, cultural protection and religious freedom," said longtime project foe Robin Silver, conservation chairman for the Center for Biological Diversity.

The LBT, largest of three telescopes at the observatory, will be used to explore never-seen things like planets the size of Jupiter in solar systems 20 to 30 light years away.

It also will be able to detect and measure objects dating back nearly 14 billion years - believed to be the beginning of time.

The LBT is the latest of numerous astronomical assets in Arizona, long prized for its frequently clear night-time skies.

Only one of the LBT's two 8.4-meter mirrors - each nearly 28 feet in diameter - is in place, with its final aluminum coating to be applied over the next two months. Initial test images have been taken already.

The other mirror is still being polished and installation is unlikely before the middle of next year, with final operation of both mirrors anticipated either late next year or early in 2006.

The result will be images that are about 10 times as sharp as those from the Hubble Space Telescope, enhanced by a technology called adaptive optics to adjust and correct for the Earth's atmospheric turbulence.

Arizona's observatories, which employ about 1,000 scientists and support staff, also include Kitt Peak southwest of Tucson, Mount Hopkins between Tucson and Nogales and the Lowell and U.S. Naval observatories in Flagstaff.