



**The PLA General Staff Department
Third Department Second Bureau**
An Organizational Overview of Unit 61398

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About the Author

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About the Project 2049 Institute

The Project 2049 Institute seeks to guide decision makers toward a more secure Asia by the century's mid-point. Located in Arlington, Virginia, the organization fills a gap in the public policy realm through forward-looking, region-specific research on alternative security and policy solutions. Its interdisciplinary approach draws on rigorous analysis of socioeconomic, governance, military, environmental, technological and political trends, and input from key players in the region, with an eye toward educating the public and informing policy debate.



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Introduction

In May 2014, the United States Department of Justice (DOJ) announced indictments against five Chinese People’s Liberation Army (PLA) officers on charges of cyber espionage directed against U.S. firms. According to the indictments, the five officers were assigned to the Third Office of the PLA General Staff Department (GSD) Technical Reconnaissance Department (alternatively known as the Third Department) Second Bureau. According to the U.S. Attorney General, “this is a case alleging economic espionage by members of the Chinese military and represents the first-ever charges against a state actor for this type of hacking.”¹ While assigned personnel may well engage in cyber espionage, a survey of Second Bureau infrastructure indicates a much broader communications intelligence mission. Who is the Second Bureau, what is its mission, how is it organized, and where does the bureau fit within the broader Chinese Communist Party state and military bureaucracy? This overview updates and expands upon Project 2049 reports published in November 2011 and October 2012 on Chinese cyber operations.²

Second Bureau Leadership and Administrative Departments

Signals intelligence (SIGINT), or technical reconnaissance in PLA lexicon, advances the interests of the Chinese Communist Party (CCP) and the People’s Republic of China (PRC). The PLA’s SIGINT community consists of at least 28 technical reconnaissance bureaus (TRBs). The GSD Third Department, often referred to as 3PLA, is roughly analogous to the U.S. National Security Agency. It has direct authority over 12 operational bureaus, three research institutes, and a computing center. Eight of the 12 operational bureau headquarters are clustered in Beijing. Two others are based in Shanghai, one in Qingdao, and one in Wuhan. Ten additional TRBs provide direct support to the PLA’s seven military regions (MRs), while another six support the PLA Navy (PLAN), Air Force (PLAAF), and Second Artillery Force (PLASAF).³

Organization Grades				
Organization	Administrative Level	Grade	Primary Rank	Secondary Rank
GSD	1 st	MR Leader	GEN	LTG
3 rd Dept	2 nd	Corps Leader	MG	LTG
2 nd Bureau	3 rd	Division Leader	SCOL	MG
Offices	4 th	Regiment Leader	COL	LTC

Figure 1: GSD Organization Grades (Directory of PRC Military Personalities, March 2014)

Grade, rather than rank, is the main indicator of relative authority and responsibility throughout the PLA. Third Department bureau leaders – the director and political commissar – have a grade equivalent to a ground force division leader with a primary rank of senior colonel (SCOL) and a secondary rank of major general (MG). A bureau director is also identified as the unit commander.⁴

The Second Bureau (Unit 61398) is one of the largest among the 12 operational bureaus that comprise the GSD Third Department. The Second Bureau and the GSD Third Department Fourth Bureau both have origins in the mountains west of the Shanxi provincial city of Xinzhou. Technical reconnaissance work stations under Second Bureau control were distributed throughout China.⁵ By 1986, the Second Bureau headquarters and most subordinate elements relocated to Shanghai. At the same time, the GSD Third Department Fourth Bureau headquarters moved to the city of Qingdao in Shandong province.⁶ The Second Bureau Party Committee implements policies established by the central leadership in Beijing and Shanghai City Party Committee. The political commissar serves as the bureau's Party Committee secretary.⁷ The Second Bureau director has a formal position within the Shanghai City government and most likely is deputy secretary of the Second Bureau Party Committee.⁸

As a military organization, the Second Bureau, which is considered a third-level department under the first-level GSD and second-level GSD Third Department, is structured along similar lines as a PLA ground force division. A division is typically divided into administrative departments and regimental- or battalion-level entities, with each regiment/battalion consisting of multiple companies. At least three third-level administrative departments, each consisting of multiple fourth-level offices, support the Second Bureau leadership, three deputy directors, and two deputy political commissars. Officers promoted to senior positions appear to have spent most of their careers within the Second Bureau, although exceptions exist. The leadership, third-level administrative departments, and a handful of subordinate offices are housed in the Second Bureau headquarters compound in Shanghai's Pudong New Area.⁹ The departments are shown below:

- The *Headquarters Department*, directed by the Second Bureau chief of staff, oversees the day-to-day operations of subordinate offices and work stations. Headquarters Department officers probably man a 24-hour watch center.¹⁰
- The *Political Department* is responsible for physical and personnel security, community relations, and ideological education.¹¹
- The *Logistics Department* manages the Second Bureau's budget, transportation, medical facilities, and schools for children of those assigned to the bureau.¹²

Suggesting a relative degree of autonomy within the Third Department, the Second Bureau oversees an annex of the Third Department's PLA Foreign Language Academy in Jiangsu's Kunshan City. The annex, which augments the primary PLA

Foreign Language Academy campus in Luoyang, emphasizes advanced English language training. A branch of the PLA Information Engineering Academy is also located in Changshu City, west of Kunshan.¹³

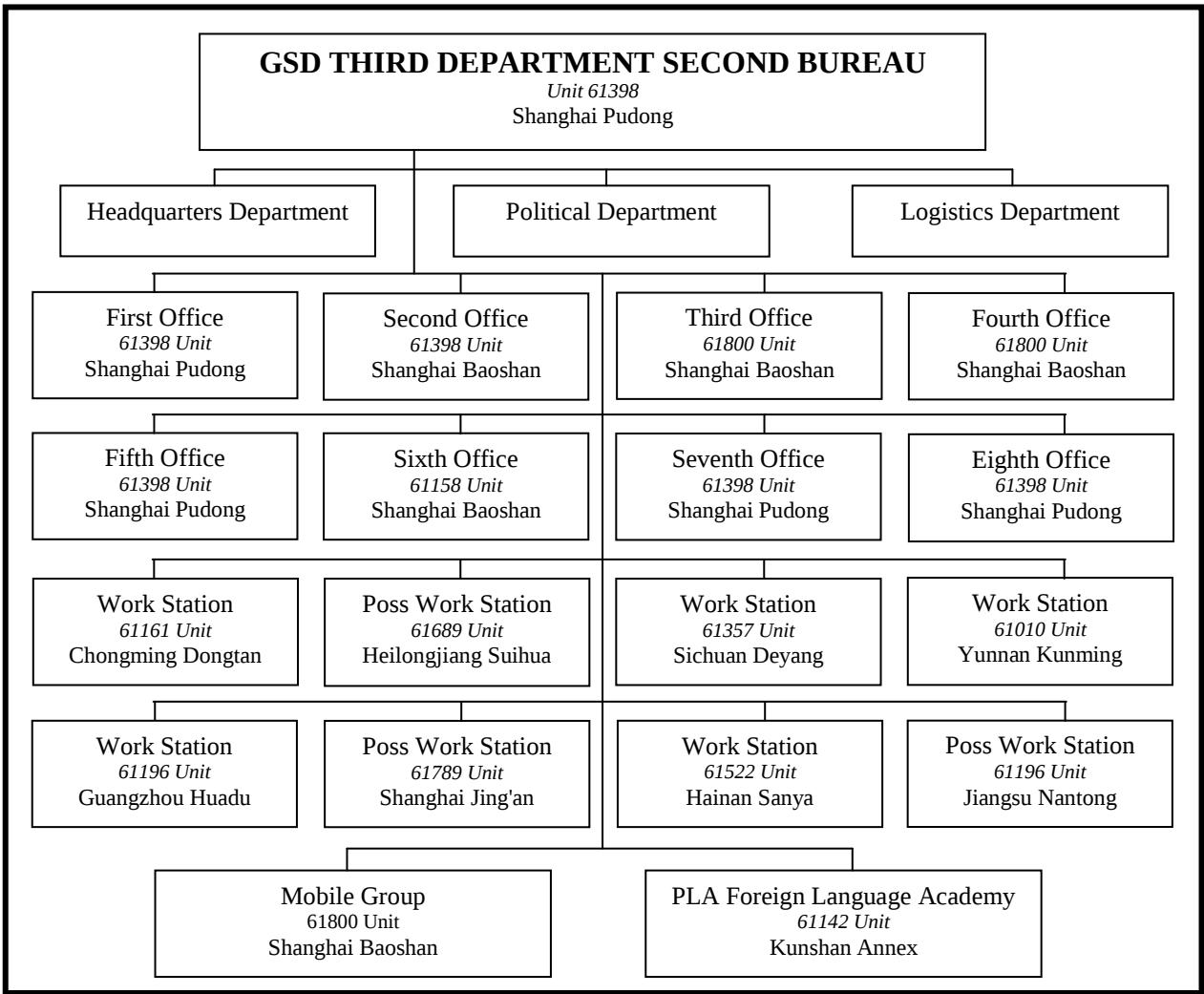


Figure 2: GSD Third Department Second Bureau Organizational Breakdown

Subordinate Offices and Work Stations

Second Bureau leaders oversee at least 12 deputy division or regiment leader-grade offices and work stations/sections that are garrisoned in the greater Shanghai area and other parts of China.¹⁴ An office, which consists of multiple sections (科) may have administrative, collection management, transcription, translation, and/or reporting functions. A work station appears responsible for technical collection. At least four offices are concentrated within or near the Second Bureau headquarters compound in the Pudong New Area's Gaoqiao township. These offices share the bureau-level military cover designation of Unit 61398 and are assigned element numbers. Other Second Bureau offices are clustered in Shanghai's Baoshan District, about 20 kilometers west of the Second Bureau headquarters.

- The *First Office* is collocated with the Second Bureau headquarters compound in Pudong and may be responsible for general planning, collection management, and analysis, although this cannot be confirmed based on available information.¹⁵
- The *Second Office* is garrisoned in the Xidiantai (West Radio Station) compound located in the village of Caijianong within the Baoshan District's Luodian township. The eastern portion of the compound was added between 2005 and 2009, including a new main gate, five additional parabolic antennas, and a large vehicle garage. Its history suggests that the Second Bureau's Second Office in Luodian may have a control and communications function, including processing of data collected by multiple subordinate work sections (or workstations) in other parts of China, and possibly abroad.¹⁶ At least three translation companies share the Xidiantai address.¹⁷

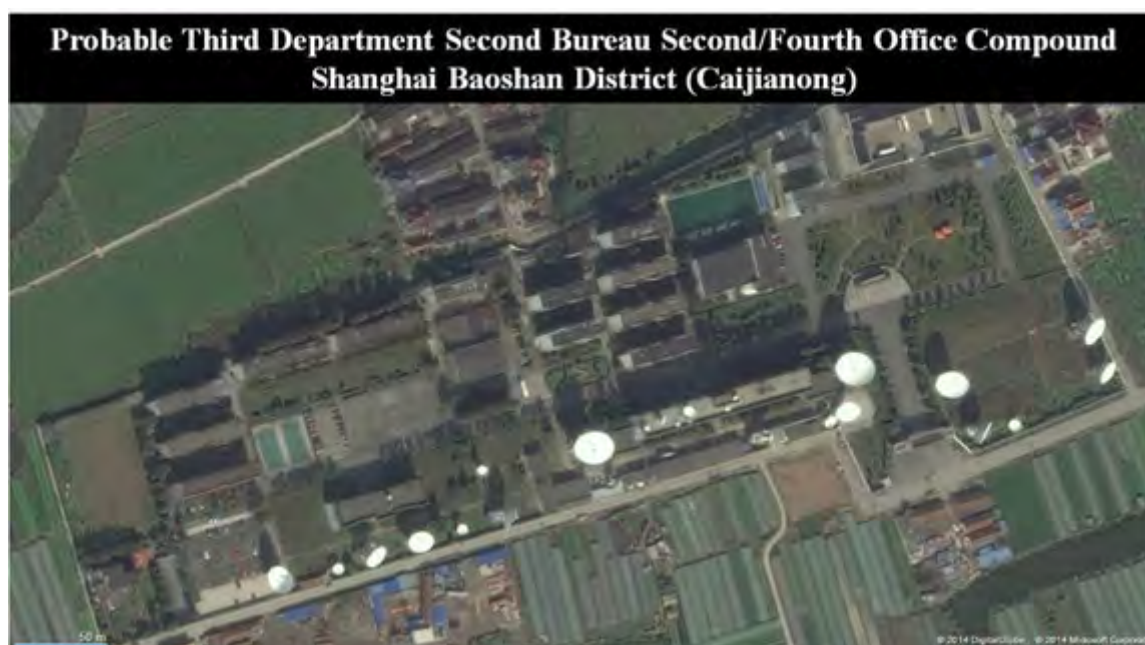


Figure 3: Probable Third Department Second Bureau Second/Fourth Office

- The *Third Office* is headquartered in Shanghai's Baoshan District, possibly within the Youyi Road Community, although this cannot be confirmed based on existing information. The five PLA officers cited in the U.S. Department of Justice indictments were assigned to the Second Bureau Third Office. The Third Office may have a close affiliation with the Second Bureau's workstation on Chongming Island (see below on *Chongming Island Work Station*).¹⁸
- The *Fourth Office* is headquartered in Baoshan's Xidiantai compound and appears to be a division deputy leader grade unit. If so, unit leaders carry the same status as counterparts in a PLA ground force brigade and only a half grade below the Second Bureau director and political commissar. The Fourth Office leadership appears to have administrative management responsibilities for Second Bureau elements within Shanghai's Baoshan District.¹⁹

- The *Sixth Office* is probably headquartered in the Xidian tai compound. However, it may have a presence in a State Administration of Press, Publication, Radio, Film and Television of the People's Republic of China (SAPPRFT) compound in Luonan village, approximately one and a half kilometers northwest of Xidian tai. The facility is responsible for monitoring satellite, radio, and internet content for compliance with PRC legal statutes. One source of unknown reliability alleged that Sixth Office cadre were involved in a scandal and accused officers of hacking.²⁰
- The *Seventh Office*, which had an external designation of Unit 57337 before 2002, may have previously had a presence in Jiangxi's Xinyu City.²¹
- The *Eighth Office* is collocated with Second Bureau headquarters in Pudong and appears to have a close relationship with the Pudong Government Entry, Exit, and Inspection Bureau. The unit appears to have been based in Shanxi's Yuanping County before relocating to Shanghai sometime after 1978.²²
- A mobile element appears to be garrisoned in Lao'an, a village within the Gucun Township. The group may augment other Third Department bureaus or theater commands in contingency situations.²³

Chongming Island Work Station. The Second Bureau also manages a work station on Shanghai's Chongming Island. The unit is garrisoned in Chongming's Dongtan township, specifically in the vicinity of Chongming Submarine Cable Landing Station. The landing station is reportedly the entry and exit point for 60% of all phone and internet traffic entering and leaving China.²⁴ Other fiber optic landing stations are located in Pudong's Nanhui District, Qingdao (Shandong Province), Shantou (Guangdong Province), and Hong Kong. China Coast Guard assets under the jurisdiction of Jiangsu provincial authorities are responsible for ensuring the security of the cable system.²⁵ In 2007, the Second Bureau sponsored the installation of a 150 kilometer fiber optic network linking Chongming Island with other locations in Shanghai.²⁶

[Chongming Submarine Cable Landing Station] is reportedly the entry and exit point for 60% of all phone and internet traffic entering and leaving China.

The work station appears to have relationships with the Second Bureau's Second and Third Offices. The political commissar of the Second Bureau Third Office in 2006/2007 is cited as political commissar of Chongming work station in 2011.²⁷ A Second Office leader was reassigned as political commissar of the Chongming Work Station in the 2010 timeframe and subsequently promoted to Second Bureau deputy political commissar position.²⁸

Jing'an Unit. The Second Bureau's network may also include a division deputy leader grade unit headquartered in an historic compound in Shanghai's Jing'an District.²⁹ The unit shares its address with the Shanghai City Government 11th Office, which is reportedly directed by the Second Bureau commander.³⁰ It also likely oversees an element or subordinate unit in the vicinity of the submarine cable landing station in the Nicheng township of Pudong's Nanhui District.³¹ Two officers affiliated with the unit have also been affiliated with a radio monitoring station under the Shanghai Radio Administration Bureau, which appears to have an internal security mission.³² A prominent officer in the unit is a specialist in speech recognition technology.³³



Figure 4: SCOL Bian Xinshan (卞新山) is cited in 2014 reporting as office director.

As noted in Project 2049 and Mandiant reporting, the Second Bureau has fiber optic connectivity with China Telecom's internet monitoring center. Also known as the Shanghai 005 Center, the center is located in the China Telecom Information Park in Pudong. The center functions as a gateway for submarine cable landing stations in Nanhui and Chongming.³⁴

Second Bureau's External Network

The Second Bureau's technical reconnaissance network extends well beyond Shanghai. The distributed network may include at least three circularly disposed antenna array (CDAA) systems positioned in north, south, and southwest China. These sites may provide a network controller in Shanghai with real-time geo-location and intercept of regional high frequency (HF) transmissions.³⁵



Figure 5: Unit 61398 Technical Reconnaissance Network

- *Northeast Work Station.* Two CDAA systems are located in China's northeastern province of Heilongjiang, specifically in the western suburbs of Suihua City. An element of the Third Department Second Bureau maintained a presence in Suihua at least as recently as 2002. At least one of the two antenna systems may support the Second Bureau's HF network.³⁶
- *Sichuan Work Section.* The Second Bureau also has maintained a presence in the Sichuan provincial city of Mianzhu, specifically Zundao village. The unit may have been previously affiliated with the Second Bureau's Second Office. Located approximately 50 kilometers from the epicenter in Wenchuan County, its facilities appear to have been damaged during the May 2008 earthquake and under reconstruction in 2010.³⁷
- *Southwest Work Station.* The Second Bureau may oversee a workstation in the northern outskirts of the city of Kunming in Yunnan province, specifically Shiqiao village. As of early 2014, a possible CDAA system appeared to be under construction. The unit may have been previously affiliated with the Second Bureau's Second Office, and at least one senior officer from bureau headquarters

in Shanghai has been linked with the unit. Kunming also hosts collection sites subordinate to the Third Department Third and 12th Bureaus.³⁸

- *Southern Work Station.* The Second Bureau also appears to manage a regimental-grade work station in the northwestern Guangzhou's Tanbu Township. The unit may have been affiliated with the Second Bureau's Ninth Office in the past. The work station is characterized by a large CDAA that can be seen south of Highway S118.³⁹
- *Nantong Work Station.* A GSD workstation, possibly subordinate to the Second Bureau, is located in Nantong's Xingren township. The work station may operate an older CDAA.⁴⁰
- *Zhuhai Work Section.* The Second Bureau probably oversees a subordinate regimental-grade work section based within the Zhuhai township of Tangjiawan. The section appears to have supported the Second Bureau's Second Office in the past.⁴¹
- *Hainan Work Station.* A relatively new Second Bureau work station is located within Sanya City on Hainan Island. The unit, which appears to be under the purview of a deputy division grade leader, oversees a satellite ground station and information management facilities in the Sanya township of Fenghuang.⁴²



Figure 6: Google Earth Satellite Image of Probable Second Bureau Hainan Ground Station

Second Bureau and the Shanghai Intelligence Community

The Second Bureau leadership reports to the GSD Third Department headquarters in Beijing. However, the bureau also appears to have horizontal relationships with the Shanghai City government and other intelligence units in the Yangzi River Delta area. The director of the Second Bureau is dual-hatted as director of the Shanghai City Government 11th Office.⁴³ This position implies not only a vertical command relationship with Shanghai City party and government authorities, but horizontal associations with two other PLA organizations that are assigned Shanghai City office designations: the PLA General Political Department Liaison Department (GPD/LD) Shanghai Liaison Bureau and the GSD Intelligence Department Shanghai Bureau.

SIGINT Support to Political Warfare

The GSD Third Department Second Bureau likely provides communications intelligence to GPD/LD's Shanghai Bureau. GPD/LD is the CCP's principal arm for political warfare with a grade equal to that of the GSD Third Department. The director of the GPD/LD Shanghai Bureau is dual-hatted as director of the Shanghai City Government Seventh Office.⁴⁴ The Third Department Second Bureau's capacity to intercept email exchanges, computer files, cell phone calls, text messages of targets of interest on Taiwan, in the U.S. and elsewhere may facilitate GPD/LD assessment of individuals—both military and civilian—with access and influence for political purposes. These data collections are useful for evaluating and selecting officers for clandestine political warfare campaigns, among other functions. The bureau allegedly maintains a data base on military officers from Taiwan, and presumably other foreign military personnel with a rank of colonel and above. Profiles, updated on a semi-monthly basis, include basic data such as date and place of birth, education, personal habits, family, and current location.⁴⁵ One of the Shanghai bureau's principal platform for exchanges is the Shanghai Association for International Friendly Contact.⁴⁶

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SIGINT Support to Military Intelligence

The GSD Intelligence Department (also referred to as the GSD Second Department and 2PLA), is responsible for the collection and analysis of military intelligence. The director of the GSD Intelligence Department's Shanghai Liaison Bureau is dual hatted as director of the Shanghai City Government Fifth Office.⁴⁷ Second Bureau officers are also affiliated with platforms shared by the Second Department, including the Shanghai Association of International Strategic Studies (SAISS) and the Shanghai Strategy Association.⁴⁸



Figure 7: Shanghai's Military Intelligence Community

Shanghai's Broader Technical Reconnaissance Community

The Second Bureau likely also has working relationships with other PLA technical reconnaissance entities in the greater Shanghai area.

- *Third Department 12th Bureau.* The Third Department 12th Bureau is headquartered in Shanghai's Zhabei District and is an important member of China's space and remote sensing community. A prominent U.S. cyber security firm concluded the Second Bureau shared cyber-related resources with the 12th Bureau.⁴⁹
- *Third Department S&T Equipment Bureau.* The Third Department S&T Equipment Bureau maintains a representative office in Shanghai. The representative office most likely coordinates with Shanghai-based equipment and technology suppliers, and may function as a material supply depot for the east China region.⁵⁰

- *Third Department Third Bureau.* The Third Department Third Bureau's Third Office is based in Shanghai, and appears to have an electromagnetic shielding (TEMPEST) mission.⁵¹
- *National (Shanghai) Information Security Engineering Technology Center.* The Second Bureau also played a role in establishment of the National Information Security Engineering Technology Center (NISEC). Established in Shanghai in 2001, the center appears to be managed by the Third Department on behalf of the State Council's Ministry of Science and Technology, National Crypto Management Center, State Secrecy Bureau, Ministry of Public Security, and Ministry of State Security.⁵²
- *Nanjing MR, PLAN, and PLAAF SIGINT Units.* The Nanjing MR First Technical Reconnaissance Bureau oversees two separate offices in Shanghai's Songjiang and Minhang districts. The mission of these units is unknown. The PLAAF Second Technical Reconnaissance Bureau, headquartered in Nanjing, oversees a subordinate office in Shanghai's southern Fengxian District.⁵³

Conclusion

Cyber espionage poses an advanced persistent threat to U.S. national and economic security. Groups operating from PRC territory are believed to be waging a coordinated cyber espionage campaign targeting U.S. government, industrial, and think tank computer networks. A dozen of these groups have been identified and linked with the PLA, and others connected with universities and information security enterprises.

At least one of these groups is affiliated with the GSD Third Department Second Bureau (Unit 61398) in Shanghai. The Second Bureau plays an important role in the creation of a "global electronic fishbowl." In May 2014, the U.S. Department of Justice issued indictments against five PLA officers on charges of cyber espionage directed against U.S. firms. According to the indictments, the five officers had been assigned to the Second Bureau's Third Office. The indictments imply the Third Office has a cyber espionage mission. However, an organizational and capability survey of the Second Bureau suggests responsibilities well beyond cyber espionage. A detailed examination of the Second Bureau operational infrastructure may serve as a tentative baseline in assessing organizational structures of other Third Department bureaus.

The Second Bureau oversees a work station in the vicinity of a major submarine cable landing station on Chongming Island and probably a unit near the Nanhui cable landing station. Second Bureau elements with direct access to fiber optic cable landing stations could buffer communications traffic entering and leaving China. As gatekeepers, Second Bureau officers may have some cognizance of large volumes of data exfiltrated by other cyber espionage groups operating from throughout China. Also worthy of note are GSD Fourth Department elements in the same areas.⁵⁴ Other members of the PLA technical reconnaissance community may have access to similar landing stations located in Qingdao, Shantou, Hong Kong, and more recently in Fuzhou.

The Second Bureau's network may also include technical reconnaissance sites in northeast China (Suihua), southwest China (Kunming), and South China (Guangzhou). Access to at least three high frequency direction finding (HF/DF) CDAA systems could enable a Second Bureau network controller in Shanghai to geolocate HF transmissions throughout the Asia-Pacific region to monitor, interfere, or block signals unfavorable to the CCP's goals. Potential targets of the network may include the U.S. Air Force High Frequency Global Communications System, and naval beyond line-of-sight communications (e.g. HF Link-11). Civilian networks of interest may include international air traffic control managed by the International Civil Aviation Organization (ICAO), maritime safety, Radio Free Asia, and other networks. The Second Bureau may be the sole department within the technical reconnaissance community operating three or more CDAA systems as an integrated network. Other CDAA systems have been noted in China, but their subordination could not be determined at this time.

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Finally, the Second Bureau director's concurrent position as director of the Shanghai City Government 11th Office suggests vertical and horizontal lines of authority. The concept of dual leadership and vertical/horizontal relations is rooted in CCP and PLA history, and potentially leads to fragmented lines of authority.⁵⁵ Vertically, the Second Bureau reports to Third Department leaders in Beijing. Horizontally, the Second Bureau may also support Shanghai party and government authorities. The Second Bureau probably has a working relationship with counterpart bureaus under the GPD/LD (Shanghai City Government Seventh Office) and GSD Second Department (Shanghai City Government Fifth Office). It remains unclear if similar dual leadership arrangements exist in the municipal governments of Beijing, Qingdao and Wuhan, which also host Third Department bureau commands. Regardless, a better understanding of civil-military lines of authority could help inform U.S. policy responses to cyber espionage and counter-intelligence operations.

Notes

¹ See “U.S. Charges Five Chinese Military Hackers for Cyber Espionage against U.S. Corporations and a Labor Organization for Commercial Advantage,” Department of Justice website, May 19, 2014, at <http://www.justice.gov/opa/pr/2014/May/14-ag-528.html>; and Michael S. Schmidt and David E. Sanger, “5 in China Army Face U.S. Charges of Cyberattacks,” *New York Times*, May 19, 2014, at http://www.nytimes.com/2014/05/20/us/us-to-charge-chinese-workers-with-cyberspying.html?_r=0. Also see “APT1: Exposing One of China’s Cyber Espionage Units,” Mandiant Report, February 18, 2013, at http://intelreport.mandiant.com/Mandiant_APT1_Report.pdf.

² Mark A. Stokes, Jenny Lin and L.C. Russell Hsiao, “The Chinese People’s Liberation Army Signals Intelligence and Cyber Reconnaissance Infrastructure,” *Project 2049 Occasional Paper*, November 11, 2011, at http://project2049.net/documents/pla_third_department_sigint_cyber_stokes_lin_hsiao.pdf; and Mark A. Stokes and L.C. Russell Hsiao, “Countering Chinese Cyber Operations: Opportunities and Challenges for U.S. Interests,” *Project 2049 Occasional Paper*, October 29, 2012, at http://project2049.net/documents/countering_chinese_cyber_operations_stokes_hsiao.pdf.

³ For further background, see “The Chinese People’s Liberation Army Signals Intelligence and Cyber Reconnaissance Infrastructure.”

⁴ For an excellent explanation of grades and ranks, see Ken Allen, “Assessing the PLA’s Promotion Ladder to CMC Member Based on Grades vs. Ranks – Part 1” *China Brief*, July 22, 2010, and “Assessing the PLA’s Promotion Ladder to CMC Member Based on Grades vs. Ranks – Part 2,” *China Brief*, August 5, 2010.

⁵ The PLA has traditionally adopted multiple means of distinguishing individual military organizations. A functional unit has a true designation (e.g., “GSD Third Department Second Bureau”), as well as a military unit cover designation (MUCD) for external use. For discussion of the PLA MUCD system, see Dennis J. Blasko, *The Chinese Army Today: Tradition and Transformation for the 21st Century* (New York: Routledge, 2005), pp. 82-83. GSD functional units were assigned three and four digit cover designations in the 1960s. The Third Department’s original eight bureaus were numbered sequentially from 761 to 768. The Second Bureau was assigned a cover designation of 762 (总字 762 部队). In 1975, the PLA changed its MUCDs to a five digit system. Third Department bureau-level general headquarters were assigned sequential designations numbered from 57311 (First Bureau) to 57319 (Ninth Bureau). The Second Bureau general headquarters was designated as Unit 57312. Subordinate Second Bureau offices and work station MUCDs were number sequentially from 57331 to 57339 (eg., Second Bureau First Office was Unit 57331, Second Office was Unit 57332, Third Office presumably was 57333, Fourth Office was 57334, etc.). By way of comparison, Third Department Third Bureau offices were numbered sequentially from 57341 to 57348 (or perhaps up to 57351), and Fourth Bureau offices from 57361 to 57369. For unknown reasons, the Second Bureau designation was changed from 57312 to 57322 when the headquarters moved from Shanxi to Shanghai in the early 1980s. The Fourth Bureau maintained its designation of Unit 57314 when it moved to Qingdao. In 2000, the PLA again changed MUCDs. GSD units were assigned designations in the 61001 to 61999 block. Unlike the previous GSD MUCD system, the grade and type of unit can not be determined based on the number itself. The Second Bureau’s general headquarters designation and selected offices changed to 61398. Offices collocated with the Second Bureau general headquarters in Pudong (Unit 61398) are assigned element numbers rather than independent MUCDs. As a general rule, functional regimental-level grade units and higher usually are assigned an MUCD rather than an element number. For example, the Second Bureau First Office is designated as Unit 61398 Element 21. Second Bureau offices clustered in one complex in Baoshan share the designation of 61800.

⁶ For photos of the old compound, see http://www.360doc.com/content/14/0707/19/12771072_392688258.shtml. The Fourth Bureau headquarters was garrisoned in Huanglonggou (黄龙王沟), while the Second Bureau was in Nantuolou village (南陀罗村).

⁷ During the Second Bureau's formative years in Shanxi, Xiao Sen (萧森 or 肖森; 1914-2004) served concurrently as director and political commissar. He was subsequently assigned as a deputy political commissar of the Third Department. Xiao Sen most likely was replaced as Second Bureau political commissar by Xu Shusen (徐树森; 1922-2008). Guo Xueshun (郭学顺) was assigned as political commissar in 1995. Guo Xueshun previously worked in the Second Bureau's First and Eighth Offices and directed the Second Bureau Political Department. He also did a short stint with the Third Department Fourth Bureau. Another former commissar is Senior Colonel (SCOL) Luo Yala (罗亚拉; b. 1955), who was assigned to the PLA Academy of Electronic Engineering in 2008 and promoted to major general in 2009. SCOL Qiu Zuping (邱祖平; b. 1957) likely replaced Luo Yala. Qiu Zuping had previously served as political commissar of the Third Department's 11th Bureau. Qiu was assigned as political commissar of the PLA Air Defense Command Academy in the 2010/2011 timeframe, and promoted to major general in December 2011. For a 2008 reference to Fan Xianzhang and Qiu Zuping as 61398 commander and political commissar, see "宝山区领导赴驻区部队学习考察," Baoshan City government website, June 27, 2008, at http://bsq.sh.gov.cn/zwx/xzbd/200806/t20080627_83479.html. As of March 2015, Second Bureau political commissar is SCOL Ma Hui (马辉). He is also a member of the Pudong Committee of the Chinese People's Political Consultative Committee (CPPCC). For reference to Ma Hui as political commissar and CCPCC member, see "政协上海市浦东新区第五届委员会名单," undated, at http://www.pdpx.gov.cn/meeting_name.html; and "微观点 (2015 年第一期)," Pudong CPPCC website, March 18, 2015, at <http://www.pdpx.gov.cn/newsdetail.php?id=12718>.

⁸ Xiao Sen directed the bureau during its early years. Lu Peng (吕蓬) directed the Second Bureau in the 1990/1991 timeframe, and now serves as a deputy director of the Shanghai Institute for International Strategic Studies. SCOL Fan Xianzhang (范宪章) was assigned as Second Bureau director in June 2008 and commanded the bureau as of 2011. For a 2008 reference to Fan Xianzhang, see 韩正参加部队代表团审议, *Xinhua*, January 28, 2008, at http://sh.xinhuanet.com/misc/2008-01/28/content_12332751.htm; and "宝山区领导赴驻区部队学习考察," Baoshan District Government website, June 27, 2008, at http://bsq.sh.gov.cn/zwx/xzbd/200806/t20080627_83479.html. For a 2011 reference to Fan Xianzhang, see "韩正:上海要保持拥军传统为部队官兵解决后顾之忧," Shanghai Eastday Media, January 20, 2011, at <http://sh.eastday.com/qtmt/lh2011/u1a849071.html>. An Nan (安南) may have replaced Fan Xianzhang in mid- to late-2011.

⁹ Second Bureau deputy director SCOL Liu Qizheng (刘其正) previously directed the Second Bureau's Second Office in Baoshan. See "Listing of Pudong District People's Congress (2005)," Pudong People's Congress website, December 30, 2005, at <http://www.pdrd.gov.cn/pudong/showinfo/showinfo.aspx?infoid=3698>. Former deputy political commissar SCOL Duan Yisheng (段义生) has roots in the Seventh Office. For reference to Liu Qizheng and Duan Yisheng, see "浦东新区南汇博物馆举办'三峡石'图展," Pudong Cultural Network, August 5, 2010, at http://www.pdwb.net/pdwb_website/html/pdwb/pdwb_zwx/snwx/2010-08-05/Detail_209.htm. Another possible Second Bureau deputy director is Zhu Xiaoyang (朱晓阳). As of 2014, one of two deputy political commissars is Yan Guozhu (严国柱).

¹⁰ For reference to a Unit 61398 Headquarters Department (司令部) in the Gaoqiao township (高桥镇), see "关于表彰 2014 年度高桥镇双拥工作先进单位和先进个人、双拥工作优秀服务项目的决定," Pudong Government website, July 30, 2014, at http://gov.pudong.gov.cn/newgovOpen_GQZRMZF_yw_shjzyf/Info/Detail_564007.htm. A typical PLA unit headquarters department consists of a command center, communications and other sections, and guard support group or battalion. The Headquarters Department Communications Section (通信科) oversees the Second Bureau's internal communications network.

¹¹ Liu Bingquan (刘炳泉) directed the Second Bureau Political Department as of early 2013. He previously directed the Second Bureau's Fourth Office in Baoshan. See "中心召开庆祝建军 85 周年暨优秀志愿者表彰

大会,” Shanghai Military Leisure network, January 2, 2013, at

<http://www.pudongjunxiu.com/lunbo/html/?451.html>. As of 2013, Zhang Xufei (张旭飞) was deputy director of the Political Department.

¹² For reference to the Second Bureau Logistics Department, see (金秋十月颂祖国 军民共建谱新篇——运管署和 61398 部队后勤部举办军地共建联欢会), Shanghai Pudong New Area Construction and Transportation Commission website, October 30, 2006, at http://www.pdjjw.gov.cn/pdjjw_web168/news/detailDo.aspx?sj_dir=dj_jcdj&ct_id=43488.

¹³ Established in 1995, the school is said to have moved from its previous location at 苇城南路 1688 号 to 嵩山路 18 号. As of January 2015, the commandant is SCOL Wang Hongshou (王洪涛) and political commissar is Chen Shoushen (陈寿生). For a 2015 reference to Wang Hongshou, see “我院与解放军外国语学院昆山校区共建‘汉语国际教育实习基地’,” Anhui University website, February 1, 2015, at http://wxy.ahu.edu.cn/news_show.asp?id=604. The Kunshan training group carries a military cover designation of Unit 61142. For background, see “Garrisons,” Suzhou National Defense Education Online, May 28, 2012, at <http://www.sz81.org.cn/?mod=news&act=detail&id=6662>.

¹⁴ As a general rule, a *chu* can be identified by an internal true unit designation (eg., GSD Third Department Second Bureau Third Office), or by an MUCD and element number that are used externally (eg., 61398 Unit, 21 *fendui*). An MUCD is usually assigned only to regimental-level units and above (eg., usually not for battalions, companies, platoons, etc). A work station (*gongzuozhan*; 工作站) appears to be responsible for technical collection.

¹⁵ In PLA and defense industrial organizational structure, the *first* office, bureau, design department, lab, etc is often responsible for general affairs and horizontal coordination. One of the most prominent scholars with probable roots in the Second Bureau First Office (21 分队) is SCOL Zhou Jianping (周建平), who is possibly retired and currently affiliated with the Shanghai Association of Strategic Studies (上海市战略学会) among other organizations. As of 2009, the First Office political commissar was Li Deyin (李德银). See “军民共建鱼水情双拥工作思路,” Shanghai City Highway Management Bureau website, January 2009, at <http://www.pudong.highway.sh.cn/newshtml/djhsxzzgz/20090121153532.htm>.

¹⁶ Before 2002, the external cover designation of the Second Office was most likely Unit 57332. Workstations (or sections) in other parts of China, including Suihua (Heilongjiang province), Qingdao (Shandong province), and Zundao (Sichuan province), reportedly shared the Unit 57332 designation. Today, no new MUCD in the 61XXX series, with one exception, has been linked with the Second Office in Baoshan. The Second Office probably has an external designation of Unit 61800 Element 22 (22 分队), and is co-located with the Fourth Office on Xidiantai Road in Luonan’s Caijianong (蔡家弄西电台). Deputy political commissar of the Second Bureau, Liu Qizheng (刘其正), is a former Second Office director. For reference to the Second Office in Luonan, see “罗店镇召开庆祝建军 84 周年暨军民共建表彰大会,” Baoshan District Government website, August 1, 2011, at http://bsq.sh.gov.cn/zwxx/zjdzwxx/201108/t20110801_138568.html.

¹⁷ At least two or three Second Bureau offices in the Baoshan District appear to be assigned element numbers alongside the military cover designation of Unit 61800. Before 2002, the Fourth Office carried an MUCD of 57334. Unit 61800, like the preceding Unit 57334, carries a Baoshan District address of Hutai Road, Lane 6058 #100 (宝山区沪太路 6058 弄 100 号; Box 201908). At least three translation branch companies share the same address and presumably employ personnel inside the Second Bureau’s Xidiantai compound on Hutai Road: 1) Shanghai Bowwin Translation Company (上海博文翻译有限公司); 2) Shanghai Yijia Translation Studio (上海译佳翻译工作室); and 3) the Shanghai Handsome Translation Company (上海汉森翻译有限公司). The Shanghai Dongshi S&T Development Company (上海东时科技发展有限公司) and (上海奈特实业有限公司) also share the same address.

¹⁸ For reference to Third Office (总参二局三处) association with the Youyi Road Community, see “Youyi Road Community Pays Respects to Units on Baiyi Day” (友谊路街道“八一”慰问共建部队), Youyi Road Community website, August 3, 2010, at <http://www.youyi.gov.cn/yyfm/news/detail/6e0a119c6913fb41407af8435f54836.html>. As of 2011, the Third Office political commissar was Wang Chengmin (王成民). Also see James T. Areddy and Fanfan Wang “Who is UglyGorilla? On the Trail of China’s Alleged Cyber-Thieves,” *Wall Street Journal (China Real Time)*, July 8, 2014, at <http://blogs.wsj.com/chinarealtime/2014/07/08/searching-for-chinas-uglygorilla/>.

¹⁹ Colonel Ju Bin (车滨) served as Fourth Office director in the 2010 timeframe. In a photo, he has four rows of ribbons, with one star in center ribbon on the top row, indicating a division deputy leader grade. For a 2010 reference to Ju Bin as Fourth Office director, see (我公司举办“庆八一观世博”军民乒乓球友谊赛), Shanghai Eastpump Company website, July 30, 2010, at www.eastpump.com/shownews.asp%3Fid%3D225+%&cd=1&hl=en&ct=clnk&gl=us. For a general reference to the GSD Luonan Management Office, see (拥军优属, 拥政爱民), Luodian Township Government website, 2013, at http://www.shwmcj.cn/wmszfc/second/mien/homePage/JumpSelfModule.jsp?selfModuleid=174214&WL_ID=1370&COMPANYTYPE=1&OWNER=1648. Qin Xiyin (秦夕银) was political commissar of the Fourth Office in the 2005-2007 timeframe. Hou Haisheng (侯海生) and Ni Zhongping (倪仲平) were Fourth Office director and political commissar in the 2008 timeframe. For reference to a Zhang Hairong (张海荣) as 61800 Unit office director in 2010, see (罗店镇市容办召开杜沈路两侧环境整治协调会), Jinluodian government website, March 4, 2010, at <http://www.jinluodian.gov.cn/140/108/116/2010341162525.html>. Liu Bingquan (刘炳泉) directed the Fourth Office in the 2011 timeframe.

²⁰ The Sixth Office appears to carry an external designation of Unit 61158. As of 2009, SCOL Shi Jianhui (史建辉) was the 61158 Unit director and SCOL Yan Yan (颜焱) was office political commissar. For linkage of Shi Jianhui and Yan Yan with Unit 61158, see “军民联谊携手共建,” Luodianzhen Government website, August 4, 2009, at <http://www.jinluodian.gov.cn/140/108/147/2009841472064.html>. For reference to 61158 Unit and a Political Commissar Yan, see “企业文化建设的回顾与思考,” Baoshan Vehicle Inspection Party Committee website, at <http://www.shlxhd.gov.cn/Website/7/SituationView.aspx?id=7300&ActivityId=536678>. One Shanghai source publicly alleges a scandal involving officers previously assigned to the Second Bureau. She references Shi Jianhui as director of the Second Bureau Sixth Office. The source also claims personal knowledge of Sixth Office personnel competence in cyber espionage. The SARFT 553 Station, one of the PRC’s first broadcast monitoring sites, was established in Shanghai in 1955. Among various sources, see SARFT Student Recruitment notice at <http://www.yingjiesheng.com/job-001-756-328.html>.

²¹ The Seventh Office probably shares the Unit 61398 designation and is assigned an element number (61398 部队 27 分队). Lu Yongda (陆永达) has been identified as a past Seventh Office political commissar and Liu Ya’nan (刘亚南) as a deputy office director. For citation of Lu Yongda as Element 27 political commissar, see “和谐发展, 军民共建,” Waigaoqiao Medical Report (外高桥医销中心简报), May 8, 2012, at <http://www.shpdc.com/downloadsfront.do?method=picker&flag=all&id=00ad13f3-1703-46d2-903d-9ce00aofaa02&fileId=56da4b85-7699-483d-a12f-42280d6de174&memstate=>.

²² For reference to the Eighth Office in Pudong, see “浦东局与部队新春联谊,” Pudong Government Entry, Exit, and Inspection Bureau website, February 25, 2010, at http://pudong.shciq.gov.cn/xwzs/fjxw/201404/t20140408_23520.html.

²³ For reference to the Unit 61800 Mobile Group (61800 部队机动大队) in Gucunzhen Lao’an village (顾村镇老安村), see “顾村镇举行军政迎春座谈会,” Baoshan People’s Government website, January 14, 2009, at http://bsq.sh.gov.cn/zwxw/zjdzwxw/200901/t20090114_92783.html; and “顾村镇召开庆“八一”军政座谈

会,” Baoshan People’s Government website, July 29, 2009, at http://bsq.sh.gov.cn/zwx/zjdzwx/200907/t20090729_105020.html. A candidate location may be in the vicinity of Bao’an Highway and Diantai Road.

²⁴ Managed by China Telecom, the Chongming Cable Landing Station began construction in 1997 and was completed by the end of December 2001. It is the landing station for SEA-ME-WE 3 (SMW3), Asia-Pacific Cable Network 2 (APCN-2), China-US Cable Network (CUCN), and Trans-Pacific Express (TPE). For discussion of the Chongming cable landing site, see “海底光缆巡护亲历记,” *Jiefang Daily*, April 21, 2012, at http://newspaper.jfdaily.com/jfrb/html/2012-04/21/content_788875.htm. Other sites are in Nanhui (南汇芦潮港), Qingdao, and Shantou.

²⁵ See “江苏省总队直属支队专项行动 确保“亚信峰会”海底光缆畅通,” SOA website, May 23, 2014, at http://www.soa.gov.cn/xw/dfdwdt/dfjg/201405/t20140523_31869.html. The Fourth Bureau appears to oversee an office in the vicinity of the Qingdao submarine cable landing station.

²⁶ For reference to the Unit 61398 communications engineering project on Chongming and Nanhui (61398 部队崇明/南汇通信工程), see “Enterprise Introduction” (企业简介) China Shanghai Railway Signal and Communication International Engineering Company (上海中铁通信信号国际工程有限公司) website, undated, at <http://www.crses-global.com/d273693739.htm>. For other reference to cabling, see Project 2049 “Countering Cyber Operations footnote citing “Regarding GSD Third Department Requirements for Our Company’s Communication Channels” (关于总参三部二局需使用我公司通信管道的请示), China Telecom Marketing Department Announcement, March 20, 2009.” Also see James T. Areddy, Paul Mozur, and Danny Yadron, “From Mountains, Island, Secret Town, China’s Electronic Spy Shop Watches,” *Wall Street Journal*, July 7, 2014, at <http://online.wsj.com/articles/chinas-spy-agency-has-broad-reach-1404781324>; and James T. Areddy, “Birds Above, Data Below: Where the U.S. Internet Meets China’s,” *Wall Street Journal* (China Real Time), July 8, 2014, at <http://blogs.wsj.com/chinarealtime/2014/07/08/birds-above-data-below-where-the-u-s-internet-meets-chinas/>.

²⁷ For reference to a Ji Ming (姬明) as Second Bureau Third Office political commissar (总参三部二局三处政委姬明) in 2007, see “Youyi Road Community Commences Spring 2007 Military, Police, Civilian Discussion” (友谊路街道召开 2007 年军警民迎春座谈会), Baoshan government website, February 8, 2007, at <http://www.bsdj.cn/21/237/241/2008515241365.html>. For another reference to the Third Office in the Youyi Community, along with reference to Political Commissar Ji and a Director Zhu, see “Youyi Road Community Party Work Committee Central Group Holds Military Study Session” (友谊路社区 (街道) 党工委中心组举行军地联合学习会), Baoshan District government website, November 3, 2006, at <http://www.bsdj.cn/21/237/241/2008515241323.html>. For a 2011 reference to Ji Ming (姬明) as Unit 61161 political commissar, see “八一”慰问促双拥热心送法进军营,” Shanghai City government website, August 2, 2011, at <http://www.shanghai.gov.cn/shanghai/node2314/node2315/node18454/u21ai528568.html>.

²⁸ The Chongming station carries an external designation of Unit 61161 and is located in Dongtan. See “崇明县司法局开展“迎八一”双拥慰问活动,” Shanghai Political-Legal Committee website, July 26, 2013, at <http://www.shzfz.net/node2/zzb/shzfz/gifs/node1819/u1ai383732.html>. For a January 2014 reference to Wang Tao (汪涛) as director of Unit 61161, see “工作需要列席崇明县第十五届人民代表大会第五次会议人员名单,” in 上海市崇明县人民代表大会常务委员会公报 (Chongming People’s Congress, January 2014), p. 39. In December 2007, Wang Tao is listed as a regiment-grade leader with Unit 61398. For reference to the Qianshao (前哨) and Dongtan (东滩) sites, see “崇明县领导亲切慰问部队官兵,” Shanghai Dongfangwang, August 1, 2010, at <http://s.hzw.eastday.com/shzw/G/20120801/u1ai86344.html>. The GSD Fourth Department also maintains a unit in the eastern Chongming village of Qianshao (Unit 61208). See 拥军慰问庆“八一”共话军民鱼水情, Wetland China, July 30, 2012, at http://www.shidi.org/sf_92B45D568DB64FFBA2977E87BD940691_151_cmdt.html.

²⁹ The regiment has an external cover designation of Unit 61789, and is headquartered in a small hidden compound at 810 Yan'an Middle Road (延安中路 810 号, 200041). The compound is said to have been the Indian consulate between 1956 and 1962. See “延安中路 810 号住宅,” at http://www.yplib.org.cn/structure/jdsh/bnsz/jz_74224_1.htm. The regiment's designation before 2000 was Unit 57374, which may be associated with the GSD Third Department Fifth Bureau. SCOL Bian Xinshan (卞新山) is cited in a 2014 source as office director (处长). For one example linking SCOL Bian with Unit 61789, see “静安区领导“八一”走访慰问驻区部队官兵,” Jing'an Government website, August 15, 2014, at http://www.jingan.gov.cn/newscenter/bmdt/qmzj/201408/t20140815_148879.html. In a photo, he has four rows of ribbons, with one star in center ribbon on the top row, indicating a division deputy leader grade. For photo of Bian, see “Representative Listing” (静安寺街道), Jing'an District People's Congress website, undated, at http://rd.jingan.gov.cn/jard_web/usercenter/Dbzl.aspx?DeptName=%BE%B2%Bo%B2%CB%C2%BD%D6%B5%Co. Gao Lei (高磊) was political commissar in the 2010 timeframe.

³⁰ The unit address (810 Yan'an Middle Road) is linked with the Shanghai 11th Office. A phone number (021-58671111) listed for the address has been linked with the Second Bureau headquarters on Datong Road. Guo Xueshun (郭学顺) was assigned as Second Bureau political commissar in 1995 (former Unit 57322), and previously worked in the Second Bureau's First and Eighth Offices, the Second Bureau Political Department, and also with the Third Department Fourth Bureau. In a phone listing from 2000, a Guo Xueshun is listed as 11th Office point of contact (<http://www.socom.cn/company/12245173.html>). The address 810 Yan'an Middle Road also hosts the Luoyang Foreign Language Academy Shanghai Classmate Association (洛阳外国语学院上海校友会); Taicang Desheng Plastics Corporation (太仓德盛塑业有限公司; <http://tcdssy.cn.china.cn/>); and the Shanghai Hongguang Economic Information Development Center (上海宏光经济信息发展中心; or Uninet Corporation - 上海优特交互网公司), which appears to function as an internet web hosting service. A previous senior figure affiliated with the Shanghai 11th Office in the 2006 timeframe is MG Xiao Shichang (肖石长 or 肖石常). Xiao may have been had a senior position with the GSD Third Department Fourth Bureau in years past. For reference to a Xiao Shichang as leader of an unidentified unit in Qingdao in the 2002/2003 timeframe, see “2003 年军地联席会议举行 夏耕主持会议并讲话,” Qingdao News (青岛日报), January 23, 2003, at <http://club.xilu.com/zgjsyj/replyview-819697-435.html?PHPSESSID=67e66f2f67c51bd4c5aa40e62038c816>.

³¹ For reference to the Unit 61789 Nanhui site, see “浦东新区双拥模范申报表公示名单,” Pudong government website (undated), at http://gov.pudong.gov.cn/zxpt_wsgs/info/detail_368933.htm; and 临港新城重装备区工程环境影响报告书, 2011, at www.envir.gov.cn/info/2011/201107065.pdf. For reference to the 61398 Unit Nanhui Site, see “关于 2010 年浦东新区科技拥军有关工作的通知,” Pudong City government website, June 16, 2010, at http://gov.pudong.gov.cn/newgovOpen_KWJ_qt_qt/Info/Detail_346001.htm. For reference to a Unit 61789 presence in Nanhui's Nicheng Township, see 军民共建敬夕阳, 欢聚一堂闹元宵, Pudong District Party Building website, February 21, 2012, at http://dangjian.pudong.gov.cn/pd_djw_djcz_ncdj/2011-02-18/Detail_356072.htm; and “科学知识武装现代军人, 科普工作深入前线军营- 2012 年科技活动周之科普进军营在泥城启动,” Pudong Popular Science website, June 21, 2012, at <http://www.pdkp.org:8083/Article/2014/201428649.shtml>.

³² Jia Hongbao (贾洪宝) directed Unit 61789 in the 2006 timeframe and was also affiliated with the Shanghai Radio Monitoring Station (上海市无线电监测站). He is now deputy director of the Shanghai City Radio Administration Bureau (上海市无线电管理局). Xu Biye (徐碧越) also was associated with the 61789 Unit in the 2007 timeframe, and has also been linked with the Shanghai Radio Monitoring Station. For reference to Xu Biye with Unit 61789 in 2007, see “上海人才服务行业协会,” June 12, 2007, at <http://www.docin.com/p-85137619.html>. For background on the station's responsibilities, see “上海市无

线电监测站职责,” Shanghai Radio Administration Bureau, November 21, 2013, at <http://www.shrc.gov.cn/Item/560.aspx>; and “中心上海监测站: 从监测新兵到“国家队”骨干.” The Shanghai Radio Administration Bureau should not be confused with the Shanghai Communications Administration (上海市通信管理局).

³³ Mou Naiqiu (牟乃秋) is cited in 2010/2011 reporting as director of a Unit 61789 station in Nanhui and also as director of Unit 61279, which is garrisoned in Shanghai’s Pudong District. For his masters thesis addressing speech recognition technology, see Mou Naiqiu, “高灵敏度语音检测研究,” Fudan University School of Information Science and Engineering (复旦大学通信科学与工程系), November 18, 2004, at <http://www.doc88.com/p-8149048788701.html>.

³⁴ The Shanghai 005 Center (上海市 005 中心) is a tenant of the China Telecom Information Park (中国电信信息园区), which is located at 5788 Yanggao Road (杨高南路 5788 号) in Nanhui. See “Regarding GSD Third Department Requirements for Our Company’s Communication Channels” (关于总参三部二局需使用我公司通信管道的请示), China Telecom Marketing Department Announcement, March 20, 2009 (originally cited in Project 2049’s 2012 report on Chinese cyber operations); and Wang Xin, (中国电信信息园打造亚太“信息心脏”), IT Times (IT 时报), August 11, 2009, at <http://it.sohu.com/20090811/n265867700.shtml>. Another term used is the Nanhui Data Center (南汇数据中心). Also see “APT1: Exposing One of China’s Cyber Espionage Units,” Mandiant Report, February 18, 2013, at http://intelreport.mandiant.com/Mandiant_APT1_Report.pdf. The 005 Center is related to the Shanghai City Special Use Bureau (专用局), which was directed by Huang Zhanjiang (黄占江) before 2013. Huang is dual hatted as deputy director of the Shanghai City Communications Administration (上海市通信管理局). For background, see http://www.shca.gov.cn/html/Item_124/info_576.html.

³⁵ For excellent discussions of CDAA sites in China and other places, see Matthew Aid’s blog at <http://www.matthewaid.com/>; as well as the Google Earth forum group at https://productforums.google.com/forum/#!msg/gec-military-moderated/O68Xo8orK_E/mFgbfZ-qmUwJ.

³⁶ The Suihua site, located north of Highway S304, has a cover designation of Unit 61689, and was the 57335 Unit prior to 2002. It was probably affiliated in the past with the Second Bureau’s Fifth Office. For reference to affiliation with the Second Bureau in 2002, see (绥化市司仪协会大事纪, 1996.12-2013.7), Suihua City Emcee Association website, February 1, 2010, at <http://www.shhqlxyh.com/News/Show.asp?id=106>. One speculative source believes the Suihua site may have been resubordinated to the Third Department Fifth Bureau. Rong Yihong (阮益红) commanded the regiment in the 2011 timeframe. Current commander may be Li Guohui (李国辉).

³⁷ The regiment carries an external designation of the 61357 Unit. Before 2000, it shared a 57332 Unit designation, suggesting a past affiliated with the Second Bureau Second Office. SCOL Wang Baozhu (王宝柱; b. 1957) is another regimental level leader of the Zundao unit. Members from the Second Bureau deployed to Sichuan for an earthquake relief mission in May 2008. See “New District Welcomes 61398 Unit Officers and Men on Rescue Mission in Sichuan” (新区拥军支前慰问团赴川慰问驻区 61398 部队驻川官兵), Haiyang Group website, December 3, 2011, at http://www.96890.org/oldlife_view.php?id=110082. In the article, An Nan is carried as bureau director (安南局长), and Duan Yisheng (段义生副政委) as deputy political commissar. For reference to damage in the area, see 高桥镇党委书记瞿理华率队同志亲切看望在川抗震救灾的家属, Gaoqiao Village website, May 27, 2008, at <http://gq.pdsq.cn/schoolinfo.aspx?modelid=2&Id=2780>. For reference to new unit construction, see 绵竹 61357 部队综合楼工程开工, China Construction Group, March 20, 2010, at http://jszzk.ceepa.cn/show_more.php?doc_id=95726. Zhao Kun (赵坤) served as director or deputy director in the 2012 timeframe. Xia Minfei (夏敏飞) served as political commissar in the 2008 timeframe.

His wife is listed as a member of the Party Committee of a community within Shanghai's Gaoqiao township.

³⁸ The Kunming work station is designated the 61010 Unit. It previously was a *fendui* under the 57332 Unit. For reference to a senior Second Bureau officer (An Nan; 安南) visiting the 61010 Unit in 2011, see “军民”合作，共铸美好商城,” *Yunnan Zhonghao Network*, May 22, 2011, at http://www.ynzhonghao.com/zhfamily_info.aspx?id=80. As an example of reporting associating An Nan with the Second Bureau, see “共庆“八一”建军节互叙军民鱼水情), Shanghai Jinfeng Investment Company website, September 30, 2009, at <http://www.shjftz.com.cn/culturedetail.aspx?id=683>. The Kunming site appears to have moved from another location to Shiqiao village. For reference to the new 61010 Unit site construction, see “建设项目选址意见书发证结果,” Kunming City Planning Bureau, September 22, 2011, at http://gcjsxxgk.yn.gov.cn/Project/Content/P_1.aspx?PID=1832&DepartmentId=10501. Based on Google Earth imagery, the CDAA is greater than 300 meters in diameter and appears to consist of 40 elements. The GSD Third Department Third Bureau also oversees a facility in Kunming's Paomashan, probably the Third Bureau Fourth Office, which carries a designation of Unit 61538 (previously the 57340 Unit).

³⁹ The work station, located in the Tanbuzhen's Chatang village (茶塘村) or Xintai village (新太村), carries a designation of the 61196 Unit. Before 2002, it was the 57339 Unit.

⁴⁰ The GSD workstation has an external designation of the 61725 Unit. For reference to the GSD workstation, see “通州双拥工作简报 2012 年第 4 期,” Tongzhou District website, November 6, 2013, at <http://mzj.tongzhou.gov.cn/MZJ/InfoDetail/?InfoID=b94473f4-e66c-493a-a065-dd7a3e0c8703&CategoryNum=012006>. Alternatively, it may be a GSD Intelligence Department facility. A possible CDAA is noted here: 32.061947, 120.947676.

⁴¹ The Tangjiawan (唐家湾) unit may have previously carried a cover designation of 57332. Rao Liuquan (饶留权) commanded the section in the 2005 timeframe, and was associated with the 57332 Unit in the late 1990s. The work section may be on the eastern side of Qi'ao Island. Among various sources, see “记 61351 部队支持教育、关爱儿童的事迹——兆征纪念学校,” Zhuhai Xiangzhou District government website, August 5, 2005, at http://www.zhxz.gov.cn/zwgk/xxgk_xzgz/xxgk_xzgz_xzxw/200508/t20050805_17681.html.

⁴² For reference to a Second Bureau presence in Sanya, see “解放军 61398 部队信息处理与生活基地,” Sanya Government Planning and Development website, August 21, 2013, at http://www.sanyaup.gov.cn/jszw_view.asp?id=3596; and http://www.sanyaup.gov.cn/jszw_view.asp?id=3597. Also see reference to a Zhuhai-based engineering consultant contract on the Sanya 61398 Unit office building (61398 部队三亚工作站办公综合楼) at http://www.zhzgi.gov.cn/Web_Zqgs/WxMessageList_Scdt.aspx?Page=134. For reference to a Third Department technical reconnaissance site on Hainan (总参三部三亚技侦阵地), see “2012 年海南省交通战备完成的主要工作,” Hainan Transportation Network, February 5, 2013, at http://www.hainanjit.gov.cn/zwgk/ghjh/ndgzjh/201302/t20130205_31628.html. For reference to the Third Department Second Bureau Sanya Work Station, see (项目审批结果), Sanya Government Affairs Service Center, May 2, 2012, at http://webcache.googleusercontent.com/search?q=cache:9PUoUx-4fbEJ:59.50.43.235:17003/sofpro/transData/zwxz_bjgk_info.jsp%3Fid%3D20120423184412+&cd=1&hl=en&ct=clnk&gl=tw. The Sanya site may be assigned a cover designation of Unit 61522 Unit. The Unit 61398 Information Receiving Base (信息接收基地), in Fenghuang township's Maocun community.

⁴³ For reference to Fan Xianzhang (范宪章) as director of the Shanghai City Government 11th Office (市政府第十一办公室) in 2009, see (屠杰大师捐赠老君神像一周年暨道观文化建设座谈会), Shanghai Taoism website, March 12, 2009 at <http://www.shtaoism.com/news.aspx?id=372>. At least one address given for the 11th Office is 810 Yan'an Middle Road. Unit 61789 shares the same address. See <http://www.11467.com/shanghai/co/227530.htm>.

⁴⁴ Major General Wang Guoxian (王国贤; b. 1955) is cited in 2013 reporting as director of the GPD/LD Shanghai Liaison Bureau and Shanghai City Seventh Office director. He also is dual hatted as executive deputy director of the Shanghai Association of International Friendly Contact (SAIFC). For reference to Major General Wang as GPD/LD Shanghai Bureau director, see “徐汇区举办庆祝中国人民解放军建军 86 周年大会,” *Shanghai Shuangyong Network*, August 13, 2013, at <http://www.shmzj.gov.cn/gb/sy/gzdt/node18/u1ai437.html>. For reference to Wang as Shanghai City Seventh Office director, see “花开的声音——钱铃戈艺术作品展”在上海美术馆成功举办,” September 16, 2010, at <http://baiyaxuan.com/news/show-228.html>. For reference to Wang Guoxian as SAIFC executive deputy director, see “微”语速递,” United Daily (Shanghai CPPCC), at <http://shsxx.eastday.com/node2/node4810/node4851/qt/u1ai57090.html>. For reporting that cites Wang as both SAIFC and Seventh Office, see (“花开的声音——钱铃戈艺术作品展”在上海美术馆成功举办), Baiyaxuan, at <http://baiyaxuan.com/news/show-228.html>. The Shanghai City Seventh Office address has been 81 Xingguo Road (上海市兴国路 81 号). However, it appears to have moved into a new compound in Pudong in 2012. Details are available upon request.

⁴⁵ See Chen Donglong, “PLA GPD Liaison Department” (解放军总政治部), *Dongsen News* (Taiwan), December 2000, at <http://www.nownews.com/2000/12/02/303-289746.htm>.

⁴⁶ Lu Dilong (陆迪龙) is a deputy director of the Shanghai Association for International Friendly Contact (SAIFC), and Li Qiang (李强) is SAIFC secretary general. Chen Qiutu (Chan Chauto; 陈秋途; b. 1975), who is secretary of the China Energy Fund Committee (CEFC) Party Committee, is an SAIFC deputy secretary general. CEFC has emerged as a major Shanghai-based influence operations platform. CEFC chairman Ye Jianming also served as SAIFC deputy secretary general in the 2005 timeframe. Established in August 2000, Shanghai Center for RimPac Strategic and International Studies (CPSIS; 上海环太国际战略中心) is focused on a range of regional security issues. The CPSIS Director is Guo Longlong (郭隆隆). Guo is also deputy director of the Shanghai Association of International Relations (上海国际关系学会副会长) and Shanghai Public Relations Academy (上海公共关系研究院). Its deputy director is Wang Xiaowei, who was formerly dual-hatted as director of CAIFC’s Asia Department. For an overview of the center, see its website: <http://www.orientalstrategy.com/Gjzl.asp>.

⁴⁷ The GSD Intelligence Department Shanghai Liaison Bureau probably carries a military unit cover designation of 61669, and is directed by Major General Zhou Rong (周荣). See “徐汇区举办庆祝中国人民解放军建军 86 周年大会,” *Shanghai Shuangyong Network*, August 13, 2013, at <http://www.shmzj.gov.cn/gb/sy/gzdt/node18/u1ai437.html>. In the 2000 timeframe, the Shanghai Bureau director, MG Cai Shimin (蔡世民; b. 1944), was dual hatted as director of the Shanghai City Government Fifth Office (上海市政府第五办公室; PO Box: 上海静安区 040-052 信箱). Unit 61669 Political Department director is Huang Zhong (黄冲), who produced a PLA propaganda program in 2006 in partnership with the Shanghai branch of the Chinese Cultural Promotion Association. See (八一之夜·军人之声 - 经典军乐八一史诗音乐会), at <http://www.shcmusic.edu.cn/html/zuzhi/zhouxiaoyangejuzhongxin/yanchuxinxi/59215792858.html>. Zhu Zhongyao (朱忠耀) is another political officer within the GSD Second Department Shanghai Bureau. Liu Penghui (刘鹏辉) is ostensibly a former senior officer affiliated with the GSD bureau in Shanghai. The unit has been headquartered at 15A Wukang Road Lane 280 (武康路 280 弄 15 号甲). The Ministry of State Security’s Shanghai Bureau is probably the Shanghai City Government Fourth Office.

⁴⁸ For example, the director of the GSD Intelligence Department’s Shanghai Bureau is dual hatted as a SAISS deputy director. A former GSD Third Department Second Bureau leader, retired SCOL Lu Peng, serves as another SAISS deputy director. SCOL Zhou Jianping, a senior officer from the Second Bureau’s First Office, is dual hatted as a SAISS instructor and deputy director of the Shanghai Institute of International Strategic Studies.

⁴⁹ For reference to Second Bureau and 12th Bureau sharing resources, see *CrowdStrike Intelligence Report*, p. 25, at <http://cdn.vox-cdn.com/assets/4589853/crowdstrike-intelligence-report-putter-panda.original.pdf>. A Yan Yi (颜懿) probably served as 12th Bureau political commissar in the 2011 timeframe. Worth noting is a Yan Yan (颜焱) who appears to have been political commissar of the Second Bureau Sixth Office.

⁵⁰ For reference to the Third Department S&T Equipment Bureau Shanghai Representative Office (总参三部科装局上海军代室), see “2005 年上海市双拥优抚工作情况,” Shanghai Civil Affairs Bureau website, January 16, 2006, at <http://www.shmzj.gov.cn/gb/shmzj/node8/node15/node58/node73/node102/userobject1ai4755.html>. As of 2012, the Third Department Shanghai Representative Office (总参三部上海军事代表室) was directed by Wang Jianzhong (王建忠). See: <http://wldww.huangpuqu.sh.cn/wulidj/static/ddbrddb/rddb/20120708/644.html>. The office may be known as the GSD Third Department East China Material Office (总参三部华东物资办事处).

⁵¹ The Third Bureau Third Office, located in Shanghai's Changning District, carries an external designation of Unit 61587.

⁵² A construction company listed the Second Bureau as the contracting organization for construction of the Engineering Center's six-story building. The center is located at 200 Zhangjie Road in Shanghai's Pudong District (张衡路 200 号). The same company also won the bid for construction of the Second Bureau's new general headquarters building in 2007. See “报名单位及项目经理信息,” undated, http://www.czzbb.net/czzb/YW_Info/YW_ZiGeYS/BaoMingInfo.aspx?YW_RowID=41726&BiaoDuanBH=CZS20091202901&enterprise_id=70362377-3. As of March 2014, the center is directed by Wen Zhonghui (文仲慧; b. 1955), a PLA officer with a division leader grade and rank of senior colonel. See “Construction Completed on National Information Security Engineering Technology Center Website” (国家信息安全工程技术中心网站完工), Beijing Lan Bo Synergy Technology Co. Ltd. (北京蓝博融智科技有限公司), September 22, 2008, at http://www.librich.com/news_view.asp?viewid=51; furthermore, Beijing Guowei Xin'an Network Technology Company (北京国卫信安网络技术有限公司) works closely with Third Department First Bureau in supporting the project. See “Yin Chuan-xi” (尹传喜), at <http://www.ushi.cn/p/2991>; and “Cooperation Partners,” China Cuslink Co., Ltd. (北京中海通科技有限公司), at <http://www.cuslink.cn/Partners.aspx>. The facility may also be referred to as the National 863 Information Security Base (国家 863 信息安全基地).

⁵³ The Nanjing MR First Technical Reconnaissance Bureau (Unit 95851), headquartered in Nanjing City, oversees as many as eight subordinate offices. The PLAAF Second TRB office in the Fengxian District (Unit 95826) appears to have been previously located in Guangzhou, and has a close relationship with the PLAAF Second TRB Sixth Office in Guangzhou.

⁵⁴ The Fourth Department elements are probably battalions subordinate to a brigade headquartered in Qinhuangdao (Unit 61251). For reference to the GSD Fourth Department presence on Chongming, see “我参与、我快乐，为鸟儿营造一片优质栖息地”——崇明东滩保护区与解放军 61251 部队军民精神文明共建，Wetlands China, September 12, 2012, at http://www.shidi.org/sf_87EE4FA13F15419685C14D25898DD0A3_151_cmdt.html. For reference to the Fourth Department presence in Nicheng Township, see “文化双拥唱响军民鱼水情,” Nicheng Township Party Building website, November 1, 2012, at <http://www.nichengdj.gov.cn/html/ArticleShow4401.aspx>.

⁵⁵ For background on dual leadership (双重领导) and vertical/horizontal relations (*tiao/kuai guanxi*; 条块关系), see Kenneth Lieberthal, *Governing China: From Revolution Through Reform* (New York: W.W. Norton, 2004), pp. 186-188.