



North Korea Imagery Analysis of Camp 16

Joseph S. Bermudez Jr., Andy Dinville, and Mike Eley



THE COMMITTEE FOR
HUMAN RIGHTS IN NORTH KOREA
북한인권위원회



ALLSOURCE ANALYSIS



North Korea: Imagery Analysis of Camp 16



Location:

Hwasŏng-gun, Hamgyŏng-bukto

Coordinates:

41.231091 N, 129.412216 E

Date of Report:

November 16, 2015

Date of Imagery:

April 2013-January 2015

Size of Facility:

539 km² (208 mi²)

30 by 35 km (18.4 by 21.7 mi)

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.” Many of these crimes against humanity take place against persons detained in

1. “Letter dated 5 February 2015,” A/HRC/28/G/5, 18 February 2015.

2. DPRK, “National Report submitted in accordance with paragraph 5 of the annex to Human Rights Council resolution 16/1,” A/HRC/WG.6/19/PRK/1, 30 January 2014; for the UPR report, see UN Human Rights Council, “Report of the Working Group on the Universal Periodic Review, Democratic People’s Republic of Korea,” A/HRC/27/10, 2 July 2014.

political and other prison camps—persons who the Commission determined are among the “primary targets of a systematic and widespread attack” by the North Korean regime. These crimes include murder, enslavement, torture, imprisonment, rape, forced abortions and other sexual violence, persecution on political grounds, and the enforced disappearance of persons.

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

3. UN Human Rights Council, “Report of the commission of inquiry on human rights in the Democratic People’s Republic of Korea,” A/HRC/25/63, 17.

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

February 2013, para. 60, available at http://hrnk.org/uploads/pdfs/A_HRC_25_63.pdf.



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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).⁴

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

4. The Korea Institute for National Unification (KINU) *White Paper on Human Rights in North Korea* 2014, pp. 182-184, calls Camp 16, “Myonggan No. 16 Kwanliso,” located in “Buha-ri, Myonggan County, North Hamgyoung Province,” also known as “Hwasong Kwanliso.”

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 multi-spectral 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*⁵ and *North Korea's Camp No. 25 Update*⁶) 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.

5 Available at http://hrnk.org/uploads/pdfs/ASA_AnalysisReport_HRNK_Camp15_Final.pdf.

6 Available at <http://hrnk.org/uploads/pdfs/Camp%2025%20Update%20Good.pdf>.

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.⁷ It occupies an irregularly shaped area that measures approximately 30 km 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 (Hwasŏng-ch'ŏn) and Ungju-ch'ŏn⁸ 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 Ŏrang-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”

7 “Sanmaek” means “mountain range” in Korean.

8 “Ch'ŏn” means “stream” in Korean.



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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, 1.75 km south of the main entrance. The closest air facility is the Korean People's Air Force Irhyang-dong Airfield, 13 km to the east of the main entrance. This is a basic flight training facility that, based on its mission and organization, likely provides no support to Camp 16.

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'on 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 Changuk-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.¹¹ 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 Changuk-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 Ŏrang-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

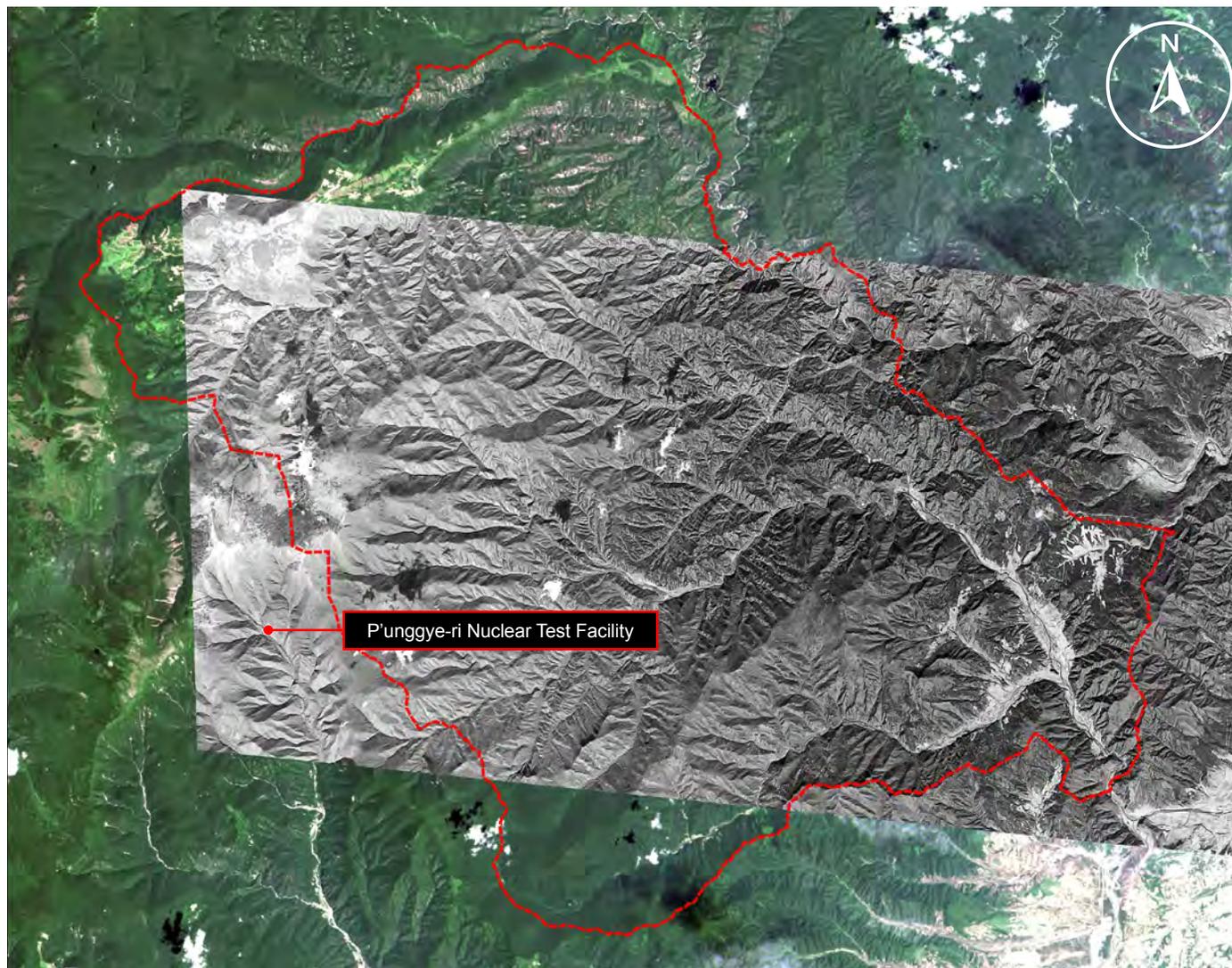
⁹ The Korea Institute for National Unification (KINU) *White Paper on Human Rights in North Korea 2014*, pp. 104-105.

¹⁰ The Korea Institute for National Unification (KINU) *White Paper on Human Rights in North Korea 2014*, pp. 104-105.

¹¹ The national designator of the nuclear test site is unknown. Until it is, the title "P'unggye-ri nuclear test facility" is used for convenience.



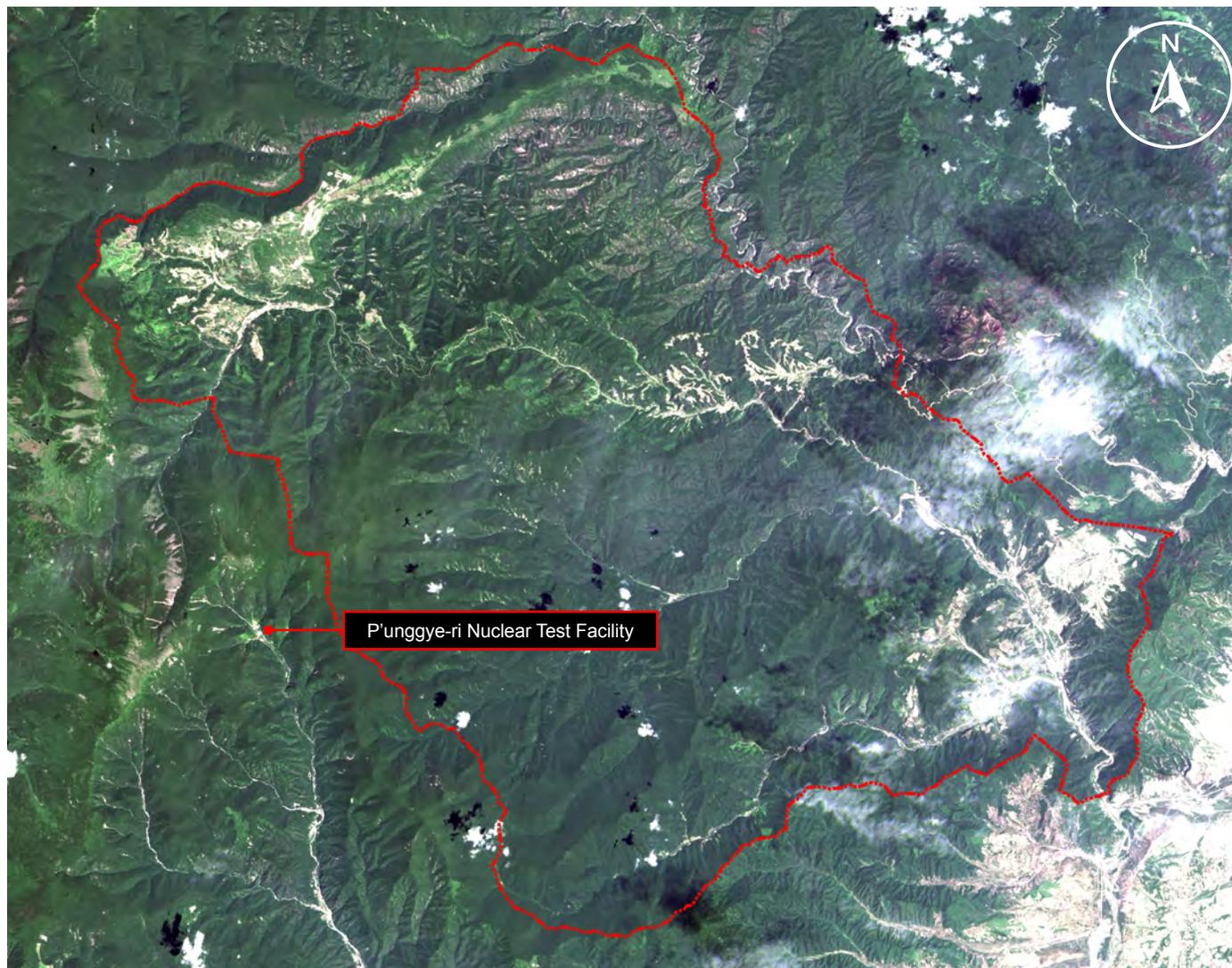
Figure 1



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



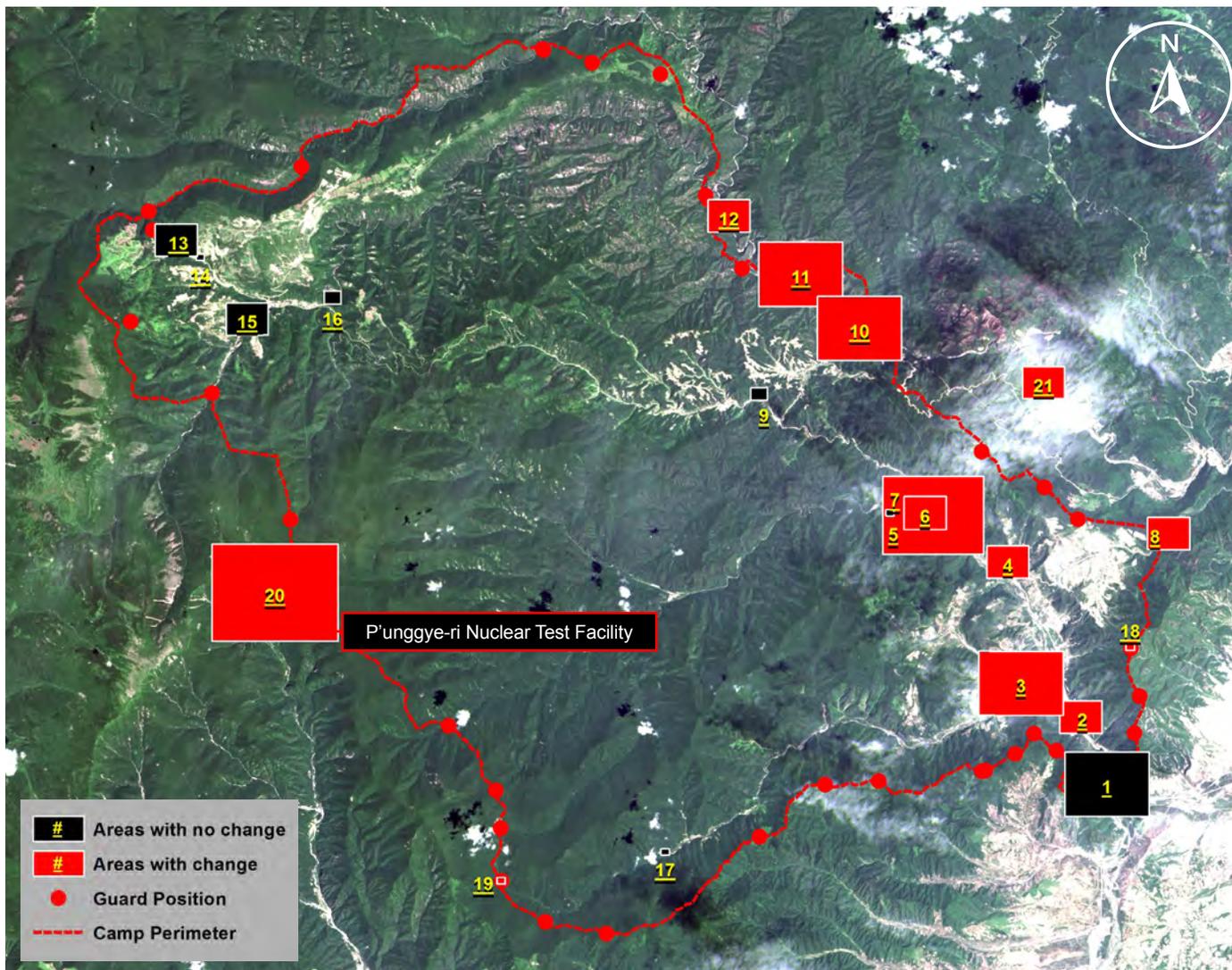
Figure 2



Overview of Camp 16



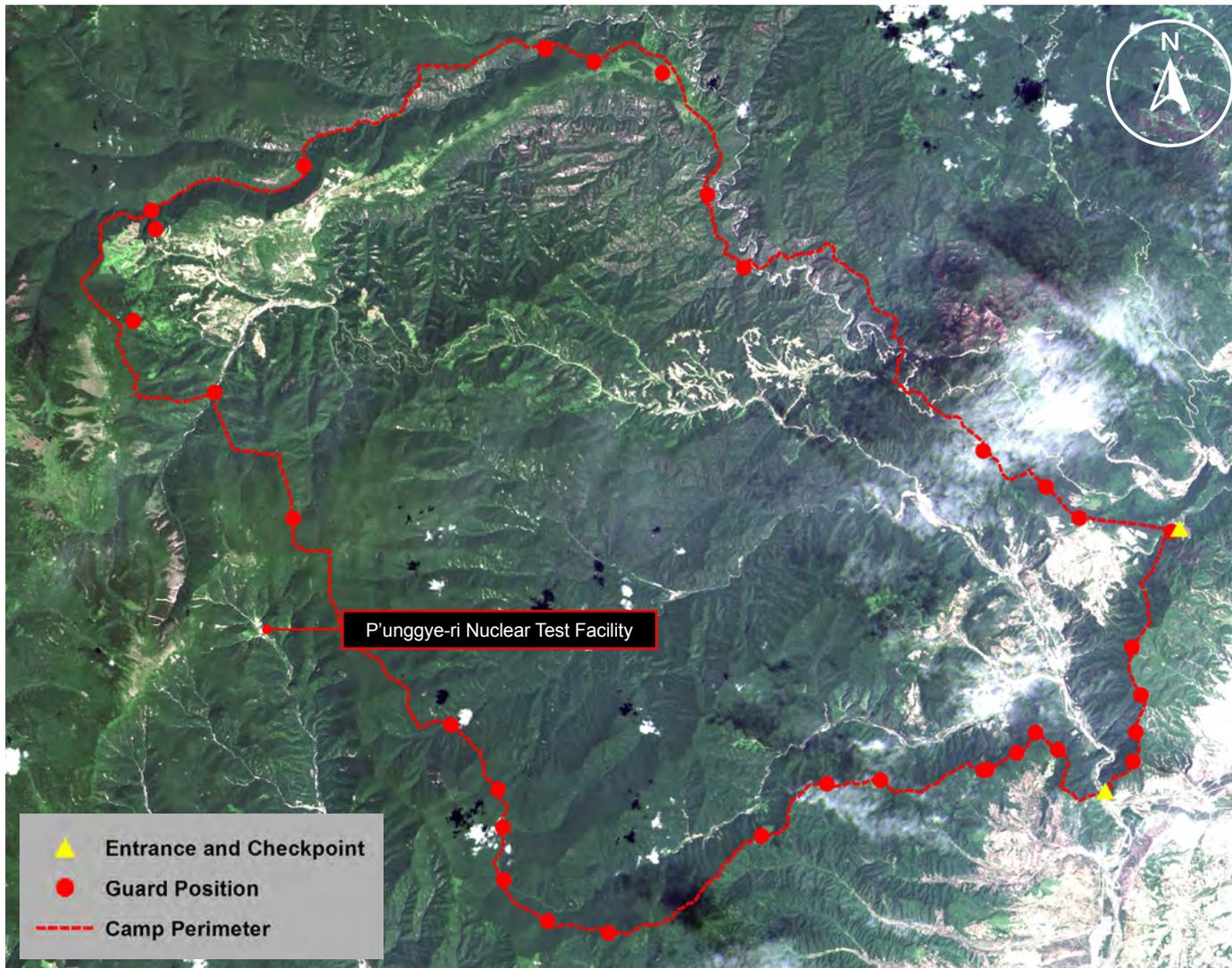
Figure 3



Camp 16 report areas



Figure 4



Camp 16 perimeter



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the eastern perimeter, approximately 7 km east of P'aeüidök and leading to the Örang-ch'ön Valley.

Area 1 - Main Camp Entrance

Located 1 km northwest of the small farming village of Yongjong-dong and astride the Unju-ch'ön, 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'ön 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'ön. 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, Changhüng-dong, Kari-dong, and Chungp'yöng-dong are in the Unju-ch'ön Valley just upstream from the confluence of the Myonggan-ch'ön¹² and Unju-ch'ön. The village of Sadük sits along the Myonggan-ch'ön, just upstream from the confluence of these two rivers. The areas around these villages and along the Unju-ch'ön and Myonggan-ch'ön 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'yöng-dong (including a large agricultural support building) and two at Sadük. 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'ön, with a central threshing house

¹² This is a different river than the one immediately south of the camp entrance.

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'aeüidök South

The lower portion of P'aeüidök is located along the Myonggan-ch'ön 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'aeüidök 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'aeüidök and the west side of the Ungju-ch'ön (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'aeüidök Armory

Located approximated 1 km west of P'aeüidök 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)



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)



Figure 9



Area 2 - Main Camp Entrance North (41.252 N, 129.403 E)



Figure 10



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'aeüidörk 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'aëüidörk South containing Camp 16's main administrative headquarters and support buildings (41.312 N, 129.344 E)



Figure 16



Area 6 - A close-up of the P'aeüidöŕ South area as seen in a declassified Top Secret KH-9 Hexagon satellite image, October 27, 1983 (41.312 N, 129.344 E)



Figure 17



Area 6 - Close-up of the P'aeüidök South area showing the administrative headquarters and support areas (41.312 N, 129.344 E)



Figure 18



Area 6 - Close-up of the P'aeüidök South area showing the administrative headquarters and support areas (41.312 N, 129.344 E)



Figure 19



Area 7 - P'aeüidök Armory (41.312 N, 129.330 E)



Figure 20



Area 7 - P'aeüidök Armory (41.312 N, 129.330 E)



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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'aeüidök, 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 - Sonamsök-tong East

This area is located along the Myonggan-ch'on, 1.5 km east of the village of Sonamsök-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 - Kyölsu Northwest 1

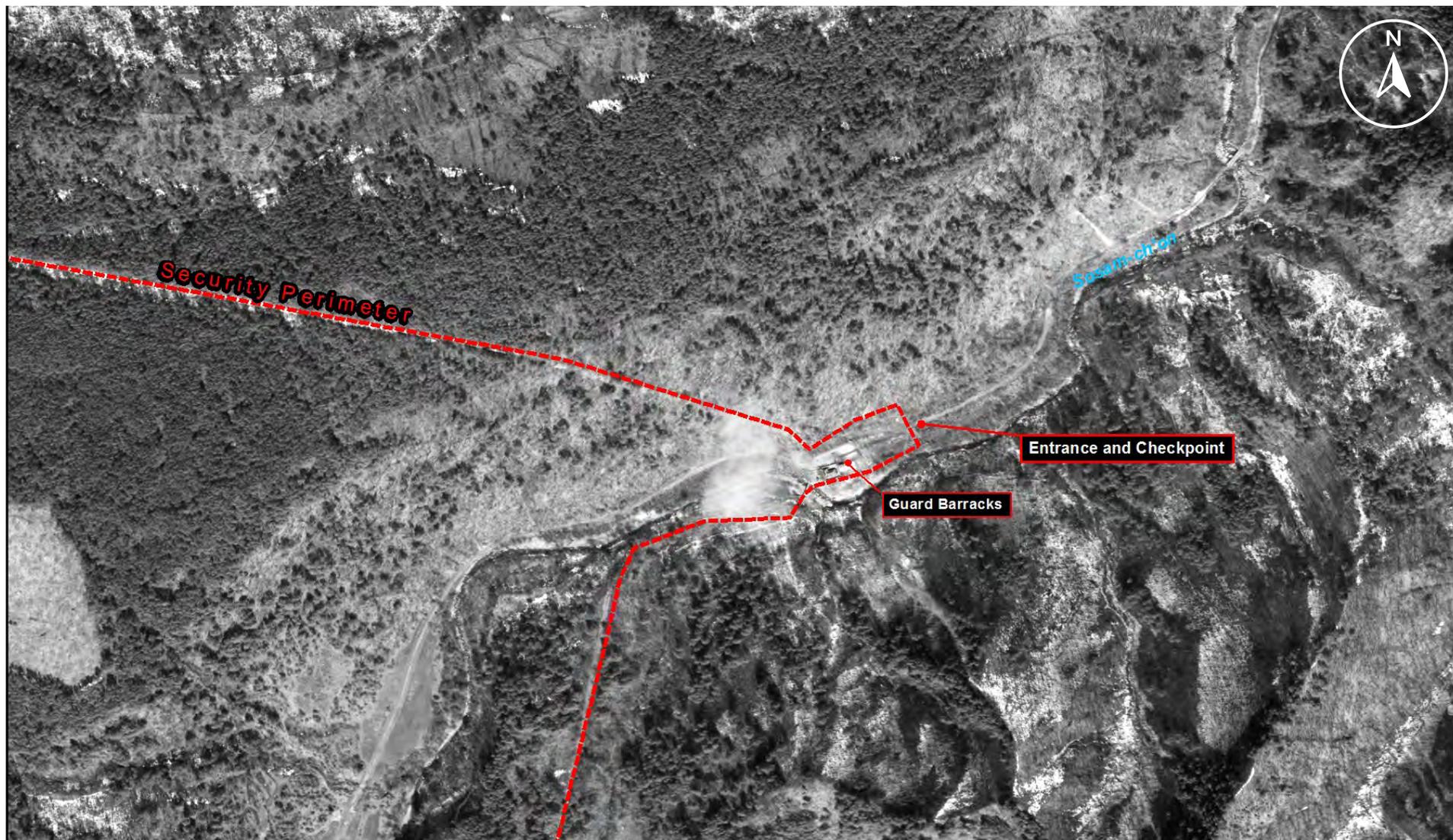
This agricultural area on the west side of the camp is located 1.7 km northwest of the village of Kyölsu and is typical of the western and northern sections of Camp 16. It supports a small group of agricultural support and worker housing structures, a livestock pen and recently expanded livestock building, and a lumber mill. The entire area is surrounded by logging activity (Figure 31, Figure 32).

Area 14 - Kyölsu Area

Throughout the Kyölsu 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 Kyölsu 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 Sonamsök-tong East area (41.346 N, 129.280 E)



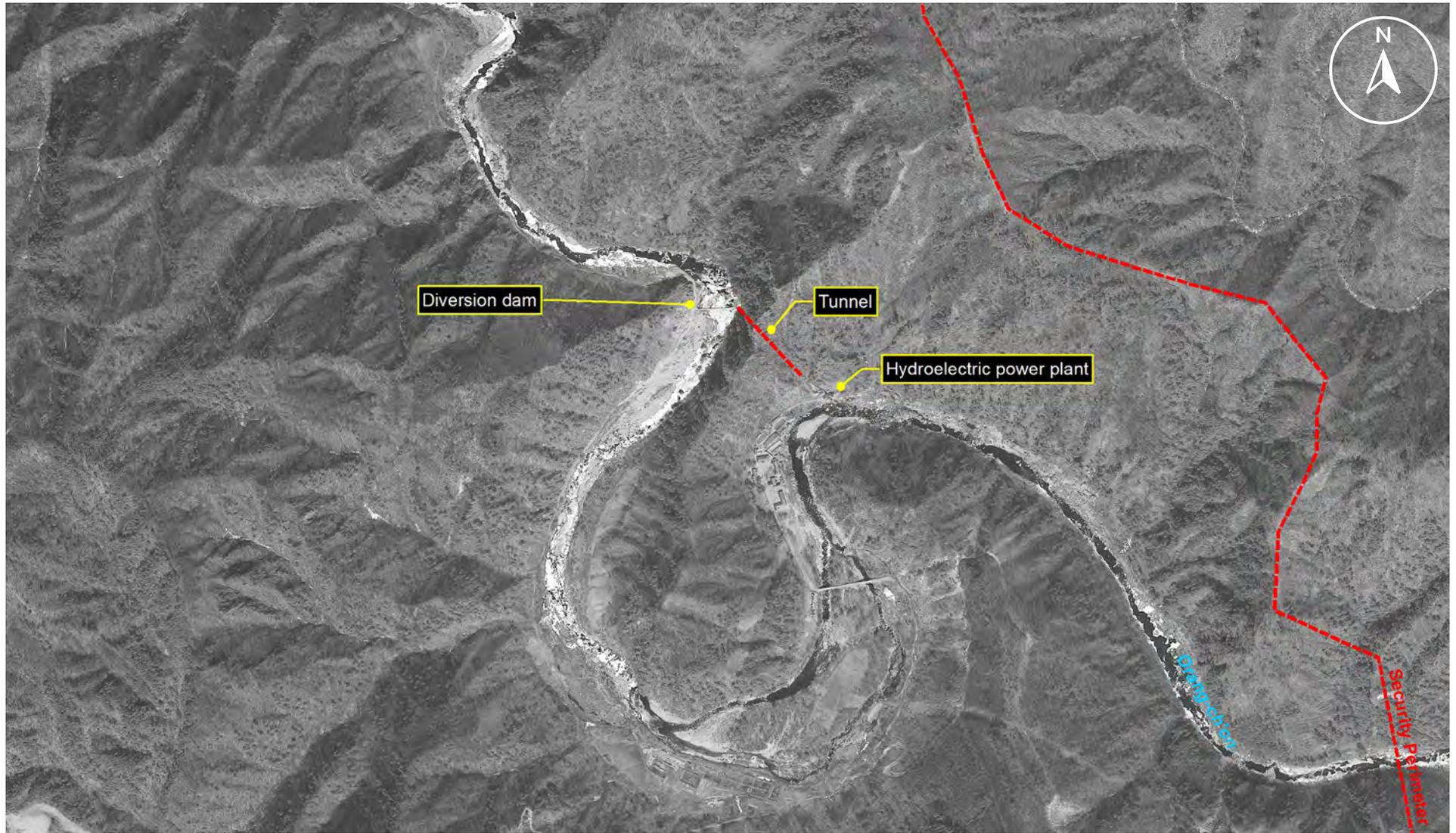
Figure 24



Area 9 - Walled area in the Sonamsök-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)



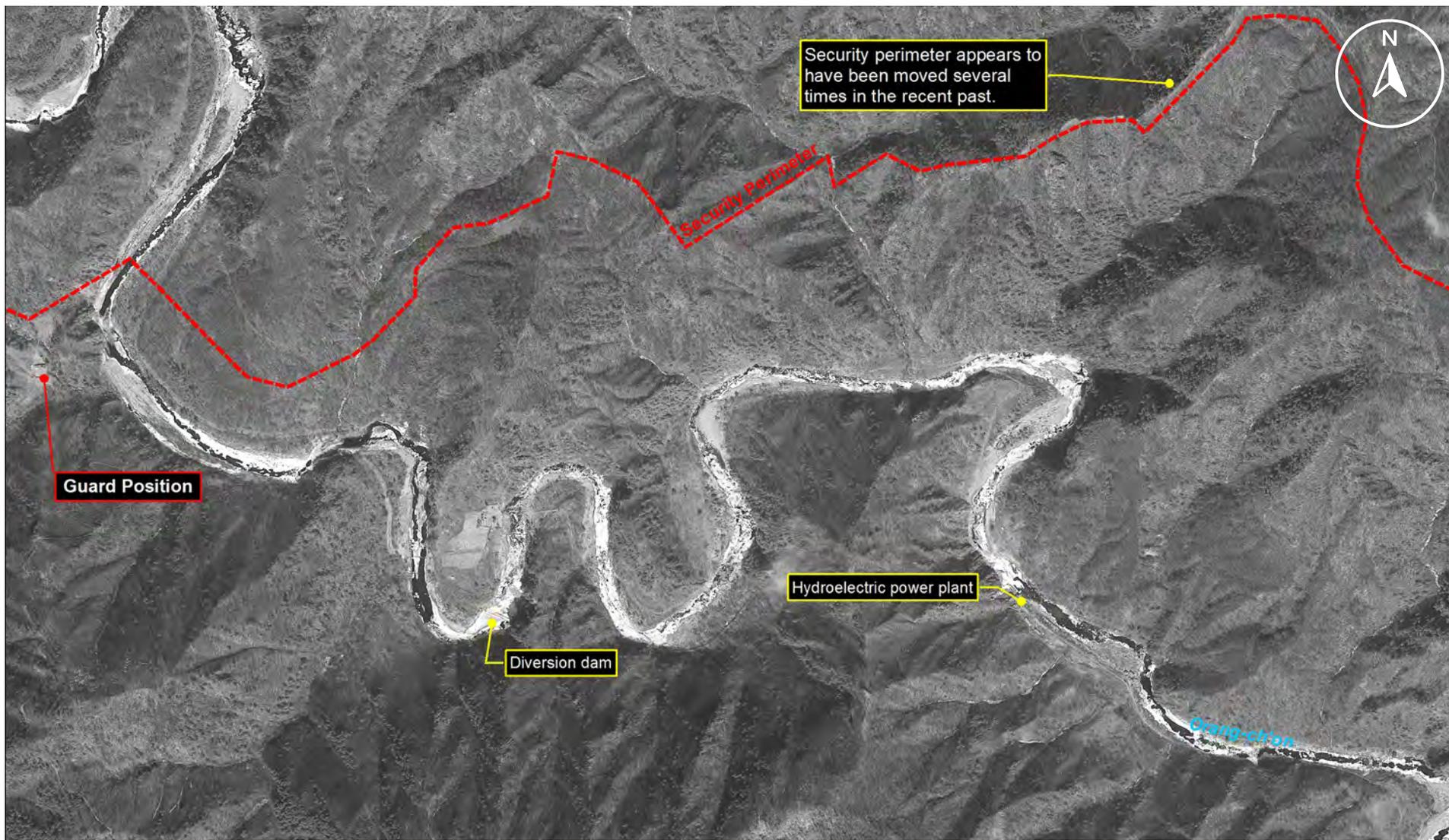
Figure 26b



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)



Figure 28



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



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 31



Area 13 - Kyölsu Northwest area 1 (41.391 N, 129.055 E)



Figure 32



Area 13 - Kyölsu Northwest area 1 (41.391 N, 129.055 E)



Figure 33



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



Figure 34



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



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Area 15 - Namp'yöng-dong and Hach'ön-dong

Located in the northwest reaches of the Taep'o-ch'on Valley, the sister villages of Namp'yöng-dong and Hach'ön-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'yöng-dong and Hach'ön-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'ön-dong East

Located on the Taep'o-ch'on, approximately .9 km east and downstream of the village of Hach'ön-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 out buildings, and a livestock pen (Figure 39, Figure 40).

Area 18 - Guard Position, Eastern Perimeter

Located 2.4 km east of the village of Sadük, 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 m². 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 m². 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 m². 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.¹³

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

¹³ 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/P'ung-gye060415/>.



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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.¹⁴ 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

¹⁴ Reportedly completed on December 19, 2014. http://rodong.rep.kp/en/index.php?strPageID=5-FOI_02_01&newsID=2014-12-22-0006&chAction=T.

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 48).

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.



North Korea: Imagery Analysis of Camp 16

- ▶ 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.



Figure 35



Area 15 - Namp'yŏng-dong and Hach'ŏn-dong area (41.368 N, 129.083 E)



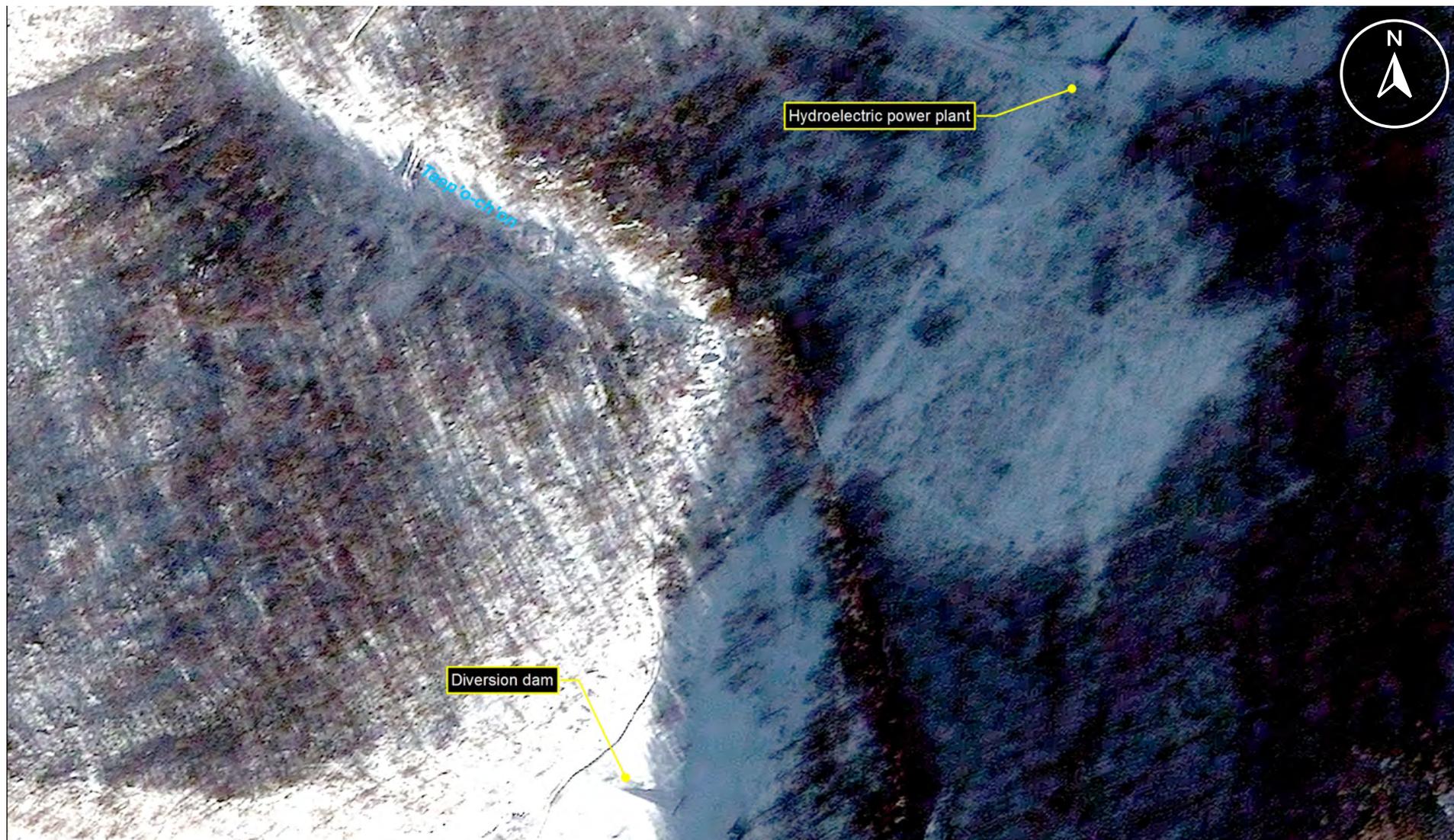
Figure 36



Area 15 - Namp'yöng-dong and Hach'ön-dong area (41.368 N, 129.083 E)



Figure 37



Area 16 - Diversion dam and hydroelectric power plant in the Hach'ŏn-dong East area (41.375 N, 129.116 E)



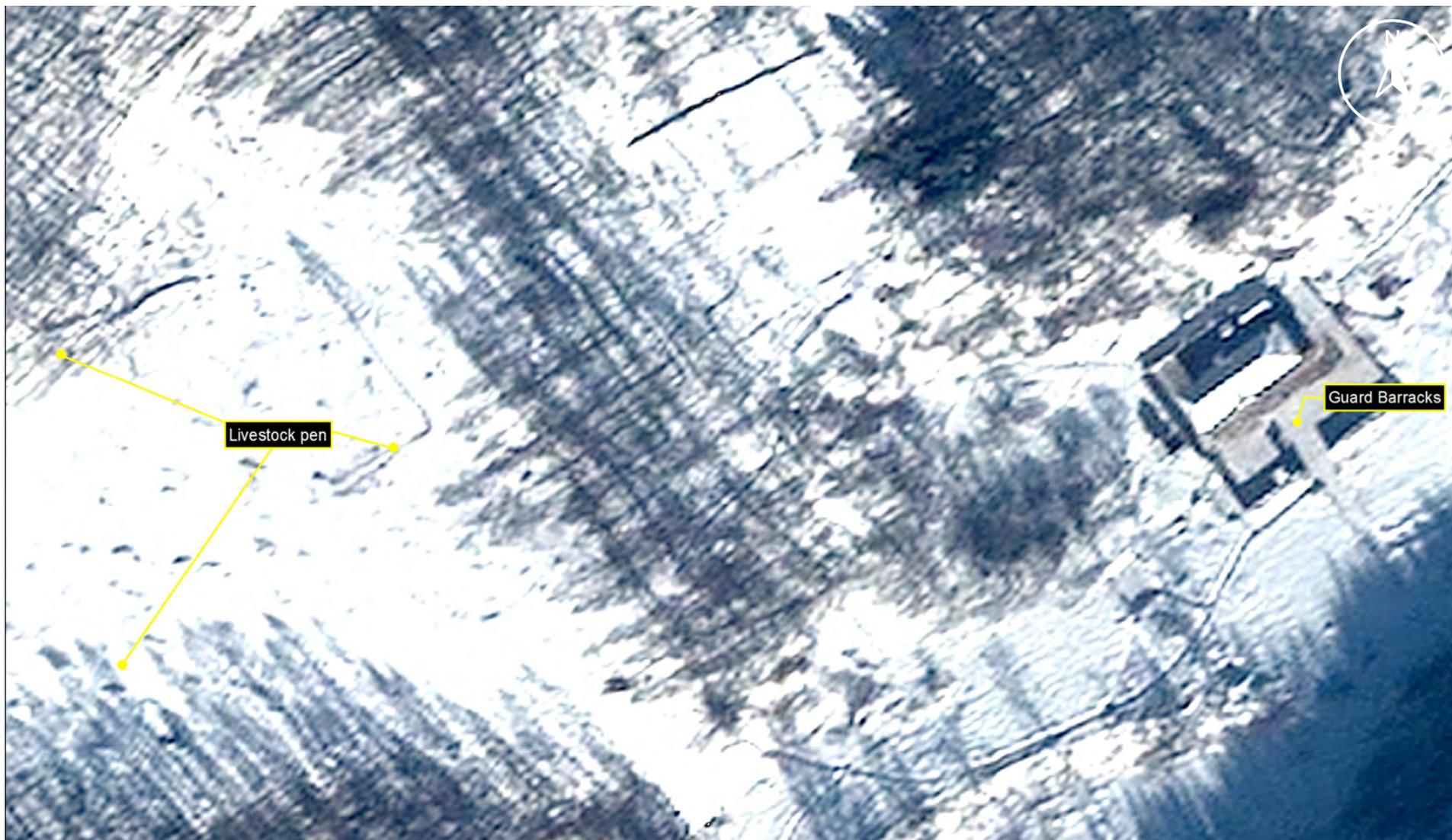
Figure 38



Area 16 - Diversion dam and hydroelectric power plant in the Hach'ŏn-dong East area (41.375 N, 129.116 E)



Figure 39



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



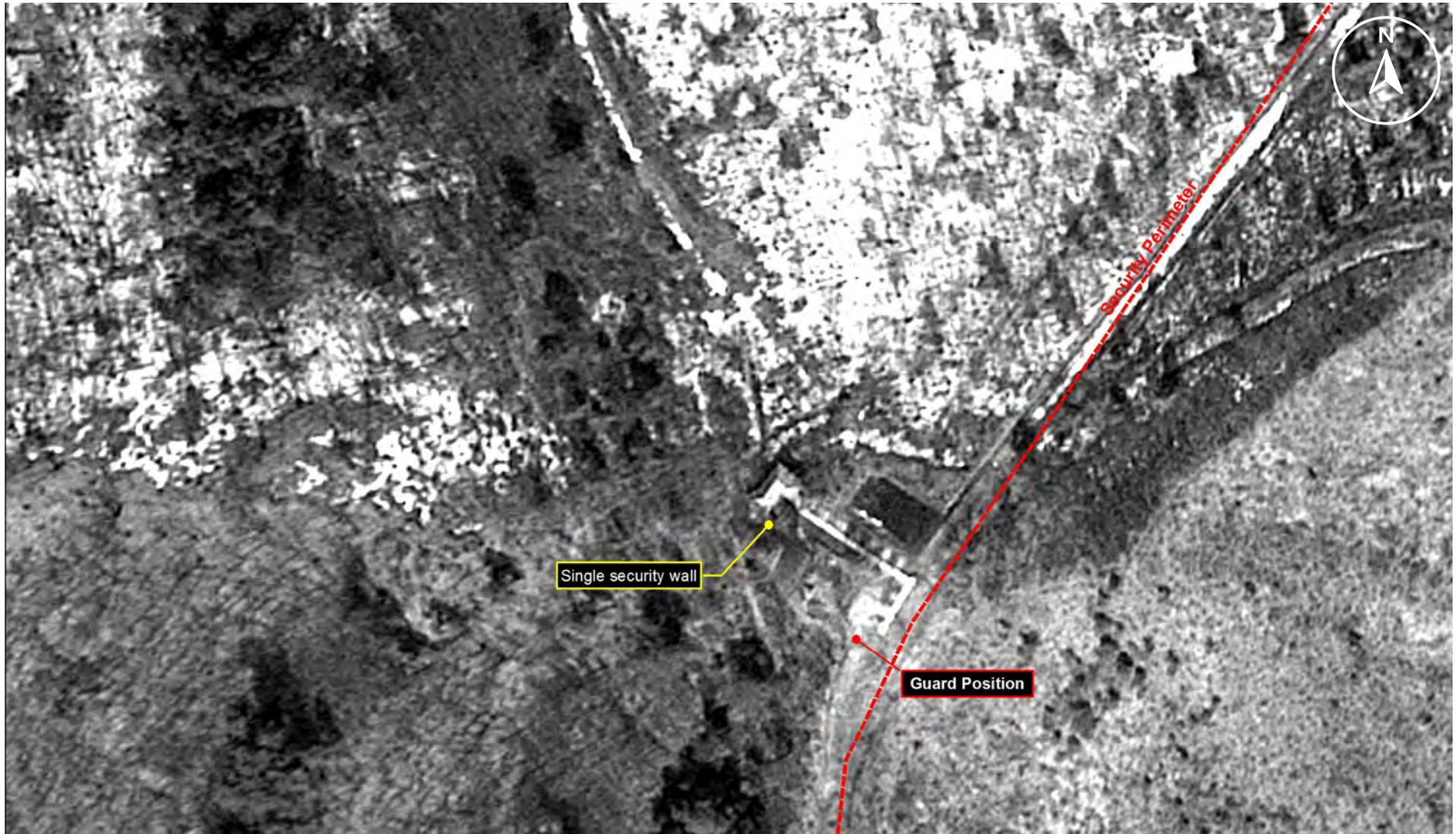
Figure 40



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)



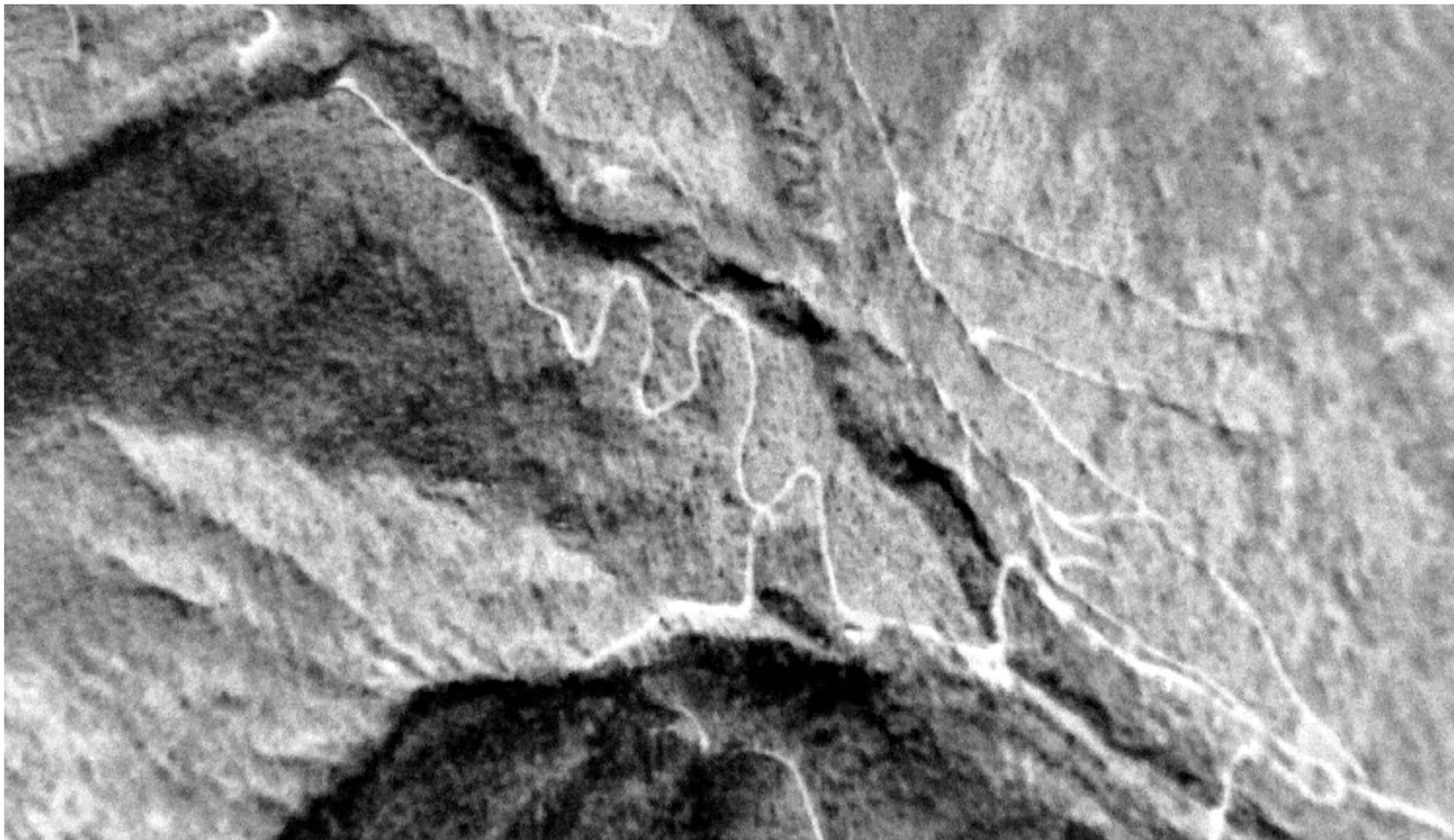
Figure 44



Area 19 - Reinforced guard position in the Ungju-maul area (41.205 N, 129.180 E)



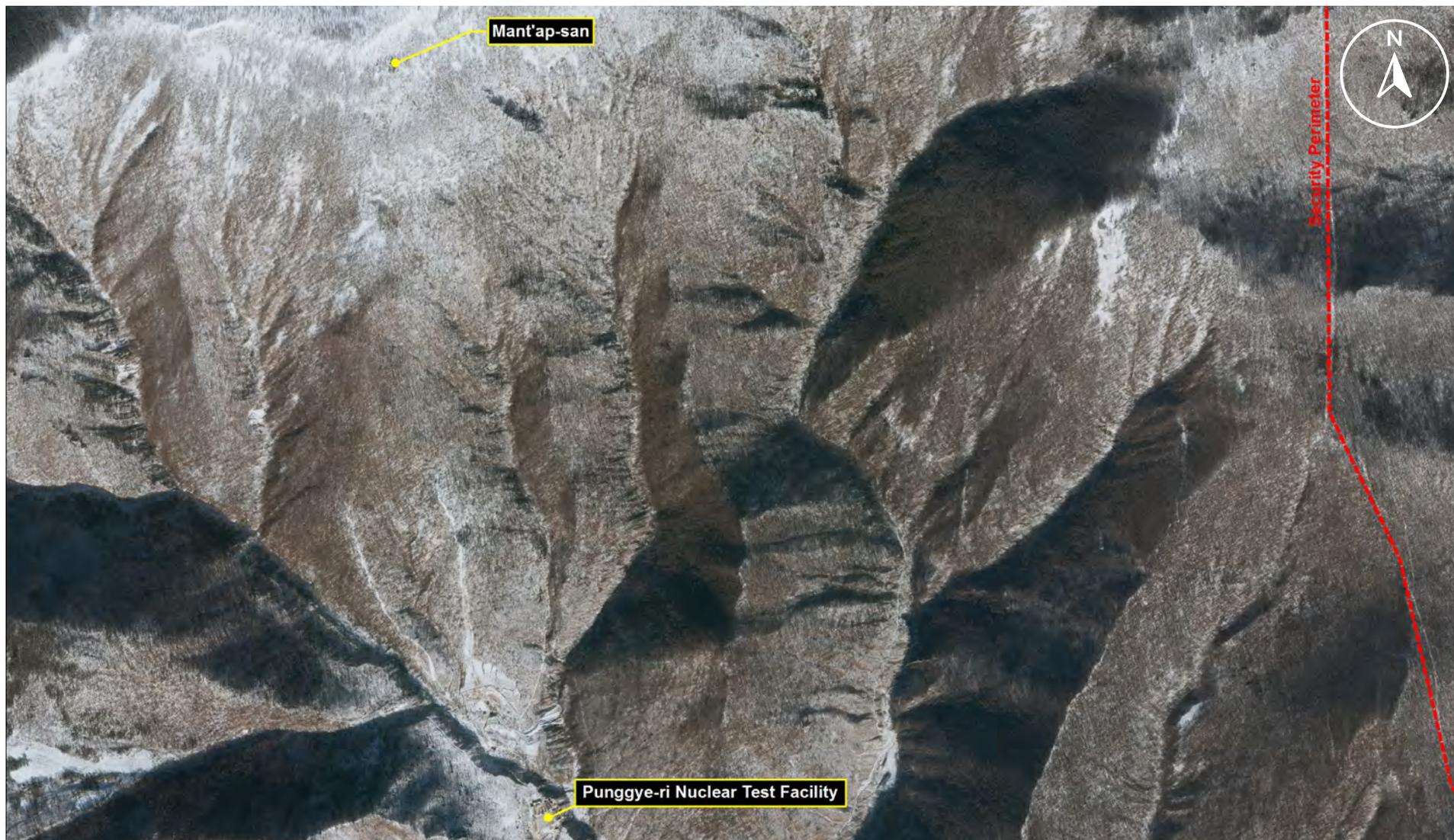
Figure 45



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)



North Korea: Imagery Analysis of Camp 16

Gazetteer

Location	Latitude (N)	Longitude (E)
Andol-tong	41.319	129.308
Camp 16 (Kwan-li-so No. 16 Hwasong) Main Entrance	41.230	129.412
Ch'öngjin-si	41.887	129.831
Ch'ön-gol	41.327	129.180
Ch'önhwa-dong	41.219	129.191
Champ'o	41.359	129.317
Changgaedok	41.263	129.313
Changhang	41.264	129.380
Changp'o-dong	41.328	129.324
Chungp'yöng-dong	41.256	129.370
Ha-ch'on	41.374	129.102
Harip'yöng	41.299	129.271
Haryegumi	41.215	129.420
Haryegumi Rail Station	41.215	129.419
Hoe-dong	41.354	129.299
Hwasöng	41.255	129.492
Igabong	41.277	129.301
Ip'yöng-dong	41.297	129.221
Irhyang-dong Airfield	41.249	129.563
Iwönji-dong	41.253	129.341
Kari-dong	41.265	129.366



North Korea: Imagery Analysis of Camp 16

Location	Latitude (N)	Longitude (E)
Kosŏng	41.289	129.380
K'ungae-gol	41.256	129.169
Kuryong-dong	41.282	129.278
Kwŏlp'o	41.278	129.353
Kyŏlsu	41.378	129.078
Majŏt-kol	41.248	129.206
Man'gŭmp'o	41.302	129.423
Mant'ap-san	41.298	129.081
Naejik-tong	41.283	129.300
Namp'yŏng-dong	41.371	129.079
Namsŏk	41.278	129.386
Orang-ch'on No. 2 Power Station	41.349	129.389
P'aeŭidŏk	41.308	129.355
P'unggye-ri	41.136	129.159
P'unggye-ri Test Site	41.278	129.087
Pu-dong	41.274	129.211
Puhwa-ri	41.295	129.379
P'unggye-ri Nuclear Test Facility	41.278	129.087
Sadŏk	41.309	129.372
Sadŭk	41.269	129.394
Sadŭk	41.306	129.408
Sae-gol	41.297	129.398



North Korea: Imagery Analysis of Camp 16

Location	Latitude (N)	Longitude (E)
Sagijŏm	41.288	129.361
Sambakkae	41.249	129.330
Sandae	41.291	129.411
Sangi-dong	41.288	129.246
Sinp'unghyang	41.344	129.227
Sobokki	41.425	129.167
Sobok-tong	41.272	129.158
Soch'ŏnp'o	41.397	129.107
Sonamsŏk-tong	41.343	129.265
Ssangbong-dong	41.233	129.183
Such'im	41.294	129.419
Sŭngji	41.284	129.382
Taech'ŏnp'o	41.385	129.100
Taenamsŏk-kol	41.347	129.244
Tŭngdae	41.291	129.336
Turianji	41.396	129.087
Ungjŏm-ni	41.300	129.383
Ungju-maül	41.206	129.183
Ungnam-dong	41.198	129.198
Ungp'yŏng-dong	41.215	129.246
Yŏndae-gol	41.320	129.364
Yosan	41.295	129.371
Yumok	41.278	129.385



THE COMMITTEE FOR
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북한인권위원회

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