



Pakistan Expanding Plutonium Separation Facility Near Rawalpindi

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May 19, 2009

Pakistan appears to have expanded its plutonium separation capability at the New Labs section of the Pakistan Institute of Science and Technology (PINSTECH) near Rawalpindi. A series of commercial satellite images from February 2002 through September 2006 show the construction of what appears to be a second plutonium separation plant adjacent to the original one (see figures 1, 2 and 3), suggesting that Pakistan is increasing its plutonium separation capacity in anticipation of an increased supply of spent fuel from new heavy water reactors. The plutonium separated from the spent fuel is usable in nuclear weapons.

Between 2000 and 2002, Pakistan began constructing a second plutonium production reactor at its Khushab nuclear site.¹ In approximately mid-2006, Pakistan began constructing a third plutonium production reactor at the site. Construction of the second reactor appears to be finished,² and the construction of the third reactor has progressed more quickly than the second.³ ISIS assessed in 2006 that this on-going [expansion of Pakistan's plutonium production program](#) was likely linked to a strategic decision by Pakistan to develop a new generation of thermonuclear weapons and smaller, lighter and more powerful plutonium-based weapons. Also in this assessment, ISIS noted that Pakistan would likely need to expand its plutonium separation capacity in order to handle the extra spent fuel from the new reactors.

The expansion of the reprocessing facilities at New Labs is likely intended to serve this purpose. The original reprocessing facility at New Labs was renovated in the 1990s, in time to separate weapons-grade plutonium from the first Khushab reactor, which started operation in 1998.⁴ A second reprocessing facility at New Labs would raise Pakistan's

¹ <http://isis-online.org/publications/southasia/newkhushab.pdf>

² http://www.isis-online.org/publications/southasia/Khushab_23April2009.pdf

³ <http://www.isis-online.org/publications/southasia/ThirdKhushabReactor.pdf>

⁴ Mark Hibbs, "Pakistan Separation Plant Now Producing 8-10 kg of Plutonium/Yr," *Nuclear Fuel*, June 12, 2000.

annual plutonium separation capability and possibly handle the increased spent fuel produced when the new Khushab reactors start up.

In addition, Pakistan may have also restarted construction of a partially built plutonium separation plant at its Chashma nuclear site, approximately 70 kilometers west of Khushab.⁵ In the 1970s, Pakistan and a French company had a contract to build the separation plant, but France cancelled the deal after the United States registered proliferation concerns. A certain amount of design information however, had already been transferred and the facility remained partially built for years. Satellite imagery over the last several years indicates that Pakistan has restarted construction of a previously overgrown industrial facility on site that may be the original reprocessing facility.

⁵ <http://www.isis-online.org/publications/southasia/chashma.pdf>

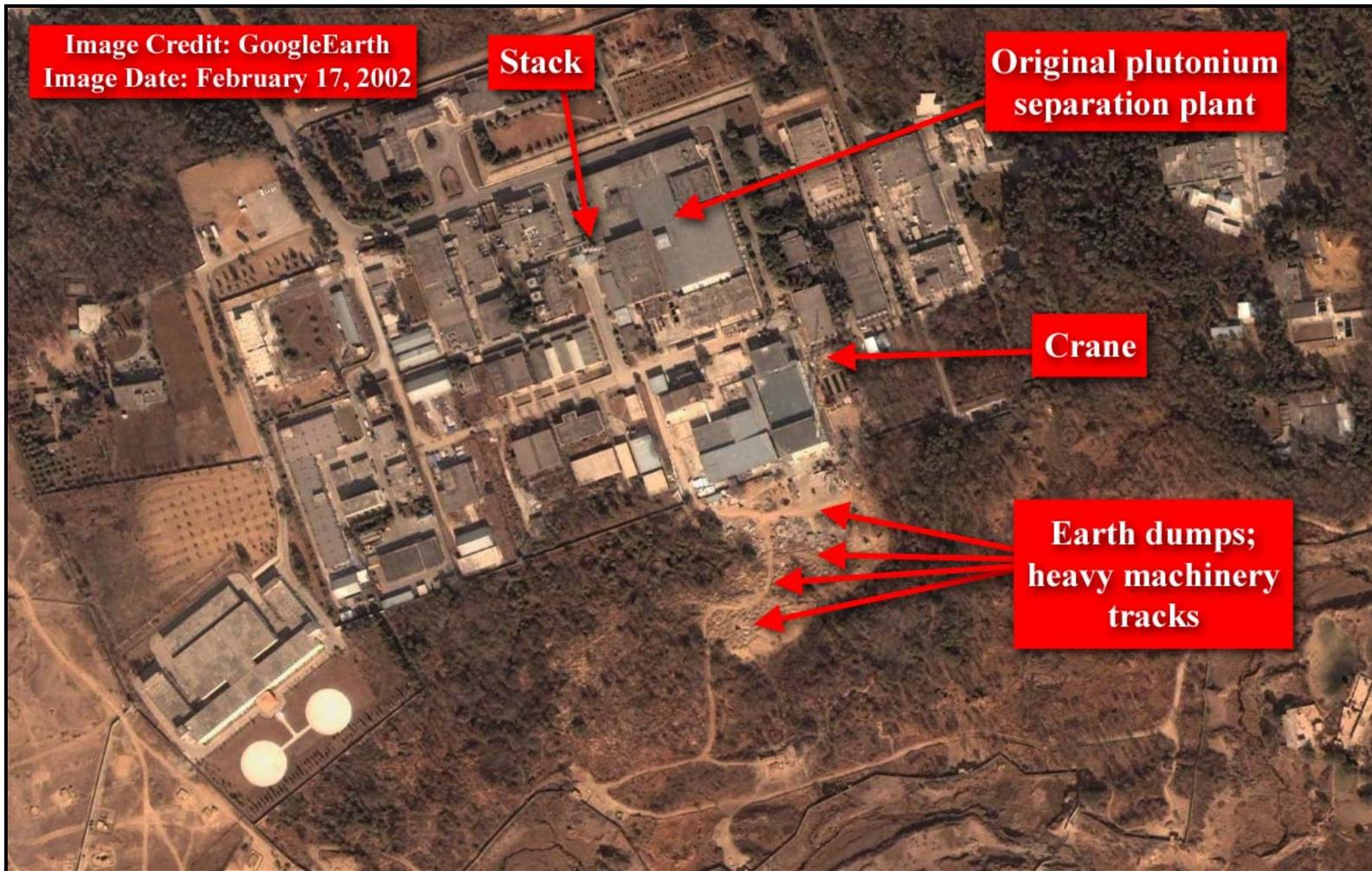


Figure 1. February 17, 2002 image of the New Labs facility at PINSTECH near Rawalpindi. The original plutonium separation plant with the stack can be seen. There is a crane and considerable construction activity with earth dumps and heavy machinery dirt tracks south of the original plutonium separation plant.

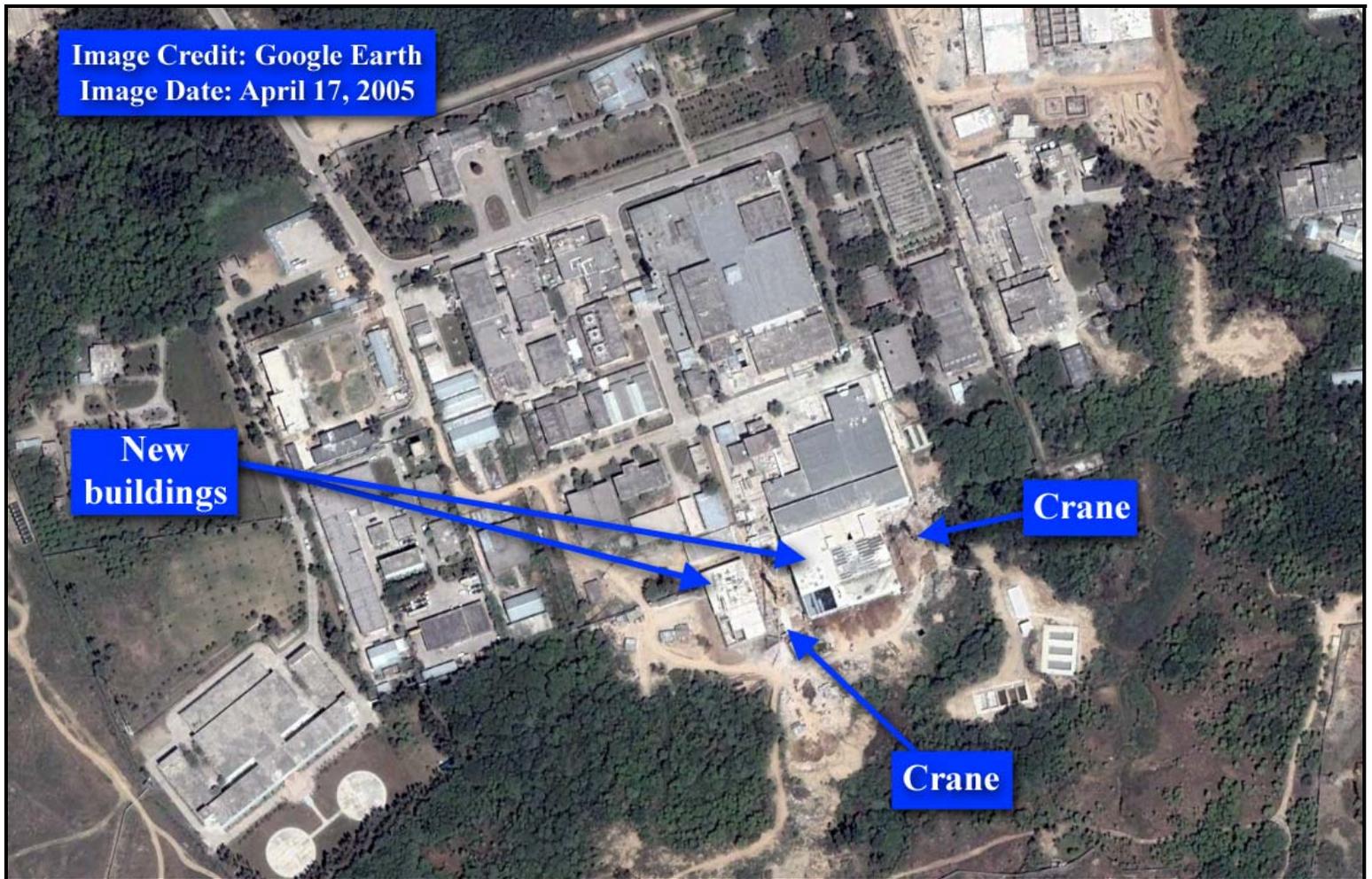


Figure 2. April 17, 2005 image of the same site. There is considerable construction activity south of the original plutonium separation plant. There are two new, large buildings being constructed. There is an additional crane as well.

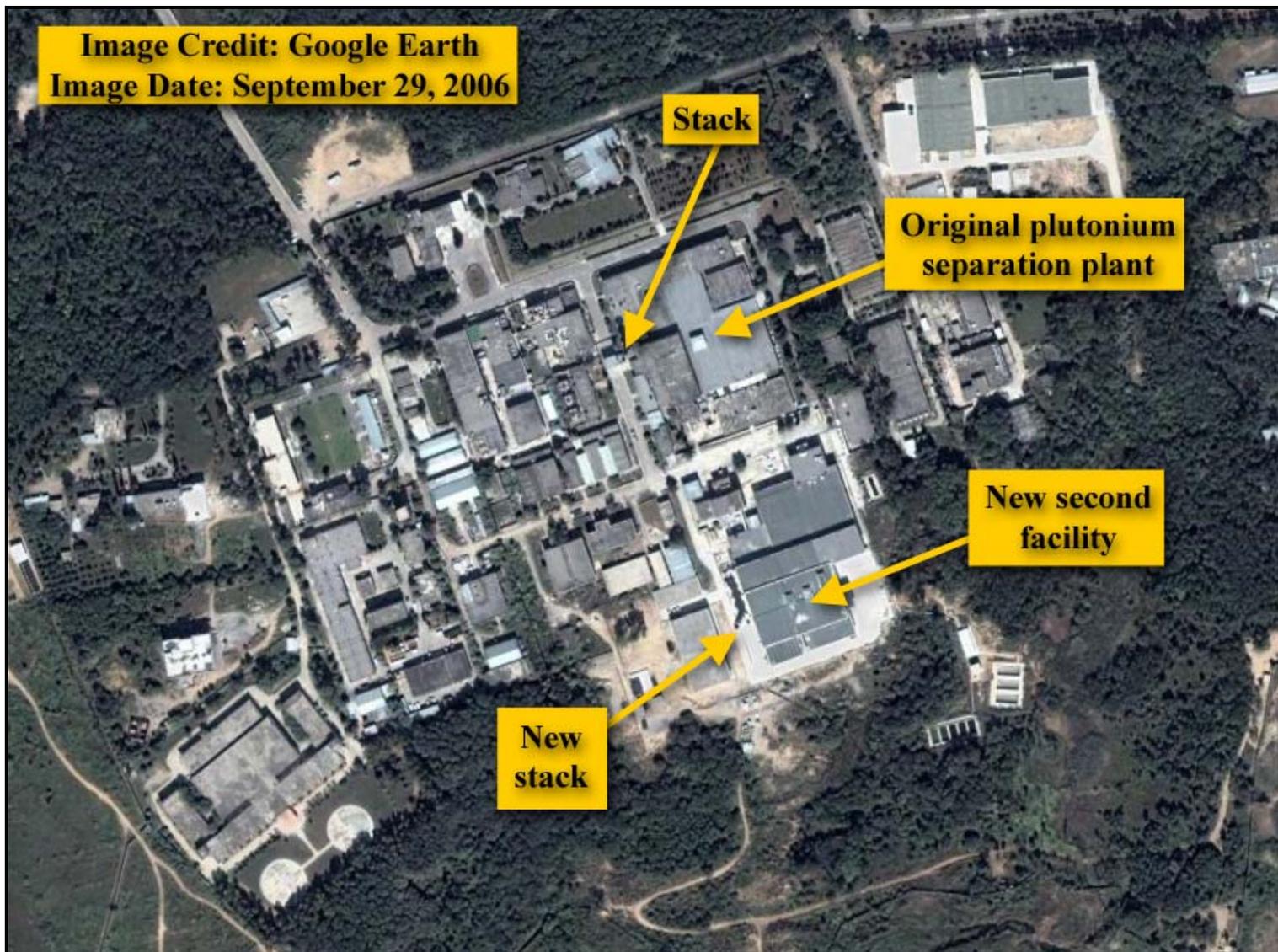


Figure 3. September 29, 2006 image of the New Labs site. The second facility appears to be finished. It has a stack just like the facility above it. The new facility appears to be a second plutonium separation plant.