



## ISIS Analysis of IAEA Report on Syria: IAEA Concludes Syria “Very Likely” Built a Reactor

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The International Atomic Energy Agency (IAEA) has released its [May 24, 2011 report on the implementation of NPT safeguards in Syria](#). The report outlines in detail the evidence it has collected of a suspected covert nuclear reactor building under construction in Syria which was bombed by Israeli jets in September 2007. Syria has long denied that it was building a covert nuclear reactor. **Based on its analysis of the evidence, the IAEA “concludes that the destroyed building was very likely a nuclear reactor,” and that Syria should have declared it.**

This safeguards report provides strong support for the IAEA Board of Governors to recommend a referral of Syria’s case to the United Nations Security Council. Such a move would send a strong signal that the international community will not tolerate egregious acts of nuclear proliferation.

In addition to this action, member states should continue to urge the IAEA Director General to call for a special inspection in Syria. Though years have passed since Syria removed and buried remnants of the reactor building and carried out other acts of concealment, a special inspection would be valuable in uncovering further evidence and accounting for the activities that took place in support of the reactor project.

### Evidence

**While the IAEA has assessed in previous reports that the equipment and materials associated with the destroyed building were similar to what would be expected at a reactor, it did not offer a conclusion or explain the evidence in detail until now.** The report notes that the dimensions of the destroyed reactor building were similar to the dimensions of North Korea’s reactor at Yongbyon. After locating the destroyed building in commercial satellite imagery in October of 2007, ISIS noted that the dimensions of the Syrian building, as well as what would later be revealed as the top of the main reactor hall, were very similar to those of the Yonbgyon reactor (see figure 1).<sup>1</sup>

The IAEA also said that imagery of the building after the bombing showed the presence of such features as a containment structure, heat exchangers and a spent fuel pond—all of which would be

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<sup>1</sup> *Suspect Reactor Construction Site in Eastern Syria: The Site of the September 6 Israeli Raid?* David Albright and Paul Brannan, Institute for Science and International Security, October 23, 2007: [http://isis-online.org/uploads/isis-reports/documents/SuspectSite\\_24October2007.pdf](http://isis-online.org/uploads/isis-reports/documents/SuspectSite_24October2007.pdf)

expected in a nuclear reactor. In an April 2008 briefing, the US intelligence community presented a satellite image from after the bombing and highlighted some of these features (see figure 2).<sup>2</sup>

The IAEA report outlines the suspicious concealment activity that took place at the site of the reactor building after the bombing. It cites commercial satellite imagery showing “Syrian efforts to recover equipment and material from the destroyed building,” and notes that whatever remained of the building was “demolished and buried.” ISIS noted in an October 2007 report that Syria had used earth from a nearby hill to bury the remaining foundation of the reactor building (see figure 3).<sup>3</sup> Figure 4 is a satellite image from the US intelligence community briefing in April 2008 showing bulldozers in the process of burying the foundation.

Syria stated that the piping and pumping equipment near the reactor building was intended to supply water to a nearby water treatment facility. The Agency has assessed, however, that prior to the bombing the water pumping system was connected to the suspected reactor building, not to the water treatment facility. It found that after the bombing, Syria “reconfigured the pumping infrastructure to remove sections of the return pipe and to install a new large diameter water pipe connection from the [Dair Alzour Site Pump House] to the [Water Treatment Facility].” This activity can be seen in commercial satellite imagery in a January 2008 ISIS report (see figure 5).<sup>4</sup>

In the same report, ISIS noted that there was a faint line between the reactor building and the water treatment facility in imagery prior to the bombing and speculated that there may have been existing buried piping between the sites (see figure 6). The IAEA has assessed that there was small diameter piping between the reactor building and the water treatment facility which likely contained treated water or power lines. US government experts also assessed that there existed buried piping between the reactor building and the water treatment facility prior to the bombing, and that it contained power lines—supplying electrical power to the reactor building.<sup>5</sup>

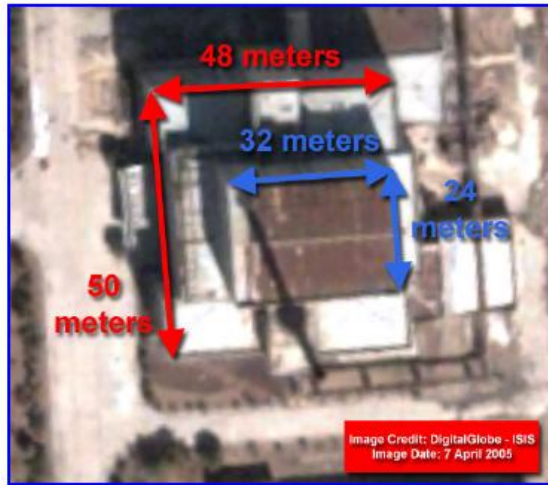
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<sup>2</sup> *The Al Kibar Reactor: Extraordinary Camouflage, Troubling Implications*, David Albright and Paul Brannan, Institute for Science and International Security, May 12, 2008: [http://isis-online.org/uploads/isis-reports/documents/SyriaReactorReport\\_12May2008.pdf](http://isis-online.org/uploads/isis-reports/documents/SyriaReactorReport_12May2008.pdf)

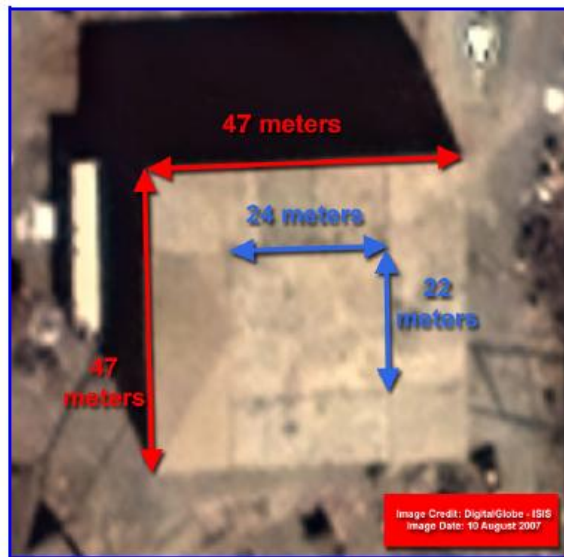
<sup>3</sup> *Syria Update II: Syria Buries Foundation of Suspect Reactor Site*, Institute for Science and International Security, October 26, 2007: <http://isis-online.org/uploads/isis-reports/documents/SuspectSiteUpdate26October2007.pdf>

<sup>4</sup> *New Construction at Syrian Site*, Institute for Science and International Security, January 14, 2008: <http://isis-online.org/uploads/isis-reports/documents/Syria14January2008.pdf>

<sup>5</sup> *The Al Kibar Reactor: Extraordinary Camouflage, Troubling Implications*, David Albright and Paul Brannan, Institute for Science and International Security, May 12, 2008, p.22: [http://isis-online.org/uploads/isis-reports/documents/SyriaReactorReport\\_12May2008.pdf](http://isis-online.org/uploads/isis-reports/documents/SyriaReactorReport_12May2008.pdf)



The five megawatt electric reactor building at Yongbyon, North Korea.



Possible Syrian reactor construction site.

Figure 1. Commercial satellite imagery comparison of the Yongbyon reactor in North Korea and the Syrian reactor building approximately a month before the bombing. The outer dimensions of the building are very similar and the dimensions of the center reactor hall are also similar.

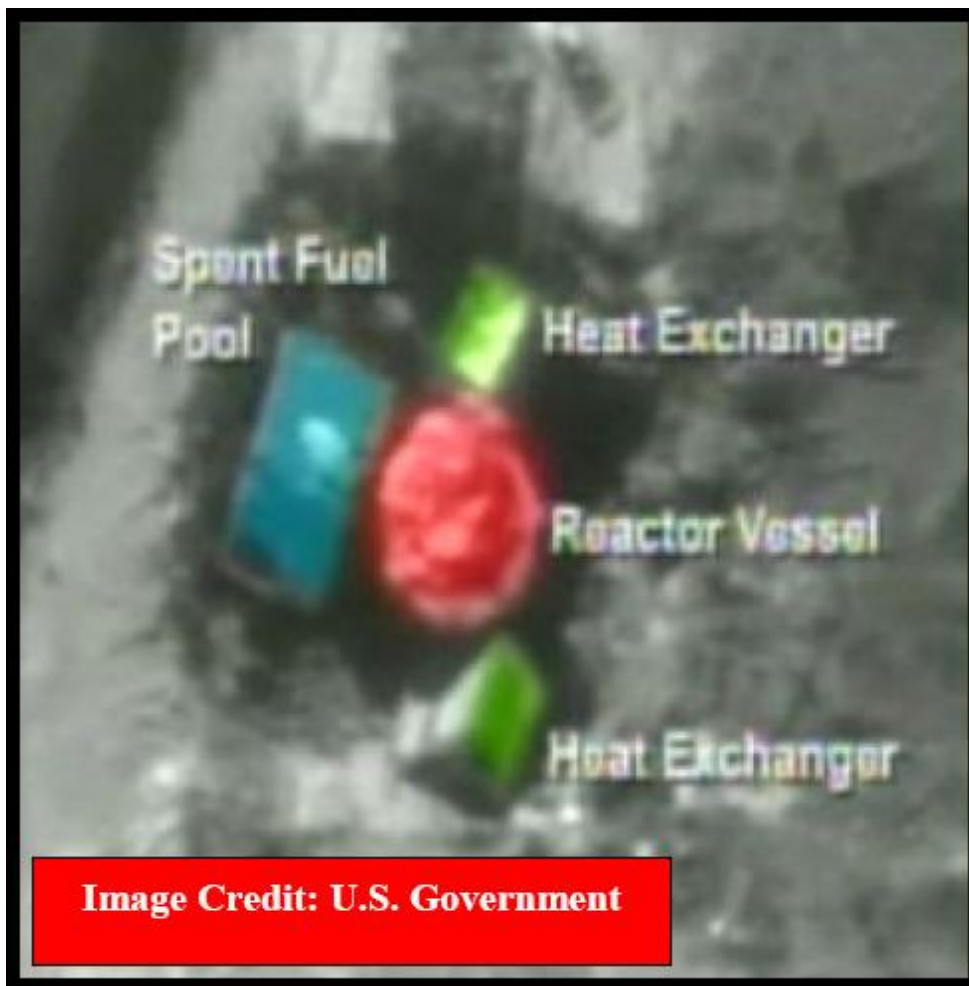
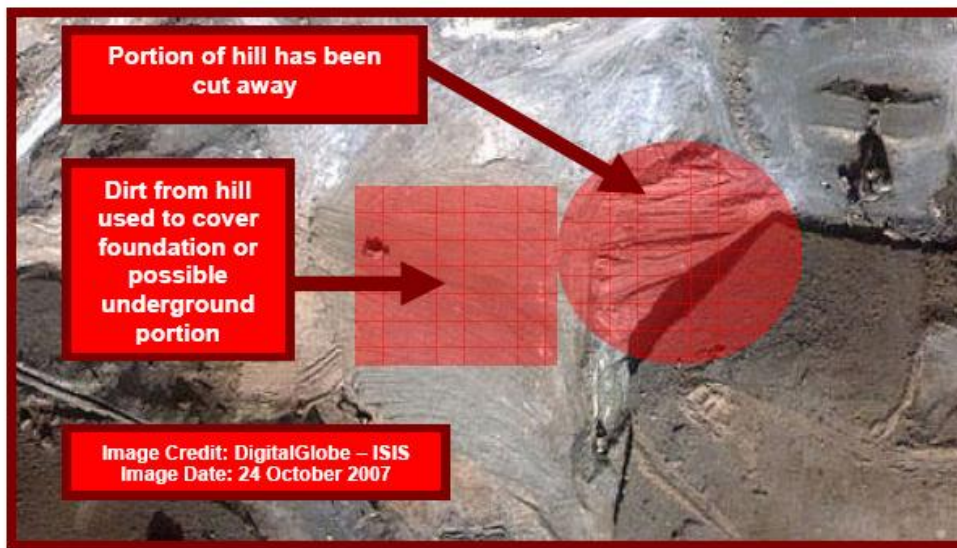


Figure 2. Image of the site of the bombed Syrian reactor building from US intelligence community briefing in April 2008. The image highlights the reactor vessel, heat exchangers, and a spent fuel pond.



Suspect reactor site before September 6, 2007 Israeli raid.



Suspect reactor site after September 6, 2007 Israeli raid.

Figure 3. Commercial satellite imagery showing the site of the reactor building before and after the bombing. In the second image, a section of the hill has been removed in order to bury the remaining building foundation.





Figure 4. Satellite image from US intelligence community briefing in April 2008 showing bulldozers taking dirt from the hill and burying the remaining building foundation.

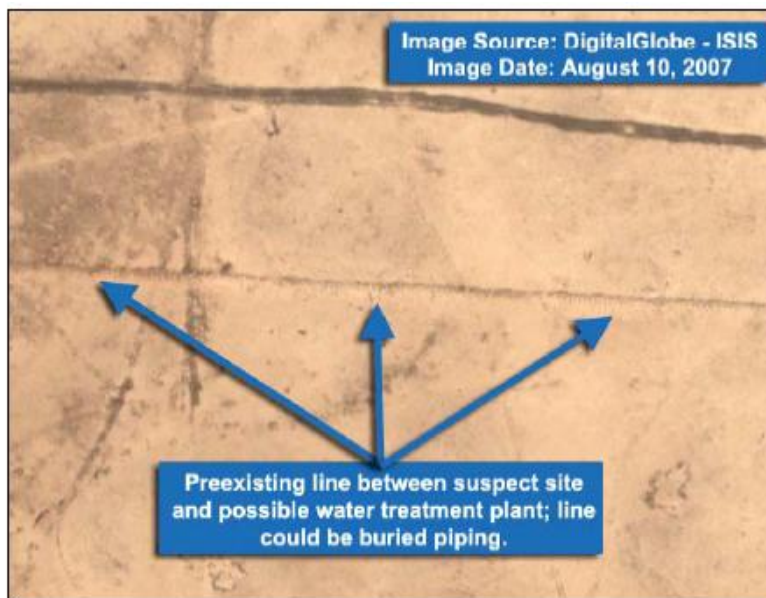


August 10, 2007 wide image of suspect site and possible water treatment facility.

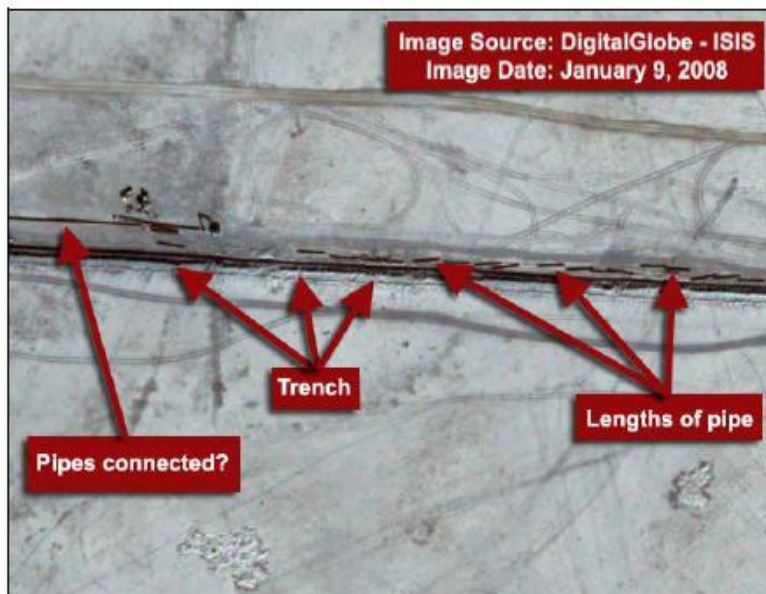


January 9, 2008 wide image of suspect site and possible water treatment facility.

Figure 5. Comparison of commercial satellite imagery before and after the bombing, showing the area in between the reactor building and the water treatment facility. The line of trenches and pipe sections between the two sites after the bombing likely represents this effort by Syria to install a large diameter pipe from the Dair Alzour site to the water treatment facility.



August 10, 2007 image of an area between suspect site and possible water treatment facility.



January 9, 2008 image of the same area with line of trenches and pipe sections between suspect site and possible water treatment facility. The preexisting line in the August 10, 2007 imagery follows virtually the exact same path of the entire length of the line of trenches and pipe sections between the suspect site and the possible water treatment facility in the January 9, 2008 imagery.

Figure 6. Close-up commercial satellite image showing what was likely buried piping containing power lines between the reactor and the water treatment facility, before and after the September 2007 bombing.