



ISIS IMAGERY BRIEF

Satellite Imagery Narrows Qom Enrichment Facility Construction Start Date

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ISIS has obtained commercial satellite imagery from DigitalGlobe that narrows the time frame during which Iran would have begun construction of the gas centrifuge uranium enrichment plant near Qom (see figure 1). The satellite imagery indicates that Iran began construction of the enrichment facility after January 2006 but before June 2007. This time frame is consistent with a Reuters report¹ that construction began in 2006.

ISIS previously assessed² that the June 2004 and March 2005 satellite imagery seen on GoogleEarth depict the future site of the enrichment plant construction, but at the time show tunnel entrances that were likely not yet associated with the uranium enrichment construction project (see figures 2 and 3). The Atomic Energy Organization of Iran could have chosen among existing tunnel facilities throughout the country, and settled on this one near Qom, to site the covert enrichment plant. The January 2006 DigitalGlobe image of the site is very similar to the 2004 and 2005 imagery (see figure 4), which indicates that construction of the uranium enrichment plant had still not yet commenced as of that date.

The June 2007 image shows notable differences from the three previous images (see figure 5). A large amount of construction materials is visible next to the two tunnel entrances and at one of the adjacent construction staging areas, and possible cement storage is visible at another nearby construction staging area. ISIS assesses that construction associated with the covert gas centrifuge uranium enrichment facility had begun by this June 2007 image and that the construction materials seen in the image were

¹ FACTBOX – Iran's second nuclear enrichment plant, Mark Heinrich, September 29, 2009: <http://in.reuters.com/article/worldNews/idINIndia-42776220090929>

² Qom Gas Centrifuge Uranium Enrichment Site in Iran May Have Been Re-purposed Tunnel Facility, Paul Brannan, Institute for Science and International Security, September 29, 2009: <http://isis-online.org/isis-reports/detail/qom-gas-centrifuge-uranium-enrichment-site-in-iran-may-have-been-re-purpose>

[Banner image credit: DigitalGlobe-ISIS]

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then used in the transformation from what was likely a smaller tunnel facility into a much larger industrial facility, the gas centrifuge hall, built inside the mountain.

The January 2009 image shows a large amount of construction and excavation activity (see figure 6), and the September 27, 2009 still shows a large amount of construction activity (see figure 7), though the tunnel entrances and another excavation have been covered.

A February 2000 image from GeoEye shows that the initial tunnel entrances were not yet present at that date (see figure 8).

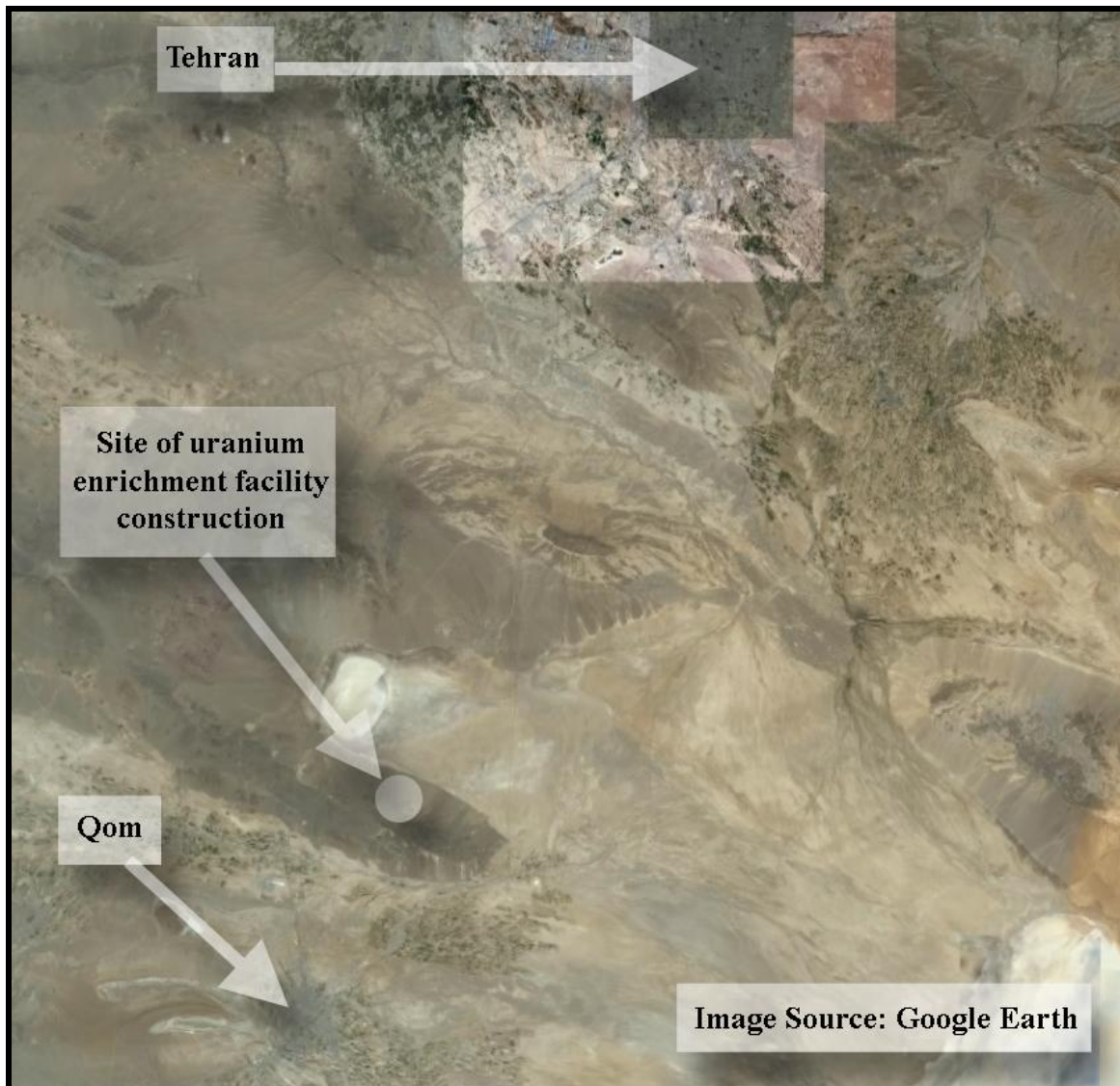


Figure 1. Wide-view image showing the location of the uranium enrichment facility construction site near Qom.

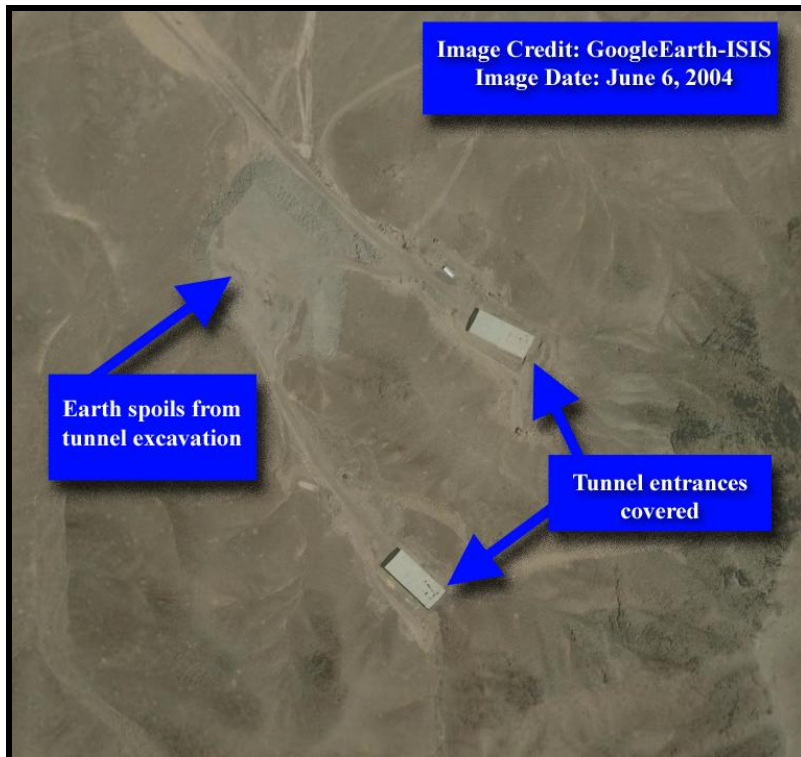


Figure 2. GoogleEarth image of Qom facility from June 6, 2004. Two covered tunnel entrances and pile of earth spoils can be seen in the image.



Figure 3. GoogleEarth image from March 24, 2005. The same two covered tunnel entrances can be seen, as well as the pile of earth spoils. There does not appear to be much progress at this site between June of 2004 and March of 2005.



Figure 4. January 30, 2006 DigitalGlobe image of the Qom site. There does not appear to be much difference between this image and the images from 2005 and 2004 (figures 2 and 3). Construction of the Qom enrichment facility does not appear to have started as of this image date.

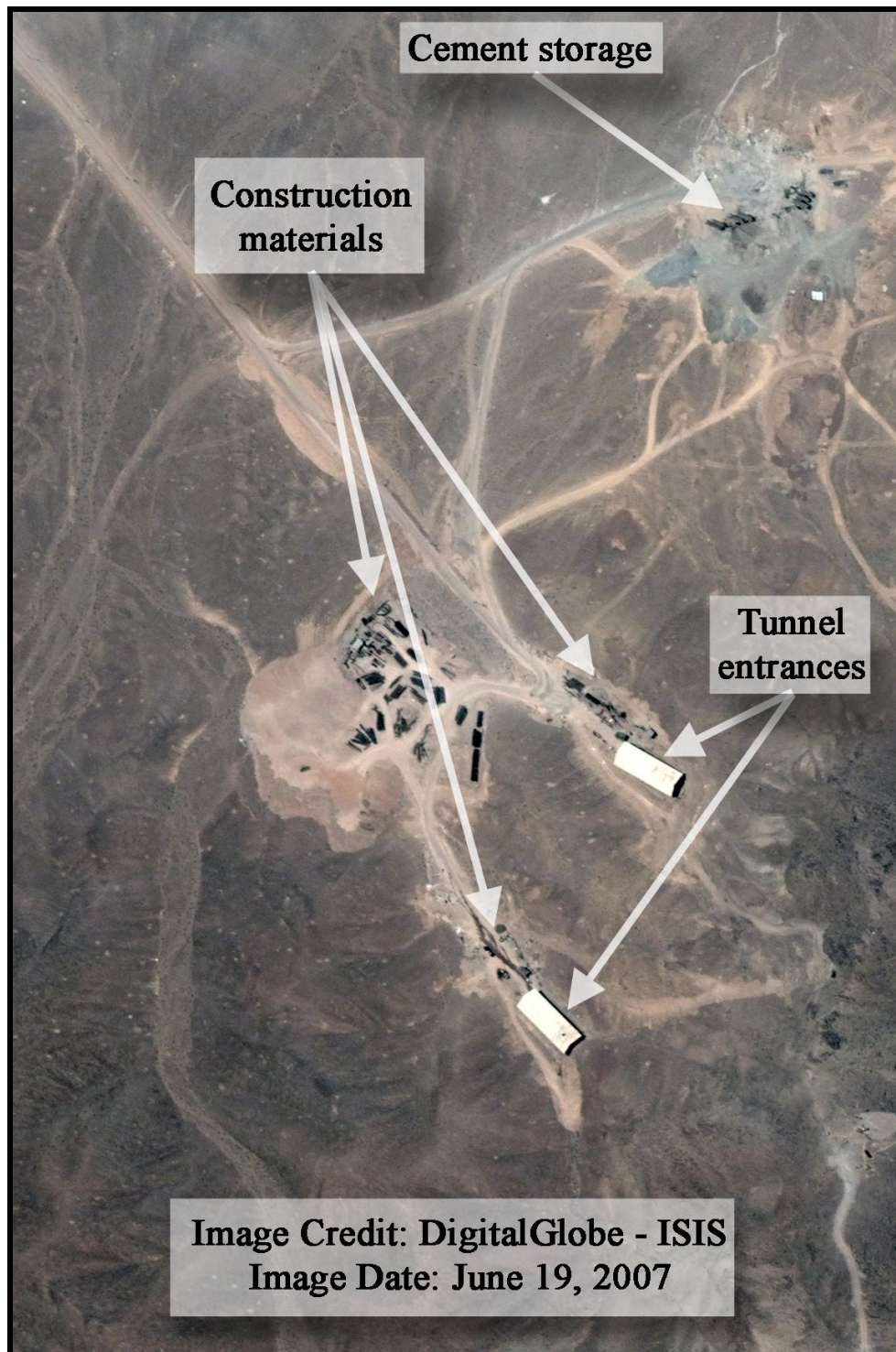


Figure 5. June 19, 2007 DigitalGlobe image of the Qom site. A large amount of construction materials can be seen next to the tunnel entrances and at construction staging areas. Construction of the Qom enrichment facility had likely already begun as of this image date.

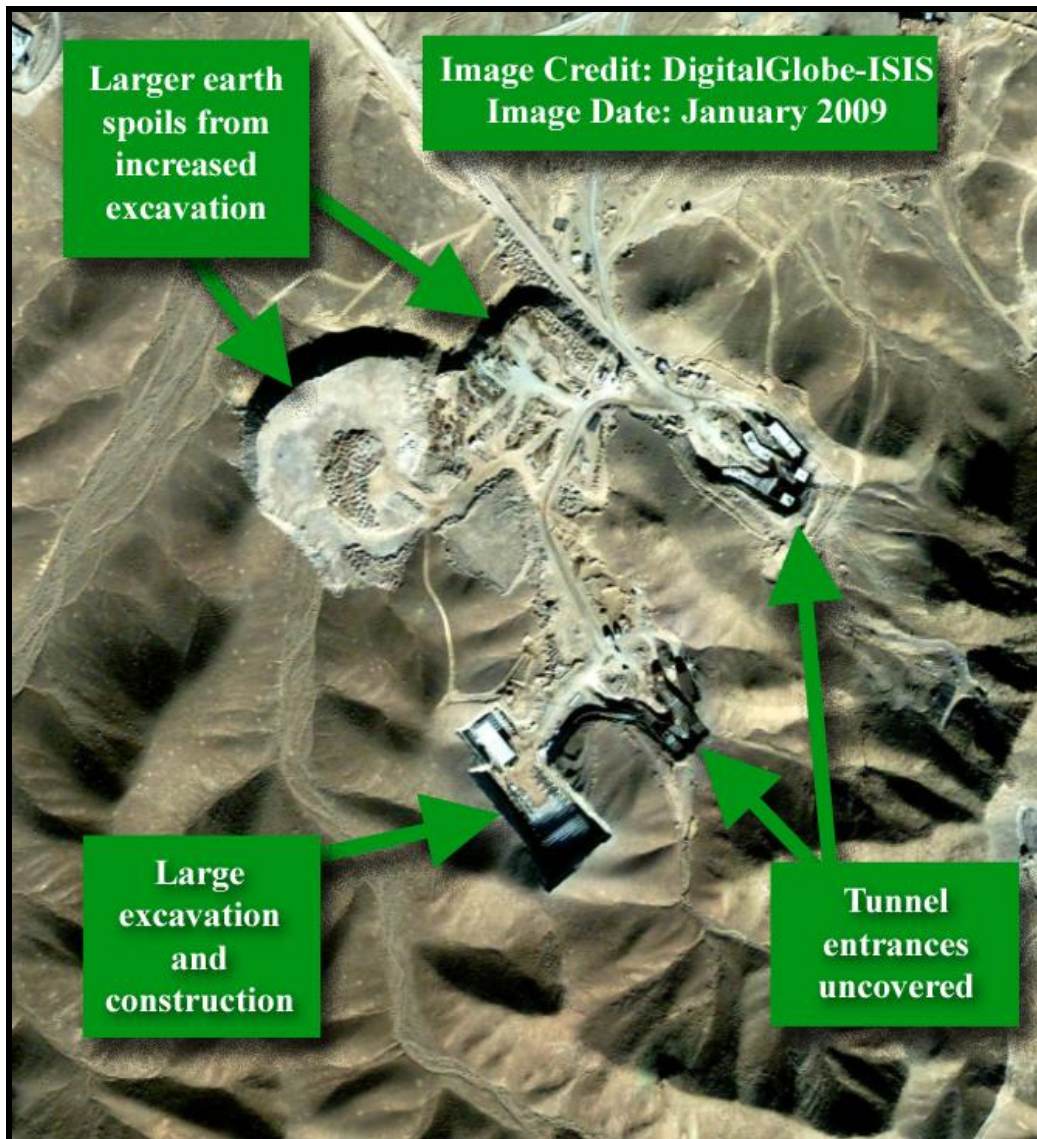


Figure 6. January 2009 image from DigitalGlobe of the same site. There is considerably more construction and excavation activity.



Figure 7. DigitalGlobe image from September 27, 2009 of the same site. The new excavation has been covered, as have the original two tunnel entrances.



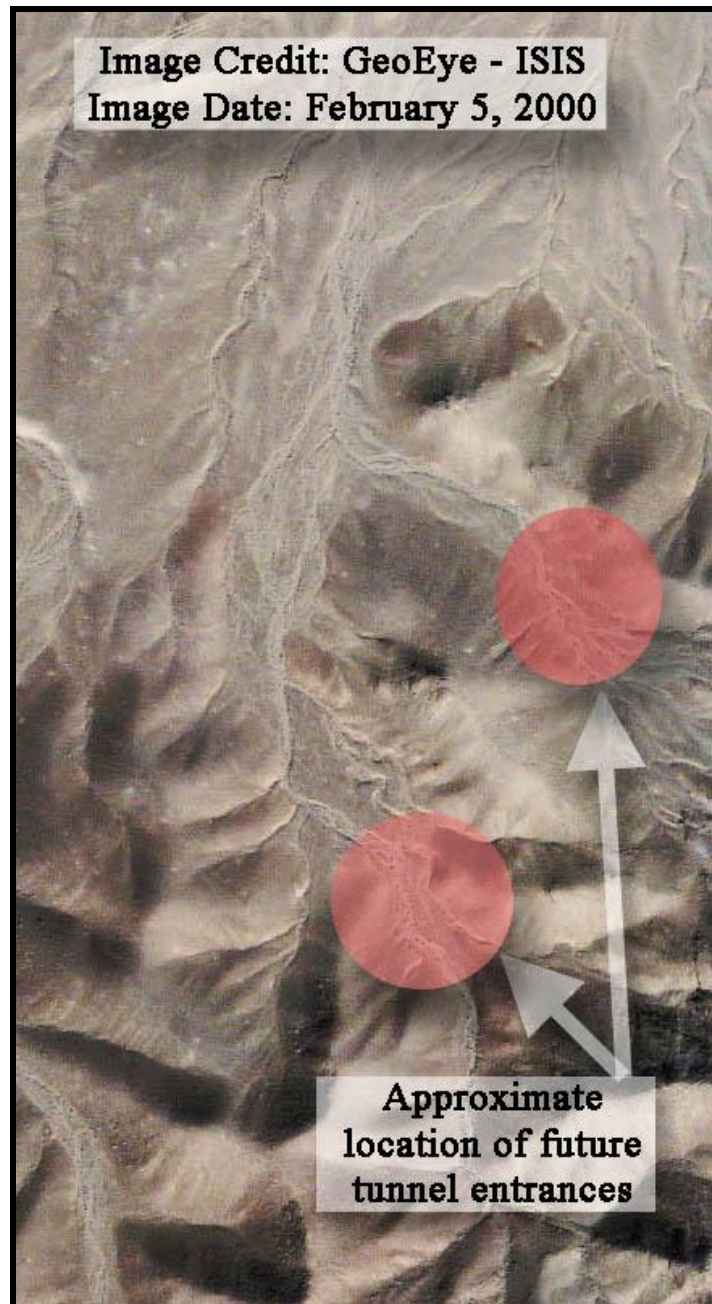


Figure 8. February 2000 GeoEye image of the Qom site. The tunnel entrances have not yet been built as of February 2000.