North Korea
Imagery Analysis of Camp 16

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North Korea: Imagery Analysis of Camp 16

Overview of North Korea’s Political Prison Camp System

Despite North Korea’s adamant denial that political prison camps exist—most recently in a letter dated February 5, 2015, addressed by the North Korean permanent representative to the UN Office in Geneva to the UN Human Rights Council1 and at the Nineteenth Session of the Working Group on the Universal Periodic Review (UPR) in Geneva2—research based on interviews and satellite imagery reveals a shocking and detailed operation of a vast system of arbitrary and extra-judicial, unlawful detention. In its findings released in February 2014, the United Nations Commission of Inquiry on Human Rights in North Korea (COI) determined that “crimes against humanity have been committed in North Korea, pursuant to policies established at the highest level of the State.”

According to the COI:

In the political prison camps of the Democratic People’s Republic of Korea, the inmate population has been gradually eliminated through deliberate starvation, forced labor, executions, torture, rape and the denial of reproductive rights enforced through punishment, forced abortion and infanticide. The commission estimates that hundreds of thousands of political prisoners have perished in these camps over the past five decades. The unspeakable atrocities that are being committed against inmates of the kwanliso political prison camps resemble the horrors of camps that totalitarian States established during the twentieth century.3

Through this vast system of unlawful imprisonment, the North Korean regime isolates, banishes, punishes, and executes those suspected of being disloyal to the regime. They are deemed “wrong-thinkers,” “wrong-doers,” or are seen as having acquired “wrong-knowledge” or having engaged in “wrong-associations.” Up to 120,000 are known to be held in the kwan-li-so political prison camps where they are relentlessly subjected to induced malnutrition, forced labor, and other cruel and unusual punishment. Thousands upon thousands more are forcibly held in other detention facilities. North Korea denies access to the camps to outsiders, whether human rights investigators, scholars, or international media, and severely restricts the circulation of information across its borders.

Based on research conducted by the Committee for Human Rights in North Korea (HRNK), three trends have defined the human rights situation under the Kim Jong-un regime:

1. An intensive crackdown on attempted defections
2. An aggressive purge of senior officials to consolidate the leader’s grip on power

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NORTH KOREA’S CAMP 16

North Korea: Imagery Analysis of Camp 16

3. A “restructuring” of the political prison camp system, with some facilities, closer to the border with China, being shut down, while inland facilities have been expanded.

Introduction
As part of a joint undertaking with HRNK to use satellite imagery to shed light on human suffering in the Democratic People’s Republic of Korea (DPRK, more commonly known as North Korea), AllSource Analysis (AllSource) has been monitoring activity at political prison facilities throughout North Korea. This report details activity at the facility commonly known as “Camp 16” (also known as Camp 16 Hwasong, Kwan-li-so No. 16, and Political Prison Facility 16). Of the six known kwan-li-so political prison facilities—four (arguably five) of which are thought to still be fully operational—Camp 16 is the only one with no known witnesses or escapees. It is also the largest of the kwan-li-so. Prisoners detained at Camp 16 are thought to never be eligible for release. Available KH-9 historic satellite imagery shows this kwan-li-so has been in existence at least as far back as 1983.

Executive Summary
AllSource Analysis analyzed imagery of the North Korean political prison facility known as Camp 16 and its immediate environs using pan-sharpened multispectral satellite imagery collected by DigitalGlobe and Airbus Defense and Space from April 2013 through January 2015. Also analyzed was a declassified KH-9 satellite image from October 1983. Imagery analysis helped determine the operational status of Camp 16 based on changes in the following features:

- Guard positions and entrances
- Housing and agricultural support facilities and activity
- Hydroelectric facilities
- Internal road network
- Light industrial facilities
- Mining and forestry activity
- Miscellaneous activity
- Security perimeter and associated road network.

Based on analysis of these features, Camp 16 has been and remains an operational political prison camp. As North Korea’s largest political prison camp, it is, by North Korean standards, a mature and well-maintained facility. This is a very active facility—even in the recent winter imagery—that is focused primarily on logging and agriculture, with smaller instances of mining, light industry, and hydroelectric power production.

It is important to reiterate the analytical caution presented in previous reports (such as North Korea: Imagery Analysis of Camp 15 and North Korea’s Camp No. 25 Update) produced by HRNK and AllSource. North Korean officials, especially those within the Korean People’s Army and internal security organizations, clearly understand the importance of implementing camouflage, concealment, and deception (CCD) procedures to mask their operations and intentions. It would be reasonable to assume that they have done so here.

Location and Organization
Camp 16, located approximately 385 kilometers (km) northeast of the capital city of P’yŏngyang and approximately 70 km southwest of Ch’ŏngjin-si, is isolated deep in a forested mountainous region of the Hamgyŏng-sanmaek. It occupies an irregularly shaped area that measures approximately 30 by 35 km (18.4 mi by 21.7 mi). Its perimeter of approximately 119 km encompasses 53,900 hectares (539 km²) with 53 named villages and numerous unnamed villages. The camp is generally divided by the Myŏnggan-ch’ŏn (Hwadong-ch’ŏn and Ungju-ch’ŏn) that run from northwest to southeast and is further divided by tributary systems consisting of the Sosam-ch’ŏn and Taep’o-ch’ŏn. The Őorang-ch’ŏn forms part of the north and east border of the camp. Most of the villages and agricultural, mining, and light industrial activities are along these waterways. Camp 16 is reportedly a “total control zone” that is divided into three “towns” for prisoners whose crimes differ in levels of severity, and the prisoners in these towns have differing levels of privileges. The precise “towns” are:


Footnotes:


and their individual areas of control have yet to be precisely identified.\(^9\)

The main entrance to Camp 16 is in the southeast corner of the camp, approximately 7.5 km west-southwest of the city of Hwasŏng in Hwasŏng-gun, Hamgyŏng-bukto. A secondary entrance is on the eastern perimeter, 7 km east of Camp 16’s primary administrative and support area at P’aeŭidŏk. The absence of electric power poles or rights-of-way for buried power cables suggests that power for the camp is likely provided by the six hydroelectric power plants in the camp. The camp is connected to the national rail network via the station at Haryegumi, approximately 7.5 km west-southwest of the main entrance. The administrative center is 11 km to the north at P’aeŭidŏk. A smaller secondary entrance and checkpoint is on the eastern perimeter, 7 km east of Camp 16’s primary administrative and support area at P’aeŭidŏk.

**Imagery Analysis**

Two additional facilities of note are located in the Camp 16 area. The first is the P’unggye-ri nuclear test facility, which is 2.5 km to the west of Camp 16. The second is the Orang-ch’ŏn No. 2 Power Station (i.e., a dam with a hydroelectric power plant) located 2.5 km to the east of the camp’s eastern perimeter.

For analytical purposes, the camp is divided into the security perimeter, 19 discrete locations that provide insight into changes and typical activity in the camp, and miscellaneous activities (Figure 3).

**Security Perimeter**

Contrary to popular opinion, Camp 16 is not completely enclosed within a single dedicated fixed security fence or wall. Rather, a 119-km-long network of security fences, patrol paths and roads, and 35 guard positions secure it (Figure 4). In fact, imagery analysis indicates that only approximately the lower third of the camp has an actual fence. The remainder appears to be patrolled by troops on foot, and possibly small patrol vehicles, along a series of paths and roads. This is supplemented by what appears to be a series of internal patrol roads and six guard positions or barracks. There are some preliminary indications that these internal patrol roads and guard positions are used to divide the camp into distinct sections—this possibility remains to be confirmed by escapee interviews, if any become available. In the south, the perimeter patrol roads and fence are reasonably well maintained. However, the patrol paths along the northwest, north, and northeast are frequently little more than trails. The absence of any vehicles along the perimeter, or at the guard positions, in the imagery analyzed suggests that guards patrol primarily on foot rather than by vehicle. A majority of the perimeter guard positions are not positioned to provide overlapping fields-of-view of the camp; however, they are located along the most obvious routes of escape and appear to be well maintained and in good repair.

One escapee reports he was told by two guards at Camp 16 that “guard posts equipped with machine guns had been built at high locations in the camp to massacre prisoners in emergency situations.”\(^{10}\)

The security perimeter appears to have changed over time. For example, portions of the western perimeter along the Changût-ch’ŏn Valley that face the P’unggye-ri nuclear test facility (see Area 20) 2.5 km to the west, appear to have been moved eastward to its current position sometime during the past five years.\(^{8}\) This new perimeter is supported by a number of double and triple-walled guard positions. Additionally, there may be two additional guard positions between the current perimeter and the Changût-ch’ŏn Valley. In the extreme northwest section of the camp, the security perimeter appears to have been expanded during 2006-09 to encompass an approximately 5 km² valley to develop logging operations. Since 2010, segments of the eastern security perimeter (e.g., near the small village of Taedolsu) appear to have shifted west to support logging operations and economic development along the Orang-ch’ŏn.

Although Camp 16’s main entrance and checkpoint is at the southeast corner of the camp, the administrative center is 11 km to the north at P’aeŭidŏk. A smaller secondary entrance and checkpoint is on the eastern perimeter, 7 km east of Camp 16’s primary administrative and support area at P’aeŭidŏk.

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Figure 1

A partial view of the Camp 16 area as seen in a declassified Top Secret KH-9 Hexagon satellite image, October 27, 1983.
Figure 2

Overview of Camp 16

P’unggye-ri Nuclear Test Facility
Figure 3

Camp 16 report areas
Figure 4

Camp 16 perimeter
the eastern perimeter, approximately 7 km east of P’aepŭidŏk and leading to the Ŭngju-ch’ŏn Valley.

**Area 1 - Main Camp Entrance**

Located 1 km northwest of the small farming village of Yongjong-dong and astride the Unju-ch’ŏn, the main entrance to Camp 16 consists of a walled guard barracks and entrance checkpoint. A small diversion dam immediately west of the guard barracks provides the water supply to power a small hydroelectric power plant 400 meters (m) south of the entrance checkpoint. A 30-m-long footbridge across the Myonggan-ch’ŏn was constructed between April 2013 and January 2015, and another hydroelectric power plant is 1 km north of the guard barracks (Figure 5, Figure 6, Figure 7).

**Area 2 - Main Camp Entrance North**

The area located 2.5 km north of the main entrance consists of an unnamed village surrounded by agricultural fields and a fish farm paralleling the Unju-ch’ŏn. The only significant change visible in imagery between April 4, 2013 and January 24, 2015 is that a new housing structure is under construction as a replacement for a slightly smaller structure that was removed (Figure 8, Figure 9).

**Area 3 - Changhang**

The villages of Changhang, Chang-hŭng-dong, Kari-dong, and Chungp’yŏng-dong are in the Unju-ch’ŏn Valley just upstream from the confluence of the Myonggan-ch’ŏn and Unju-ch’ŏn. The village of Sadŏk sits along the Myonggan-ch’ŏn, just upstream from the confluence of these two rivers. The areas around these villages and along the Unju-ch’ŏn and Myonggan-ch’ŏn valley floors are involved in agricultural, livestock, fish farming, and mining activities. Since April 4, 2013, at least 14 new housing and support buildings have been constructed—12 around Chungp’yŏng-dong (including a large agricultural support building) and two at Sadŏk. Small-scale mining activity appears to be ongoing (Figure 10, Figure 11).

**Area 4 - Puhwa-ri**

Agricultural fields surround the village of Puhwa-ri, located along the Myonggan-ch’ŏn, with a central threshing house and a small surface mine and associated processing plant to the north. Since April 4, 2013, one new building has been added to the worker housing area, a support building is in the process of having its roof repaired, and two new agriculture support buildings have been built. There is also evidence of continued activity at the small surface mine and associated processing plant just up the valley from the village (Figure 12, Figure 13).

**Area 5 - P’aepŭidŏk South**

The lower portion of P’aepŭidŏk is located along the Myonggan-ch’ŏn and sits immediately south of Camp 16’s administrative headquarters. It consists of a housing area and a checkpoint and guard position at the south end of the village. This checkpoint sits astride the camp’s primary road and provides access control to the camp’s administrative headquarters (Figure 14, Figure 15).

**Area 6 - P’aepŭidŏk Camp 16 Headquarters, Administration, Support, and Housing**

Camp 16’s primary administrative, support, and housing areas are on the north side of the village of P’aepŭidŏk and the west side of the Ŭngju-ch’ŏn (Figure 16). These areas include large administrative buildings, barracks, a motor pool, parade grounds, monuments, what appears to be a cultural center, and numerous support buildings. The area supports a small amount of agricultural and light industrial activity. In imagery taken after April 4, 2013, all buildings and roads are well maintained and activity is visible throughout the area. Imagery shows that two new buildings have been built within the administrative area, and nine housing related buildings have been removed. A checkpoint and guard barracks is located along the main road at the north end of this area. This headquarters and administration area is larger and more developed than those at other political prison facilities (Figure 17, Figure 18).

**Area 7 - P’aepŭidŏk Armory**

Located approximately 1 km west of P’aepŭidŏk is a small facility with two buildings secured with an earthen berm, an interior wall, an exterior fence, and a guard post. The location and layout of the facility suggest that it is an armory for security forces (Figure 19, Figure 20).
Figure 5

The area of Camp 16’s main entrance as seen in a declassified Top Secret KH-9 Hexagon satellite image, October 27, 1983 (41.233 N, 129.413 E)

Entrance and Checkpoint

Guard Barracks
Figure 6

Area 1 - Main Camp Entrance (41.233 N, 129.413 E)
Figure 7

Area 1 - Main Camp Entrance (41.233 N, 129.413 E)
Figure 8

Area 2 - Main Camp Entrance North (41.252 N, 129.403 E)
Area 2 - Main Camp Entrance North (41.252 N, 129.403 E)
Area 3 - Changhang area (41.262 N, 129.380 E)
Figure 11

Area 3 - Changhang area (41.262 N, 129.380 E)
Figure 12

Area 4 - Puhwa-ri area (41.297 N, 129.375 E)
Figure 13

Area 4 - Puhwa-ri area (41.297 N, 129.375 E)
Figure 14

Area 5 - The area of P'aeŭidŏk South containing Camp 16’s main administrative headquarters and support buildings (41.312 N, 129.344 E)
Figure 15

Area 5 - The area of P’aeŭidŏk South containing Camp 16’s main administrative headquarters and support buildings (41.312 N, 129.344 E)
Area 6 - A close-up of the P’aegudok South area as seen in a declassified Top Secret KH-9 Hexagon satellite image, October 27, 1983 (41.312 N, 129.344 E)
Area 6 - Close-up of the P’aenšŏk South area showing the administrative headquarters and support areas (41.312 N, 129.344 E)
Area 6 - Close-up of the P’aeŭidŏk South area showing the administrative headquarters and support areas (41.312 N, 129.344 E)
Figure 19

Area 7 - P’aeūidŏk Armory (41.312 N, 129.330 E)
Figure 20

Area 7 - P‘aeūidŏk Armory (41.312 N, 129.330 E)
Area 8 - Secondary Camp Entrance
Located at the easternmost point of the camp’s perimeter and 7 km east of Camp 16’s primary administrative and support area at P’aeŭidŏk, is a secondary entrance to the camp. The entrance sits along the Sosam-ch’on and consists of a security fence and guard barracks. The area around the entrance supports a mixture of logging and agricultural activities. Immediately northeast of the entrance is a new logging road, and increased logging activity is visible. The secondary road running through the entrance connects the camp down the valley to a primary road that leads to the Orang-ch’on No. 2 Power Station—a dam and hydroelectric power plant 6.3 km northwest of the entrance (Figure 21, Figure 22).

Area 9 - Sonamsŏk-tong East
This area is located along the Myong-gan-ch’on, 1.5 km east of the village of Sonamsŏk-tong, and supports a small amount of agricultural activity. Since at least 2011, there has been a 900-meter-long walled-in area encompassing approximately 5.5 hectares up a shallow valley. Immediately outside the southern entrance to this area, at the base of the valley, is a small cluster of approximately six buildings. There are no readily apparent visual indicators to provide insight into the nature and purpose of this anomalous walled-in area (Figure 23, Figure 24).

Area 10 - Champ’o
Like many small villages within Camp 16, the village of Champ’o, located along the Orang-ch’on and 1.5 km from the eastern security perimeter, supports a small amount of agricultural activity and a fish farm. A small diversion dam 980 meters north of the village provides water through a tunnel to a small hydroelectric power plant, 860 m south of the village. Since April 4, 2013, at least 12 buildings have been constructed along the banks of the river, both immediately upstream and downstream of the village. This area is located 6 km west of the Orang-ch’on No. 2 Power Station (Figure 25, Figure 26, Figure 26b).

Area 11 - Champ’o Northwest 1
This area is located 3 km farther upstream and northwest of the village of Champ’o and along the Orang-ch’on. The exact position of the security perimeter in this general area of Camp 16 is somewhat vague, as it appears to have been moved several times during the recent past, probably for economic development purposes. At present, this area is assessed as being immediately south of, and within, the security perimeter. This area supports small agricultural and logging activities, a diversion dam, and a small hydroelectric power plant. Since the April 4, 2013 image, approximately 20 new worker housing and support buildings have been built. This may indicate a significant increase in the prisoner population. Additionally, a new 2.75 km section of road has been recently constructed that starts just past the hydroelectric power plant and provides access to these new buildings (Figure 27, Figure 28).

Area 12 - Champ’o Northwest 2
This area is 3 km farther upstream from Area 11 and, for the reasons noted above, may lie outside Camp 16’s security perimeter. Since the April 4, 2013 image, 15 new housing and support buildings have been constructed. This may also indicate a significant increase in the prisoner population (Figure 29, Figure 30).

Area 13 - Kyŏlsu Northwest 1
This agricultural area on the west side of the camp is located 1.7 km northwest of the village of Kyŏlsu and is typical of the western and northern sections of Camp 16. It supports a small group of agricultural support and worker housing structures, a livestock pen and recently expanded livestock building, and a lumber mill. The entire area is surrounded by logging activity (Figure 3, Figure 32).

Area 14 - Kyŏlsu Area
Throughout the Kyŏlsu area and along the downhill edges of roads with steep drop-offs, especially at switchbacks, are lines of regularly spaced rectangular objects. The size, shape, and location of these objects suggest that they may be caissons filled with gravel for road maintenance in the springtime to prevent erosion and reinforce the roadbed to allow logging trucks to safely traverse the roads. An example of these objects is visible 1.5 km northwest of the village of Kyŏlsu where, along a dirt road, there is a line of 44 such objects on the downhill edge of the road heading down into the valley (Figure 33, Figure 34).
Figure 21

Area 8 - Secondary Camp Entrance (41.305 N, 129.437 E)
Figure 22

Area 8 - Secondary Camp Entrance (41.305 N, 129.437 E)
Figure 23

Area 9 - Walled area in the Sonamsŏk-tong East area (41.346 N, 129.280 E)
Area 9 - Walled area in the Sonamsŏk-tong East area (41.346 N, 129.280 E)
Figure 25

Area 10 - Champ’o area diversion dam, water tunnel, and hydroelectric power plant (41.364 N, 129.315 E)
Figure 26

Area 10 - Champ’o area diversion dam, water tunnel, and hydroelectric power plant (41.364 N, 129.315 E)
Figure 26b

Area 10 - Champ’o area diversion dam, water tunnel, and hydroelectric power plant (41.364 N, 129.315 E)
Figure 27

Area II - Champ’o Northwest area 1 (41.383 N, 129.293 E)

Security perimeter appears to have been moved several times in the recent past.

Guard Position

Diversion dam

Hydroelectric power plant
Figure 28

Area II - Champ’o Northwest area 1 (41.383 N, 129.293 E)

Security perimeter appears to have been moved several times in the recent past.
Figure 29

Area 12 - Champ’o Northwest area 2 (41.399 N, 129.267 E)
Figure 30

Area 12 - Champ'o Northwest area 2 (41.399 N, 129.267 E)
Figure 32

Area 13 - Kyŏlsu Northwest area 1 (41.391 N, 129.055 E)
Figure 33

Area 14 - Kyŏlsu area (41.386 N, 129.065 E)
Figure 34

Area 14 - Kyŏlsu area (41.386 N, 129.065 E)

Probable gravel/rock-filled caissons distributed along the road
Area 15 - Namp’yŏng-dong and Hach’ŏn-dong
Located in the northwest reaches of the Taep’o-ch’on Valley, the sister villages of Namp’yŏng-dong and Hach’ŏn-dong consist of guard, poultry and livestock, housing, administration, light industrial, and support facilities. Given the size, layout, and location of the facilities at Namp’yŏng-dong and Hach’ŏn-dong, they appear to provide security and administrative and logistical support for the northwest section of Camp 16 (Figure 35, Figure 36).

Area 16 - Hach’ŏn-dong East
Located on the Taep’o-ch’on, approximately .9 km east and downstream of the village of Hach’ŏn-dong, is a diversion dam. This provides water through a tunnel to the largest hydroelectric power plant observed in Camp 16, 1 km downstream (Figure 37, Figure 38).

Area 17 - Ungp’yong-dong
Located throughout Camp 16 are what appear to be small guard positions (possibly with detention facilities). As with this facility at Ungp’yong-dong, these typically consist of a high-walled compound [enclosing an area approximately 45 by 75 m] with a single main building, entrance gate, guard tower, several outbuildings, and a livestock pen (Figure 39, Figure 40).

Area 18 - Guard Position, Eastern Perimeter
Located 2.4 km east of the village of Sadŭk, directly on an isolated section of the security perimeter, is the most heavily reinforced guard position observed in Camp 16. In April 4, 2013 imagery, the position consisted of a central structure surrounded by a single security wall enclosing an area of approximately 83 m$^2$. In January 24, 2015 imagery, the position has a guard tower and is surrounded by at least two full and two partial security walls, enclosing an area approximately 450 m$^2$. The motivations for these security enhancements are unknown (Figure 41, Figure 42).

Area 19 - Guard Position, Ungju-maul
Located in the isolated southwest corner of Camp 16, at the headwaters of the Ungju-chon, this guard position was reinforced in the summer of 2013. It now consists of a central structure and one outbuilding surrounded by two high security walls that enclose an area of approximately 645 m$^2$. Adjacent to the compound are a livestock pen and small agricultural field. As with other reinforced guard positions, the motivations behind the security enhancements are unknown (Figure 43, Figure 44).

Area 20 - P’unggye-ri Nuclear Test Facility
North Korea’s sole nuclear test facility is located 17.2 km north of P’unggye-ri on the southern slopes of Mant’ap-san (Mant’ap Mountain) and 2.5 km to the west of Camp 16’s perimeter (Figure 45, Figure 46). Established in the early 2000s, this facility has been the site of the nation’s three underground nuclear weapons test explosions conducted in 2006, 2009, and 2013 (Figure 47).

Available information indicates that during the past five years the facility has been prepared for a fourth test and that North Korea could conduct such a test at any time of its choosing.\(^\text{13}\)

\[^{13}\text{For example, see: Liu, Jack. “North Korea’s P’unggye-ri Nuclear Test Site: Spring Construction and Maintenance Activities Continue,” 38North, June 5, 2015, http://38north.org/2015/06/Pung- gye060515/}\]

Although the proximity of the test facility to Camp 16, the movement of the camp’s security perimeter east and away from the test facility as noted above, the test facility’s need for a labor force for mining, and Camp 16’s readily available population of prisoners for manual labor projects are compelling reasons to associate the two entities, there is virtually no open source information—pro or con—related to the subject. One of two readily available sources, both of uncertain reliability, is a June 2009 article in the South Korean newspaper Chosun Ilbo. It states that,

... It has been virtually impossible to find any North Korean citizens who said they were involved in constructing the nuclear testing facilities. The 1994 testimony of Ahn Myeong-cheol, who served as a guard at a camp [Camp 22] for political prisoners in Hoeryong, North Hamgyong Province, provides the only exception. Ahn said that from the early 1990s, young political prisoners from camps in Hoeryong, Jongsong, and Hwasong were taken to an underground construction site at Mt. Mantap and that he had
always been curious about what the purpose was.

Mt. Mantap was a source of fear among the political prisoners. Once taken there, no one came back alive. Located just north of Mt. Mantap is the 16th political prisoners’ camp of Hwasong, [Camp 16] notorious even in North Korea. Only the top class of political prisoners and their families are held here. According to rumor, Kim Chang-bok, a former chief of the People’s Armed Forces, and other top officials of the Workers’ Party met their end in Hwasong.

That the underground test site and the political prison camp are adjacent may be coincidental. But North Korean defectors are convinced that the underground nuclear test facilities were built using political prisoners. It is not a secret that North Korea has been employing political prisoners for dangerous construction work.

Although it is tempting to associate both the changes in Camp 16’s western perimeter and the above report to activity at the P’unggye-ri nuclear test facility, caution must be exercised as both the motivation for the perimeter changes and the reliability and accuracy of the defector reports based on second-hand and third-hand knowledge cannot be confirmed.

Area 21 - Orang-ch’on No. 2 Power Station

Since the late 1990s, North Korea has been building the Orang-ch’on No. 2 Power Station—a dam and hydroelectric power plant—2.5 km east of Camp 16’s security perimeter. Although domestic reports state that the dam was completed in December 2014, construction in and around the area continues. During the past five years, this has been accompanied by a limited number of small economic development projects farther upstream along the Orang-ch’on. These projects have been primarily focused on farming, logging, and probably small hydroelectric power plants. It is likely that these small projects employed prison labor to some extent. These small projects are also believed to have led to a western adjustment of Camp 16’s security perimeter in the area. Although the Orang-ch’on No. 2 Power Station is only a short distance from the Camp 16 perimeter, no roads readily connect the two and there is currently no evidence to indicate that prisoners have been involved in its construction (Figure 4B).

Assessment

Observations and analysis derived from DigitalGlobe and Airbus Defense and Space satellite imagery collected from April 2013 through January 2015—combined with defector reports and publicly available information—indicate that:

- If those working at the camp are prisoners, the prisoner population within the camp has likely expanded over the period examined. The camp population maintains the agricultural fields, orchards, and livestock, and work in the camp’s logging activities and wood products, light industrial facilities, and mines.
- Although Camp 16 is surrounded by a security perimeter, it is not completely enclosed within a single dedicated fixed security fence or wall. Rather, it consists of a 119-kilometer-long network of security fences, patrol paths and roads, and 35 guard positions securing it. As noted above, imagery analysis indicates that only approximately the lower third of the camp has an actual perimeter fence. The remainder appears to be patrolled by troops on foot, and possibly small patrol vehicles, along a series of paths and roads. The vast rugged wilderness area to the camp’s north, along with frequently harsh weather conditions, likely serves as a deterrent to escape.
- During the period under study, there has been an increase in the number of housing units and support buildings.
- Administrative, barracks, housing, light industrial, and support buildings and grounds are well maintained and in good repair. The grounds around these structures and the road network throughout the camp are well maintained as is typified by the road maintenance project being undertaken in the northeast.
Logging, wood products manufacturing, and light industries appear to be the primary economic activities within the camp.

There is a moderate diversity of agricultural production, and all agricultural fields and orchards are well defined and maintained. Some of these are irrigated from mountain streams and rivers.

All the livestock facilities are well maintained, and there are indications of a diversity of herds.

The camp's few fish farms are well maintained and show no sign of change.

Electric power is available from a network of small hydroelectric power plants located along the rivers in and on the camp's eastern perimeter.

**Recommendations**

Continued monitoring of Camp 16 is recommended to develop an objective baseline understanding of the camp’s activities, maintain an evidentiary catalog of physical changes at the facility, update its status, develop more conclusive evidence of prisoner population size, and assist with the identification of possible human rights abuses. With regard to the latter, it is important to identify whether prisoners have been used in support of activities at the P'unggye-ri nuclear test site. If they have been, it is also important to determine their fate and health status.

North Korea: Imagery Analysis of Camp 16
Figure 35

Area 15 - Namp’young-dong and Hach’on-dong area (41.368 N, 129.083 E)
Figure 36

Area 15 - Namp’yŏng-dong and Hach’ŏn-dong area (41.368 N, 129.083 E)
Area 16 - Diversion dam and hydroelectric power plant in the Hach’ŏn-dong East area (41.375 N, 129.116 E)
Figure 38

Area 16 - Diversion dam and hydroelectric power plant in the Hach’ŏn-dong East area (41.375 N, 129.116 E)
Area 17 - Guard barracks in the Ungpy'ong-dong area (41.213 N, 129.242 E)
Figure 40

Area 17 - Guard barracks in the Ungpy’ong-dong area (41.213 N, 129.242 E)
Figure 41

Area 18 - Guard Position, Eastern Perimeter (41.272 N, 129.422 E)
Figure 42

Area 18 - Guard Position, Eastern Perimeter (41.272 N, 129.422 E)
Figure 43

Area 19 - Reinforced guard position in the Ungju-maul area (41.205 N, 129.180 E)
Area 19 - Reinforced guard position in the Ungju-maul area (41.205 N, 129.180 E)
Area 20 - An October 27, 1983, declassified Top Secret KH-9 image of the area in which the P’unggye-ri nuclear test facility was built during the 2000s (41.278 N, 129.085 E)
Figure 46

Area 20 - Location of the P’unggye-ri Nuclear Test Facility (41.289 N, 129.093 E)
Figure 47

Area 20 - Location of the P’unggye-ri Nuclear Test Facility (41.278 N, 129.085 E)
Figure 48

Area 21 - Orang-ch’on No. 2 Power Station (41.349 N, 129.389 E)

Dam and power station

Dam construction activity
Gazetteer

<table>
<thead>
<tr>
<th>Location</th>
<th>Latitude (N)</th>
<th>Longitude (E)</th>
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<tbody>
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North Korea: Imagery Analysis of Camp 16

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## North Korea: Imagery Analysis of Camp 16

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