



Taken on November 29, 2010, this image shows the new battery firing position for southern 122 mm MRL. It is located immediately north of the village of Tae-gol. The camouflaged battery headquarters can be seen approximately 35 m east of the firing line. (DigitalGlobe)

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## The Yönp'yöng-do Attack, November 23, 2010, Part II

By Joseph S. Bermudez Jr.

*(I would like to thank DigitalGlobe and the people who work there for providing the satellite imagery used in this paper.)*

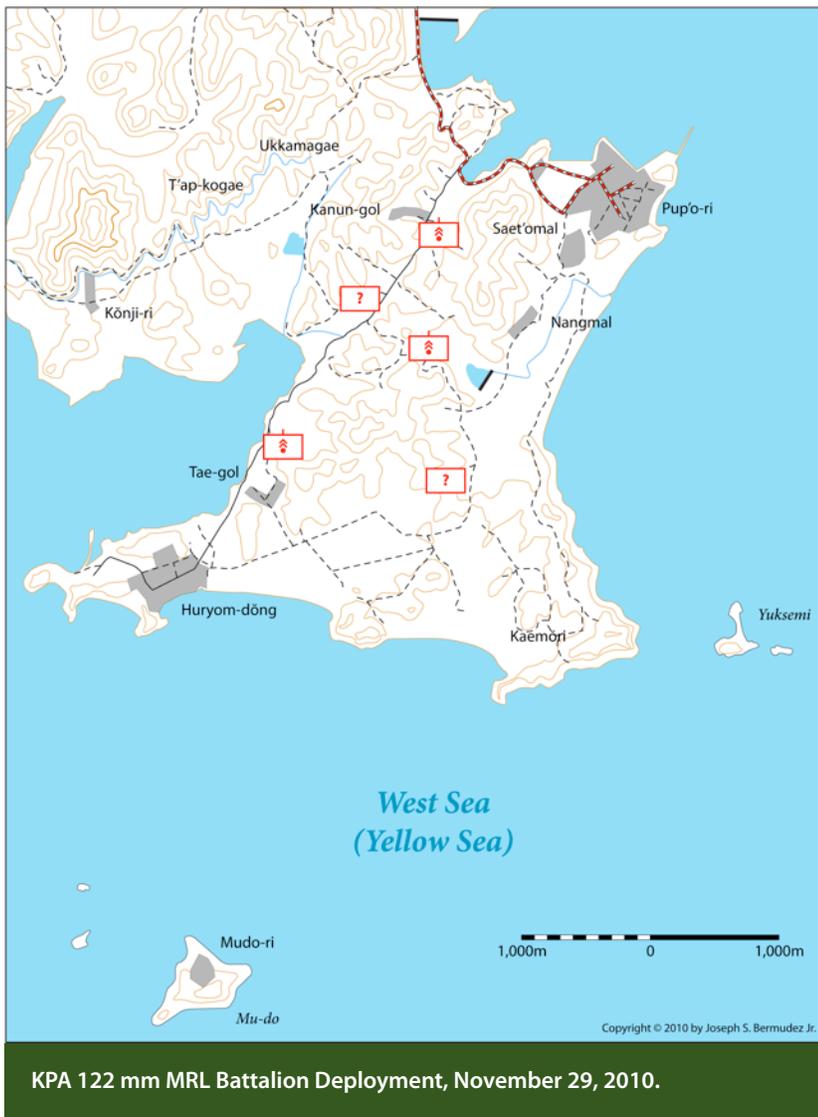
### Post-Attack

Shortly after the engagement ended the five MiG-23MLs from the 60th Air Regiment which had been on patrol landed at Hwangju Air Base, in Hwanghae-bukto rather than returning to their home station further north at Pukch'ang-ni Air Base. The assumption being that this was done because the MiG-23MLs are some of the KPAF's more modern aircraft and they were being kept in the area should the ROKAF conduct retaliatory strikes.<sup>1</sup>

That evening the ROK commenced a propaganda campaign against the DPRK sending 400,000 leaflets north over the border using specially designed balloons. The balloons were launched from four separate locations in Kangwön-do and Kyönggi-do. They floated in a generally northeast direction dropping leaflets at predetermined times. These operations were ongoing as of December 7.<sup>2</sup>

Satellite imagery indicates that by late afternoon of November 24 the southern 122 mm MRL battery vacated its position and moved 1 km south to a new one located 200 m north (at 37°46' 44.34" N 125°35' 09.30" E) of the village of Tae-gol. The eastern 122 mm MRL battery vacated its position and moved 300 m south to a position (at 37°47' 13.53" N 125°35' 57.45" E) in an open field.

On November 26, three days after the attack, KPA artillery units deployed on Kangnyöng-bando, likely the same units involved in the November 23 attack, conducted artillery exercises at 12:20 and 15:00 hours. No rounds from these exercises impacted south of the NLL.<sup>3</sup> Another artillery exercise was held on December 8 at about 09:04 hours. When KPA artillery units at "...a far distance from the maritime border..." were reported to be conducting "regular firing exercises." No rounds from the exercise impacted



KPA 122 mm MRL Battalion Deployment, November 29, 2010.

south of the NLL.<sup>4</sup>

During the week that followed the attack both the DPRK and ROK reinforced their assets in the region. For example, additional 130 mm guns were deployed along the coast of Hwanghae-namdo. The KPAF moved additional SA-2 batteries to prepared positions within the province. These were used to track the increased aerial activity of the ROKAF over the islands and the joint U.S.-ROK exercises in the West Sea. KPN coastal defense missile units maintained a higher alert status with missiles reportedly on launchers and ready for combat.<sup>5</sup>

Shortly after the attack the Marines on Yönp'yöng-do were able to return to a combat ready status the two previously unavailable K-9s. By November 28 a second K-9 battery, along with a battery of Kooryong 130 mm MLRS, a battery of Chonma SAMs and an Army ARTHUR counter-battery radar unit were deployed to Yönp'yöng-do.<sup>6</sup> Additional Marines were deployed to all five ROK islands along the NLL. Meanwhile the ROKAF increased the number of

sorties over the islands.<sup>7</sup> Concurrent with these developments the Joint Chiefs of Staff and the Defense Acquisition Program Administration received and emergency weapons procurement budget for W 300.5 billion (US \$1=W 1,156). The money will be utilized to purchase weapons and equipment to supplement the defenses on the five West Sea islands.<sup>8</sup>

On November 29 satellite imagery located the 122 mm MRL battalion in the positions it occupied on the November 26, however, some changes were apparent. At the northern battery position three of the MRLs had moved out of the revetted firing positions and the battery headquarters position have been revetted and covered with camouflage netting. The western and southern battery positions now also had their battery headquarters position revetted and covered with camouflage netting. A new position with, what appears to be, 12 camouflaged vehicles was established at the center of the battery positions and 1 km south of Kaun-gol. It has been suggested that these vehicles may have been the battalion's headquarters element.<sup>9</sup>

## Comments

A number of aspects concerning the KPA's Yönp'yöng-do attack warrant further comment and strongly suggest that the January and August 2010 coastal defense artillery exercises were in preparation for the Yönp'yöng-do attack:

- The KPA's deployment of a MRL battalion to prepared firing positions on Kangnyöng-bando, the DPRK's issuing of a warning at approximately 08:20 hours on November 23 that it would not "...sit idly by and watch if South Korea fire at North Korean waters during the military training,"<sup>10</sup> the dispatch of five MiG-23ML fighters at approximately 14:30 hours from Pukch'ang-ni Air Base in the north to patrol over Hwanghae-namdo in the south, and the deployment of KPN patrol vessels into the West Sea, are clear indications of a high degree of inter-service coordination and a considerable level of planning. Such operations could only have been achieved with the knowledge and permission of Kim Chong-il and the Na-

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The eastern 122 mm MRL battery firing position on November 29, 2010. Note the trench for the communications cable from the Kaemöri UGF east of the position. The camouflaged battery headquarters can be seen immediately south of the firing line. (DigitalGlobe)

tional Defense Commission.<sup>11</sup>

- The initial barrage appears to have been conducted using time-on-target tactics. That is, all the artillery systems firing at Yönp'yöng-do coordinated their firing so that the initial rounds would all strike the island at the exact same time. Such attacks require a higher level of planning and coordination by fire direction centers and headquarters personnel. When done correctly such an attack provides for a high degree of surprise and has the potential to inflict higher casualties since the troops receiving the attack have little time to seek shelter. The KPA's January 27-29, 2010 artillery exercise along the NLL and the August 9, 2010 artillery exercise, conducted in the area of Yönp'yöng-do, employed time-on-target tactics.<sup>12</sup>
- Since the ROK Marine artillery was a known and observably quantity, it is probable that the KPA timed its attack, in part, to catch the K-9s outside of their hardened positions.
- Initial reports indicate that the KPA utilized radar to assist in targeting during the Yönp'yöng-do attack. They had also done so during the February 2010 artillery exercise. It is uncertain, but possible, that a UAV was employed during the November 23 attack as had been done during the August 2010 exercise.
- Despite the reported use of radar the accuracy of the attack was poor. MND sources state that the KPA fired approximately 170 rounds at Yönp'yöng-do. Of these 90, or 53%, impacted in the waters surrounding the island. While 80, or 47%, impacted on the island. Although in-

conclusive, the poor accuracy suggests that despite their pre-attack planning and exercises KPA artillery troops—at least those in the IV Corps—are in need of greater training.

- The Yönp'yöng-do attack demonstrated that the KPA possesses a realistic appreciation of ROK communications intelligence (COMINT) capabilities. In apparent preparation for the attack the KPA laid new buried communications cable from the Kaemöri UGF north to what appears to be a small communications center (at 37°50' 11.24" N 125°32' 49.39" E), 700 m northwest of Sanji-gol. The freshly dug trench for this cable is clearly visible on satellite imagery and was apparently done with a high priority since it was obviously dug with a mechanized trencher and the route taken shows little concern for existing infrastructure and terrain. Interestingly the northern MRL battery position, 460 m southeast of Kaun-gol, straddles the trench. That these measures were effective was confirmed by the NIS. Director Won Sei-hoon stated that "it was difficult to intercept further North Korean military communication before and on the day of attack because the North used landlines rather than wireless communication to carry out operations."<sup>13</sup>
- Given the above comments it is very likely that the Kaemöri UGF was used by artillery forward observers during the attack.
- The large number of "dud" rounds impacting the island is interesting. MND sources state that of the 80 rounds that impacted on the island approximately 20, or 25%, (12% if



Communications cable trench leading north out of the Kaemöri UGF, November 29, 2010 (DigitalGlobe)

the total of 170 is taken into consideration) failed to detonate. This high failure rate suggests that some DPRK-manufactured artillery munitions—especially MRL rounds—suffer from either poor quality control during manufacture or that storage conditions and standards are poor.

- There were repeated reports during the days immediately following the attack that at least some of the 122 mm MRL rockets mounted thermobaric warheads.<sup>14</sup> These are incorrect and what they are most likely referring to are high-explosive warheads—possibly with an improved explosive with higher concentrations of aluminum or other components.<sup>15</sup>
- To those outside the ROK no great significance is attached to reports that recovered 122 mm rocket fragments contained handwritten numbers on their casings, since artillerymen throughout the world often write on artillery rounds. Within the ROK, however, there is considerable significance to these numbers in relation to the sinking of the *Cheonan* early this year. As odd as it might

seem to those outside the ROK there are numerous skeptics within the country who believe that the *Cheonan* sinking was fabricated by the ROK Government, U.S. Government or both. A key item of their “evidence” is that the handwritten “No. 1” found on the remains of the CHT-02D torpedo that sunk the *Cheonan* could not have survived the high temperature the explosion. Therefore it “must” have been fabricated. Some believe that the fact that similar types of marking were found on the exploded 122 mm rocket casings on Yönp’yöng-do will help to silence these conspiracy theorists.<sup>16</sup>

With regard to the ROK side there are also a number of aspects that merit comment:

- MND and NIS officials on a number of occasions have stated that they possessed detailed knowledge of the movement of the 122 mm MRL battalion on Kangnyöng-bando, general knowledge of an impending attack, aware of the deployment of MiG-23ML fighters, etc.<sup>17</sup> That this was not properly conveyed in a timely manner to the local Marine commander on Yönp’yöng-do suggests that there are institutional problems in the ROK’s C4ISR system. Especially in light of the numerous incidents in the area during the past year.<sup>18</sup>
- On December 1, 2010 press reports stated that NIS Director Won Sei-hoon had informed members of the National Assembly’s Intelligence Committee that in August COMINT had revealed that the KPA was planning an attack against one of the ROK’s five West Sea islands. This naturally set off a public outcry over a perceived lack of intelligence and combat readiness. It now appears, however, that Director Won’s comments were taken out of context. The following day a spokesperson for the Joint Chiefs of Staff denied the press reports stating that “It’s not true that there was intelligence indicating North Korea might attack the five islands in the Yellow Sea,” and that Director Won’s remarks were incorrectly reported. The spokesperson went on to emphasize that the “...intelligence in August was on the North Korean military’s order to fire artillery against our military drill” (i.e., the Marines on Yönp’yöng-do conducted artillery exercises on August 6 and 8. The KPA responded by conducting an artillery exercise on August 9).<sup>19</sup>
- Given both its strategic location and the heightened tension along the NLL since 2009 Yönp’yöng-do is clearly a frontline position. It is therefore difficult to justify the fact that two of the six K-9s were not combat ready and the AN/TPQ-37 Fire Finder counter-battery radar was not fully operational. According to a ROK politician the Marines on the five West Sea islands operate two AN/TPQ-37 Fire Finder counter-battery radars—one based on Yönp’yöng-do and the other on Paengnyöng-do.<sup>20</sup> Both radars were acquired from the ROK Army, which

purchased them from the U.S. in 1996 and 1998. The radars were deployed to the islands in February 2010 but have frequently been out of service for repairs. The AN/TPQ-37 on Yönp'yöng-do suffered an antenna failure on April 16, a transformer and power supply failure on May 28, faulty wiring problems on July 21 and an unknown problem on November 23. The AN/TPQ-37 radar on Paengnyöng-do had a problem with its signal receivers on February 21. That these maintenance problems were allowed to persist is likely a function of defense budgetary constraints, as well as a ROK military culture that views Marines as the “red-headed stepchild” of the armed forces, rather than an indictment of the Marine units on the island.

- On the surface it would appear to have been a serious failing that the Marine K-9s were not immediately available to return fire. This, however, would be a shortsighted assessment. At the time of the attack the Marine artillery was deployed for the live-fire exercise to the southwest of the island and not in position to return KPA fire. That the K-9s were able to redeploy, reload, obtain firing data and commence counter-battery fire within thirteen minutes—all while under enemy fire—demonstrates a high level of individual training and professionalism not to mention superior local command leadership.
- The extent to which ROK counter-battery fire of approximately 80 rounds thwarted a more intense third artillery barrage of Yönp'yöng-do and the damage inflicted upon the KPA is a hotly debated issue.
- Of the 80 rounds fired by the Marine K-9s 50, or 63%, were targeted against facilities on Mu-do and 30, or 37%, against the 122 mm MRL battery south of the village of Kaun-gol. Available satellite imagery clearly shows at least 14 rounds impacted within 50-130 m of the 122 mm MRL battery position south of Kaun-gol, but none on the position itself. Approximately 15 rounds impacted on Mu-do, all within 130 meters of the island's underground facility and barracks. Several of these rounds appear to have impacted on a barracks and support building. Thus, a total of 29 (36%) of the rounds fired by the K-9s impacted within the general areas of the intended targets. ROK press reports state that a total of 30 rounds impacted “...in Kaemori,” by which they are referring to the Kangnyöng-bando. This can't be confirmed with the available satellite imagery. If these 30 rounds are substituted for the 14 confirmed rounds this would yield a total of 45 (56%) rounds that impacted within the general areas of the intended targets. None of these figures are particularly good and are likely the result of the AN/TPQ-37 Fire Finder counter-battery radar failure and being under attack at the time.<sup>21</sup>
- Available satellite imagery provides no evidence (e.g.,

scorch marks from fire, craters from explosions, wrecked vehicles, ground scarring, etc.) that any of the 122 mm MRLs were destroyed. While the same imagery shows damage to the barracks and support buildings on Mu-do, the UGF does not appear to have suffered any significant damage.<sup>22</sup>

- Rather than being a result of Marine counter-battery fire the fact that there was no third barrage could simply have been that there was none planned. If a third barrage had been planned and the first MRL battery and the Mu-do UGF been neutralized, then either of the two remaining MRL batteries or the artillery battery at the Kaemöri UGF could have easily conducted the fire mission.<sup>23</sup>

## Motivation

Shortly after the attack the DPRK issued a “communiqué” stating the motivations for the attack,

*Regardless of our repeated warnings, the South Korean puppets that are aggravating a tense situation on the Korean peninsula by waging an exercise for a northward aggression of the so-called Hoguk, ultimately conducted a reckless military provocation of firing artillery toward our side's territorial waters throughout Yo'np'yo'ng Island in the West Sea [Yellow Sea] of Korea from 1300 [0400 GMT] on 23 November.*

*The shells that the puppets fired toward our side's territorial waters amount to as many as scores of shells.*

*The puppets' military provocation this time is an extension of a vicious attempt aimed at adhering to the brigandish Northern Limit Line while frequently infiltrating the puppet Navy's vessels into our territorial waters under the pretext of the so-called "regulation of fishing boats."*

*Our revolutionary armed force that is defending our fatherland's sacred territorial waters took the resolute military measure of coping with the puppet's military provocation with an immediate and powerful physical strike.<sup>24</sup>*

Less than a week later, this was followed by another statement,

*...the South Korean warmongers perpetrated on 23 [November, 2010] a grave provocation of firing tens of artillery shells into the territorial waters of our side in the West Sea of Korea, while conducting the infamous "Hoguk" exercise simulating a northward aggression. This reckless act committed by the puppet warmongers in defiance of our repeated warnings was instantly countered by our revolutionary armed forces. Our army's merciless punishment meted out to the provokers was a resolute and righteous self-defense measure taken to defend the country's dignity and sovereignty.<sup>25</sup>*

Despite these seemingly definitive pronouncements about the cause of the Yönp'yöng-do attack it is undoubtedly the case that significantly more complex domestic and

international political motivations are behind it. There are three broad views as to what motivated the Yŏnp'yŏng-do attack at this point in time.

- *Succession*: The first, and most often presented, view is that the Yŏnp'yŏng-do attack is part of the succession process. According to this view, the attack was undertaken both to “smooth” the transition of power from Kim Chong-il to his son Kim Jong-un, and provide the younger Kim with military credentials (e.g., “...to prove his mettle,” etc.) to complement his appointment as a four-star general at the 3rd Party Conference on 28 September 2010. Won Sei-hoon, the director of the National Intelligence Service, told a parliamentary committee meeting that the attack came as “internal complaints are growing about the North’s succession for a third generation (of Kim family rule), and its economic situation is worsening.” Supporting this view is additional reporting that Kim Jong-un concentrated upon artillery while attending Kim Il-sung Military University during 2002-2006, and that he personally planned the attack.

- *Leadership Frustration/Need for Attention*: The second view posits the Yŏnp'yŏng-do attack as a manifestation of Kim Chong-il’s frustration with the U.S., including the failed Six-Party Talks, as well as an effort to once again focus world attention upon the DPRK. Additional reports linking the March 2010 sinking of the *Choenan* with the November 2010 revelations of a working uranium enrichment facility and construction of a new light water reactor, to the Yŏnp'yŏng-do attack support this view.

- *Miscellaneous Internal and External Factors*: The third view ascribes motivations for the Yŏnp'yŏng-do attack and earlier events in 2010 to include: continued frustration over the DPRK being ignored concerning the status and location of the NLL; the attack manifested internal strife among the power-holding elite; it represents an effort to rally the people around Kim Chong-il and Kim Jong-un—particularly in light of current food shortages; the attack was intended to manipulate the ROK domestic political environment and undermine support for the Lee administration and its DPRK policies; etc.

While Kim Chong-il and Kim Jong-un were undoubtedly involved in the decision-making process behind the Yŏnp'yŏng-do attack; Kim Chong-il’s frustration with the U.S. is clear from the numerous private and public statements issued by the DPRK; the events of 2010 were brazen attempts to manipulate the U.S., ROK and world opinion; and there are a number of additional domestic and international components in play; none of these by themselves can be seen as the sole motivation for the attack. It is therefore almost certain that the motivation lies in a weighted combination of these domestic and international political issues.

Lending credence to this assessment is the fact that Kim Chong-il, as was his father Kim Il-sung before him, is an astute, accomplished and ruthless political infighter. Neither Kim embarked upon significant domestic or international policy initiatives precipitously, carelessly or based upon a single objective. Rather such initiatives resulted from considerable forethought, planning and consensus building with the intention of fulfilling a variety of political objectives. This appraisal should, however, be tempered with a historical appreciation of DPRK domestic power building combined with previous military adventurism, specifically the period during 1961-1969.

At the Fourth Party Congress held from September 11-18, 1961, Kim Il-sung initiated a series of exceptional measures to solidify both his domestic political position and enhance the capabilities of the KPA and intelligence community. The most significant of these measures was securing the appointment of his fellow former “Anti-Japanese Struggle” partisans to virtually all essential positions within the government, KPA and Korean Workers’ Party (KWP). As a majority of these persons were active or retired general-level officers they became collectively known as the “partisan generals.” This consolidation of power witnessed the influence of the military becoming a dominant political force, equal to the KWP, in DPRK domestic and foreign policy. With this power consolidation came programs to reorganize, expand and modernize the KPA and organizations involved in intelligence and anti-ROK operations.

During the next eight years the influence of the “partisan generals” was accompanied by a marked increase in armed provocations against the ROK and U.S. These provocations reached their zenith from 1967-1969 with an open guerrilla warfare campaign against the ROK: the January 21, 1968 assassination attempt against President Pak Cho'ng-hu'i (i.e., Park Chung-hee); the January 23, 1968 capture of the U.S.S. *Pueblo* (AGER 2); the October-November 1968 insertion of 120 commandos from the 124th Army Unit near Samch'ok and Ulchin; the April 1969 downing of a U.S. Navy EC-121M aircraft in international airspace over the East Sea (i.e., Sea of Japan); and more.

Fearful of the threat to his position posed by the burgeoning power of the “partisan generals”—and their willingness to wield it—Kim Il-sung set in motion their purge during the Eighteenth Plenum of the Central Committee during November 11-16, 1968. This purge peaked at the January 6-14, 1969 Fourth Plenum of the Fourth Party Committee and had run its full course by the Fifth Party Congress during November 2-13. The 1970s witnessed an exceptional decrease in armed provocations against the ROK and U.S.

With this historical appreciation that internal power building in the DPRK is combined with military adventur-

ism in mind, consider the organizational and personnel changes that have occurred since the late 1990s. These changes, which mirror those in the 1960s, include: the steady rise in importance and power of the National Defense Commission since and, the expansion of nuclear and ballistic capabilities since the mid-1990s; the restructuring of the KPA since the late-1990s; the reorganization of the intelligence community since the mid-2000s; and the increase of armed provocations against the ROK and Japan since the late-1990s implies a trajectory reminiscent of the period of the “partisan generals.”

When taken with what appears to be a DPRK belief that the ROK and U.S. are unwilling or incapable of pursuing a war with the north, this assessment suggests that the region has entered a period of continued violent provocations for the foreseeable future. Taken in this light the November 2009 naval clash, January 2010 coastal defense artillery exercise, March torpedoing of the *Cheonan*, August coastal defense artillery exercise near Yŏnp'yŏng-do and November 23 artillery attack on Yŏnp'yŏng-do are all outward manifestations of a more profoundly fundamental process of change occurring within the DPRK, and its attendant turbulence.

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## Editor's Note

With this issue *KPA Journal* is once again back on schedule. I would like to thank all the readers for their patience as I attempt to balance.

As noted in issue No. 11 I will eventually reformat the two parts into a single report and post it on the *KPA Journal* website. This will undoubtedly make it easier to reference and read.

Beginning in January, I hope to begin addressing the backlog of research articles that has been building during the past six months. Among the articles will be several on KPA artillery systems, helicopter forces, jammers, and “underwater” bridges during the Korean War—which, for some reason, has been a frequently requested subject since I first mentioned it in one of the first issues. I have also come across a number of photographs depicting the Han River bridges during the war, which once again, appears to be a popular subject among readers. As always you are welcome to freely share *KPA Journal* with colleagues and friends. If they'd like to keep receiving the journal please have them visit the website.

All readers are encouraged to submit any corrections, clarifications, comments or simply share ideas of what you would like to see in future issue of *KPA Journal*. Thank you all for your encouragement and support.

I would again like to thank would like to thank Daniel Allmacher, Keith Jacobs, Michael Madden, Dwight Rider and the many other unnamed individuals who were ex-

tremely generous with their time and expertise during the preparation of this report. A special thanks goes to the people at DigitalGlobe for their generosity in allowing me to use their imagery.

—Joseph S. Bermudez, Jr.

## Appendix A, Gazetteer

Haeju-si	Hwanghae-namdo	38° 04' 37" N	125° 44' 55" E
Huryŏm-dong	Hwanghae-namdo	37° 46' 16" N	125° 34' 27" E
Hwangju	Hwanghae-bukto	38° 39' 14" N	125° 47' 17" E
Inchŏn	Inch'ŏn-gwangyŏksi	37° 27' 13" N	126° 43' 54" E
Kaemŏri	Hwanghae-namdo	37° 45' 59" N	125° 36' 44" E
Kangnyŏng	Hwanghae-namdo	37° 54' 27" N	125° 30' 36" E
Kaun-gol	Hwanghae-namdo	37° 47' 45" N	125° 35' 55" E
P'yŏngyang	P'yŏngyang-si	39° 01' 10" N	125° 45' 17" E
Paengnyŏng-do	Inch'ŏn-gwangyŏksi	37° 58' 21" N	124° 40' 22" E
Pukch'ang-ni	P'yŏngan-namdo	39° 29' 40" N	125° 58' 44" E
Pup'ŏ-ri	Hwanghae-namdo	37° 47' 48" N	125° 36' 56" E
Sanji-gol	Hwanghae-namdo	37° 49' 58" N	125° 33' 27" E
Sochŏng-do	Inch'ŏn-gwangyŏksi	37° 46' 30" N	124° 45' 10" E
Songnim-myŏn	Inch'ŏn-gwangyŏksi	37° 40' 05" N	125° 41' 55" E
Tae-gol	Hwanghae-namdo	37° 46' 35" N	125° 34' 56" E
Taechŏng-do	Inch'ŏn-gwangyŏksi	37° 49' 13" N	124° 42' 09" E
U-do	Inch'ŏn-gwangyŏksi	37° 37' 12" N	125° 59' 25" E
Yŏnp'yŏng-do	Inch'ŏn-gwangyŏksi	37° 40' 10" N	125° 41' 47" E
Yŏnp'yŏng-ni	Inch'ŏn-gwangyŏksi	37° 39' 45" N	125° 42' 09" E

## Endnotes

- 1 “ROK Defense Ministry Says DPRK Fires 170 Shells in Act of ‘Savagery,’” *Agence France Presse*, November 24, 2010.
- 2 “Seoul Continues Sending Anti-Pyongyang Leaflets, Ready to Use Border Speakers,” *Yonhap*, December 7, 2010; Kim, Eun-jung. “Rights Panel Recommends Resuming Anti-Pyongyang Propaganda,” *Yonhap*, December 7, 2010; and “S. Korea Sent Propaganda Leaflets to N. Korea After Artillery Attack,” *Yonhap*, November 26, 2010.
- 3 Moon Gwang-lip. “North Sets Off More Guns Ahead of Joint Drill,” *JoongAng Ilbo*, November 27, 2010, <http://joongangdaily.joins.com/article/view.asp?aid=2928932>; “North Korea Stages Apparent Artillery Drill, South Korea Not Hit,” *Agence France Presse*, November 26, 2010; and “Military: Artillery Sound From Within North’s Territory, No Shells Land in Southern Waters,” *Yonhap*, November 26, 2010.
- 4 “Radar Monitors NK Artillery Drill in Yellow Sea,” *Dong-A Ilbo*, December 9, 2010; and “Sounds of Artillery Fire Heard in N. Korea, Military Official Says,” *Yonhap*, December 8, 2010.
- 5 At least one source states that the KPAF also moved SA-5 SAMs to Hwanghae-namdo. This, however, seems unlikely since the SA-5s have the range to cover all of Hwanghae-namdo and most of the northern section of the ROK from their current locations. Interview data acquired by Joseph S. Bermudez Jr.; “N. Korea Deploys More Multiple-launch Rockets: Source,” *Yonhap*, December 3, 2010; Moon Gwang-lip. “North Sets Off More Guns Ahead of Joint Drill,” *JoongAng Ilbo*, November 27, 2010, <http://joongangdaily.joins.com/article/view.asp?aid=2928932>; and “Military: Artillery Sound From Within North’s Territory, No Shells Land in Southern Waters,” *Yonhap*, November 26, 2010.
- 6 On November 30, 2010 Defense Minister Kim Tae-young informed the National Assembly that current reinforcement plans call for deployment of an additional 24 K-9 and K-55 self-propelled howitzers on Paengnyŏng-do and Yŏnp’yŏng-do. The ARTHUR (Artillery Hunting Radar) was developed by the Swedish firm Ericsson Microwave Systems during the 1990s. It is in service with the armed forces of the Czech Republic, Denmark, Norway, ROK, Sweden and the United Kingdom. Interview data acquired by Joseph S. Bermudez Jr.; “Radar Monitors NK Artillery Drill in Yellow Sea,” *Dong-A Ilbo*, December 9, 2010; “Gov’t Promises Tougher Rules of Engagement,” *Chosun Ilbo*, December 1, 2010; “S. Korea Deploys Missiles on Yeonpyeong Island,” *Yonhap*, December 1, 2010; “S. Korea Deploys More Artillery, Rockets on Yeonpyeong Island,” *Yonhap*, November 29, 2010; “N. Korea Deploys SA-2 Surface-to-air Missiles Near Yellow Sea Border,” *Yonhap*, November 28, 2010; and “N. Korea Keeps Rocket Launchers in Position,” *Dong-a Ilbo*, November 27, 2010.
- 7 Ibid.
- 8 “The Best Weapons Are Useless If Strategy Is Inept,” *Chosun Ilbo*, December 1, 2010, [http://english.chosun.com/site/data/html\\_dir/2010/12/01/2010120101069.html](http://english.chosun.com/site/data/html_dir/2010/12/01/2010120101069.html).
- 9 Interview data acquired by Joseph S. Bermudez Jr.
- 10 “N.Korea Cites S.Korean Drill as Excuse for Attack,” *Chosun Ilbo*, November 24, 2010, [http://english.chosun.com/site/data/html\\_dir/2010/11/24/2010112401004.html](http://english.chosun.com/site/data/html_dir/2010/11/24/2010112401004.html).
- 11 It is difficult to assess the validity and relevance to the Yŏnp’yŏng-do attack of reports that Kim Jong-il, Kim Jong-un and various KPA officers (e.g., Generals Kim Myong-guk, Kim Yong-chŏl, Kim Kyok-sik, etc.) visited sites in Hwanghae-namdo prior to, and on the day of, the attack. The DPRK has routinely manipulated such reporting for a variety of reasons. Interview data acquired by Joseph S. Bermudez Jr.; Jeong, Yong-soo and Kim, Christine. “Kim and Jong-un Ordered Bombardment,” *JoongAng Ilbo*, November 25, 2010, <http://joongangdaily.joins.com/article/view.asp?aid=2928853>; Kim Jong-il, Son Visited Coastal Forces Before Yeonpyeong Attack,” *Chosun Ilbo*, November 25, 2010, [http://english.chosun.com/site/data/html\\_dir/2010/11/25/2010112500724.html](http://english.chosun.com/site/data/html_dir/2010/11/25/2010112500724.html); and Kang, Hyun-kyung. “Kim Jong-il Approved Artillery Attack: Official,” *Korea Times*, November 24, 2010, [http://www.koreatimes.co.kr/www/news/nation/2010/11/116\\_76884.html](http://www.koreatimes.co.kr/www/news/nation/2010/11/116_76884.html).
- 12 Interview data acquired by Joseph S. Bermudez Jr., and Kim, Christine. “N. Korea Fired Thermobaric Bombs,” *JoongAng Ilbo*, November 26, 2010, <http://joongangdaily.joins.com/article/view.asp?aid=2928905>.
- 13 Ibid.; “Fumbling on Intelligence,” *JoongAng Ilbo*, December 3, 2010, <http://joongangdaily.joins.com/article/view.asp?aid=2929138>; and “Spies Intercepted Plans For Yeonpyeong Attack in August,” *Chosun Ilbo*, December 2, 2010, [http://english.chosun.com/site/data/html\\_dir/2010/12/02/2010120200566.html](http://english.chosun.com/site/data/html_dir/2010/12/02/2010120200566.html).
- 14 “N. Korea Presumed to Have Used ‘high Explosives’ in Attack,” *Yonhap*, November 27, 2010; Kim, Christine. “N. Korea Fired Thermobaric Bombs,” *JoongAng Ilbo*, November 26, 2010, <http://joongangdaily.joins.com/article/view.asp?aid=2928905>; “The Devastating Power of N. Korea’s MLRS Artillery,” *Chosun Ilbo*, November 26, 2010, [http://english.chosun.com/site/data/html\\_dir/2010/11/26/2010112600744.html](http://english.chosun.com/site/data/html_dir/2010/11/26/2010112600744.html); and “N. Korea Presumed to Have Used ‘fuel-air Bombs’ in Attack,” *Yonhap*, November 25, 2010.
- 15 Interview data acquired by Joseph S. Bermudez Jr.
- 16 “Markings Connect Artillery Shells, Cheonan Torpedo,” *JoongAng Ilbo*, November 29, 2010, <http://joongangdaily.joins.com/article/view.asp?aid=2928974>.
- 17 “Fumbling on Intelligence,” *JoongAng Ilbo*, December 3, 2010, <http://joongangdaily.joins.com/article/view.asp?aid=2929138>; “Failure of Intelligence And Vigilance,” *Dong-A Ilbo*, December 3, 2010, <http://www.asahi.com/english/TKY201012030537.html>; and “Military Knew of N.Korean Artillery Move Before Attack,” *Chosun Ilbo*, November 26, 2010, [http://english.chosun.com/site/data/html\\_dir/2010/11/26/2010112600954.html](http://english.chosun.com/site/data/html_dir/2010/11/26/2010112600954.html).

- <sup>18</sup> There has been some suggestion that the KPA was able to achieve the level of surprise that they did, because they had engaged in a deception plan which flooding ROK intelligence with numerous reports of activity along throughout the DPRK. Thereby, helping to mask the importance of the activity on the Kangnyŏng-bando. Interview data acquired by Joseph S. Bermudez Jr.
- <sup>19</sup> Ibid.; “Military Denies Spy Chief’s Remark on N. Korea’s Attack Plan,” *Yonhap*, December 2, 2010; “Spies Intercepted Plans For Yeonpyeong Attack in August,” *Chosun Ilbo*, December 2, 2010, [http://english.chosun.com/site/data/html\\_dir/2010/12/02/2010120200566.html](http://english.chosun.com/site/data/html_dir/2010/12/02/2010120200566.html); Song, Sang-ho. “Spy Agency, Military Under Fire for not Dealing with N. Korea,” *Korea Herald*, December 2, 2010, <http://www.koreaherald.com/national/Detail.jsp?newsMLId=20101202000986>; and “South Korea spy Chief Says More Attacks Likely,” *Reuters*, December 1, 2010.
- <sup>20</sup> “Yeonpyeong Artillery Warning System ‘Was Old And Faulty,’” *Chosun Ilbo*, December 3, 2010.
- <sup>21</sup> Interview data; Song, Sang-ho. “Spy Agency, Military Under Fire for not Dealing with N. Korea,” *Korea Herald*, December 2, 2010, <http://www.koreaherald.com/national/Detail.jsp?newsMLId=20101202000986>; and “Failure of Intelligence And Vigilance,” *Dong-A Ilbo*, December 3, 2010, <http://www.asahi.com/english/TKY201012030537.html>.
- <sup>22</sup> Ibid.
- <sup>23</sup> Ibid.
- <sup>24</sup> “Our Army Does not Make Empty Talk,” *Korean Central Broadcasting Station*, November 23, 2010, Open Source Center, KPP20101123106004. Other relevant DPRK statements during the week that followed the attack can be found at, <http://www.kcna.co.jp/item/2010/201011/news24/20101124-17ee.html>; <http://www.kcna.co.jp/item/2010/201011/news25/20101125-01ee.html>; <http://www.kcna.co.jp/item/2010/201011/news26/20101126-05ee.html>; <http://www.kcna.co.jp/item/2010/201011/news26/20101126-03ee.html>; <http://www.kcna.co.jp/item/2010/201011/news28/20101128-04ee.html>; <http://www.kcna.co.jp/item/2010/201011/news29/20101129-09ee.html>; and <http://www.kcna.co.jp/item/2010/201011/news23/20101123-19ee.html>.
- <sup>25</sup> “Only Shameful Defeat Will Be in Store for Provokers, Warmongers,” *Rodong Sinmun*, November 29, 2010.