Next 1 Page(s) In Document Denied

Subsection IB
Type B Missile Support Bases (S)

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TABLE OF CONTENTS

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PREFACE

Report Overview

1. (S/WN) This subsection of the compendium contains an overall introduction and an introduction and a map for each complex and regimental (possibly launch group) area. Following the introduction to each regimental area are the individual basic reports on each type B missile support base.

Notes for the Reader

2. (S/WN) Each individual basic report contains textual information which is formatted by subject so that comparisons are easier for the reader. The photograph of each base shows all drive-in cave entrances. 25X1

25X1

The photographs show all the buildings for housing, support, and GSE storage. The 25X1
buildings at the bases may be considerably scattered over an area of 1 to 5 km. All buildings have been measured and accounted for in the text for each individual basic report.

3. (S/WN) It was not practical to present a chronology of construction and missile equipment observations by each date of photographic coverage because the imagery record for each base spans up to 16 years. Coverage also has been sporadic. This 25X1
hiatus and the poor resolution of the imagery acquired prior to 1972 considerably reduced the amount of obtainable information.

4. (S/WN) In each basic report, construction activity was sometimes dated within a span of time—from negation date to the date first observed—because of a lack of coverage and poor resolution. Where evidence from photography was sufficient, a judgment was made as to the probable time of construction within the time span.

5. (S/WN) The floorspace of buildings used for housing is presented in square meters. It was determined that the floorspace in barracks averages 80 percent of the measured roof area. Terms such as "company-sized unit" and "company-sized area" indicate a military unit of from 90 to 140 people or the housing space to accommodate a unit of that size at a ratio of 4.6 square meters of floorspace per person. The buildings used for housing at missile bases were often geographically separated into company-sized areas, each with one messhall and one basketball court. The number of company-sized areas, as well as total floorspace and other data to indicate personnel strength and organization, are presented in each basic report.

DOCUMENT

DIA. *Missile Order of Battle: Asian Communist Countries (U),* Jul 81 (SECRET/ 25X1
WNINTEL/NOCONTRACT*)

*Extracted material is classified SECRET/WNINTEL 25X1

REQUIREMENT

COMIREX A01
Project 542053A
Distribution 86-001

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SUBSECTION 1B: TYPE B MISSILE SUPPORT BASES (S)

INTRODUCTION

Definition

Type B Missile Support Base

1. (S/WN) A type B missile support base is essentially a type A missile support base that is located in a missile launch complex. Type B missile support bases serve as storage installations for missiles, missile launchers, and GSE which are not associated with a particular launch site in the complex. Storage is in buildings or caves, or both. Type B missile support bases are located only in launch site complexes and are termed SSM launch complex garrisons by many in the US intelligence community. Type B missile support bases support the Chinese SRBM, CSS-1 MRBM, and CSS-2 IRBM systems.

Number and Location

2. (S/WN) Through March 1982, NPIC had identified 12 type B bases in China. They are located in all four CSS-1 and CSS-2 launch complexes—Tonghua, Lianxiwang, Jianshui, and Liuqingkou (Figure 1). The following installations are classified as type B missile support bases (listed by complex and by the order they were established in the complex).

Installation Name	Date of Initial Construction
Tonghua SSM Launch Complex Garrison 2	1964
Tonghua SSM Launch Complex Garrison 1	1965
Tonghua SSM Launch Complex Garrison 1A	1965
Tonghua SSM Launch Complex Garrison 2A	1968
Tonghua SSM Launch Complex Garrison 3	1968
Lianxiwang SSM Launch Complex Garrison 1	1965
Lianxiwang SSM Launch Complex Garrison 1A	1966
Lianxiwang SSM Launch Complex Garrison 2	1965
Lianxiwang SSM Launch Complex Garrison 3	1972
Jianshui SSM Launch Complex Garrison 1	1974
Jianshui SSM Launch Complex Garrison 2	1974
Liuqingkou SSM Launch Complex Garrison	1973

General Description and Comparison

3. (S/WN) None of the 12 type B missile support bases is similar to another. The common element among them is a missile storage building or missile storage cave; some bases have both. A few installations contain only one missile storage building or cave, which is sufficient to store one launcher (the missile on its transporter and its T/E) or two missiles on their transporters. Other bases contain space for six to ten launchers. The same space could be used to store up to 20 missiles. Likewise, housing space indicates that from as few as 50 to as many as 900 personnel could be accommodated at some of the type B bases.

4. (S/WN) The disparities between each base—size, configuration, and the type of structures—have led to uncertainty about the function of launch complex garrisons. Given that type B bases are storing missiles and/or missile launchers, how are the missiles or launchers (and any other GSE stored there) used in the surrounding complex in a deployment scheme?

Function

5. (S/WN) The missiles, launchers, and GSE stored at type B missile bases are not sufficient to form complete launch units. One possibility is that equipment which is lacking, primarily propellants and support vehicles, would be supplied during deployment to complete the launch units. Alternatively, the missiles and GSE at type B bases could be used to replace defective equipment at launch units in surrounding launch site garrisons. In the former case, the type B installations would be operating exactly as type A missile bases (field garrisons). In the latter, the type B installation would be operating as a rear services or logistical element of the surrounding launch group. A launch group is a regiment-sized element of the missile forces. To best answer the question of function, activity at each launch complex garrison must be reviewed historically and activity there placed in context with activity at surrounding components of the launch complex.

6. (S/WN) A historical review of imagery shows that the oldest of the type B missile bases operated as separate bases, the same as type A missile bases. The oldest type B bases are Tonghua SSM Complex Garrisons 1 and 2 (Figure 2) and Lianxiwang SSM Complex Garrisons 1, 1A, and 2. These missile bases were constructed in the 1964—1967 timeframe and portions of them were usable in late 1965 or 1966 (Figure 3). In 1967, surrounding launch site garrisons (type C missile support bases) were in the early stage of construction; their caves and tunnels were not completed until the 1970s. Therefore, in the mid-1960s, type B bases were not operating in support of units deployed at type C missile bases.

7. (S/WN) With the identification of the missile RTPs serving Tonghua and Lianxiwang complexes (Tonghua SSM Rail-to-road Transfer Facility 1, [redacted] and Lianxiwang SSM RTP, [redacted]), it became possible to review activity which occurred in the 1960s at each RTP to determine if deployment had taken place in the complex. It was noted that both RTPs were operational by late 1966 or early 1967 and that missile railcars were there throughout the late 1960s. The low resolution of available imagery in the 1960s precluded identification of missile equipment in type B missile bases but was sufficient to show that missile equipment was being supplied to them through the associated RTPs.

8. (S/WN) Though one or two SRBM units apparently were brought to Tonghua and Lianxiwang complexes in 1965 and 1966, the CSS-1 MRBM was the principal missile system in these complexes through the 1960s. With the buildup of tensions with the Soviet Union, MRBM basing was extended from the complex garrisons to many of the unfinished launch site garrisons (Figure 4) being built for CSS-2 deployment in the 1970s.

9. (S/WN) New MRBM bases were constructed at launch site garrisons in reaction to the Soviet threat. They were simple to construct, consisting only of a few GSE storage garages, a missile checkout/-storage building, and a company-sized housing area (Figure 5). The bases were erected quickly, as a contingency, without interrupting construction on the caves and tunnels of the launch site garrisons. Like types A and B missile support bases, the new MRBM bases also could not store complete launch units and had to be supplied with additional equipment, primarily propellants, before the launch unit was operational. Also as a contingency in 1968 and 1969, a launch pad was constructed at nine of the 12 Tonghua launch site garrisons, eight of the 16 Lianxiwang launch site garrisons, and two of the four Liuqingkou launch site garrisons (Figure 6). A missile checkout/storage building or shelter (the principal element of one of the contingency MRBM bases) was observed at 11 of the 19 launch site garrisons where a launch pad had been built. Together with the missile checkout/storage buildings at the type B missile support bases already completed, there was, at the end of 1969, nearly a one-to-one ratio between completed launch pads and completed missile checkout/storage buildings at Tonghua and Lianxiwang and completed earth-covered shelters at Liuqingkou.

(Continued p. 1B-6)

FIGURE 1. SSM LAUNCH COMPLEXES IN CHINA WITH TYPE B MISSILE SUPPORT BASES

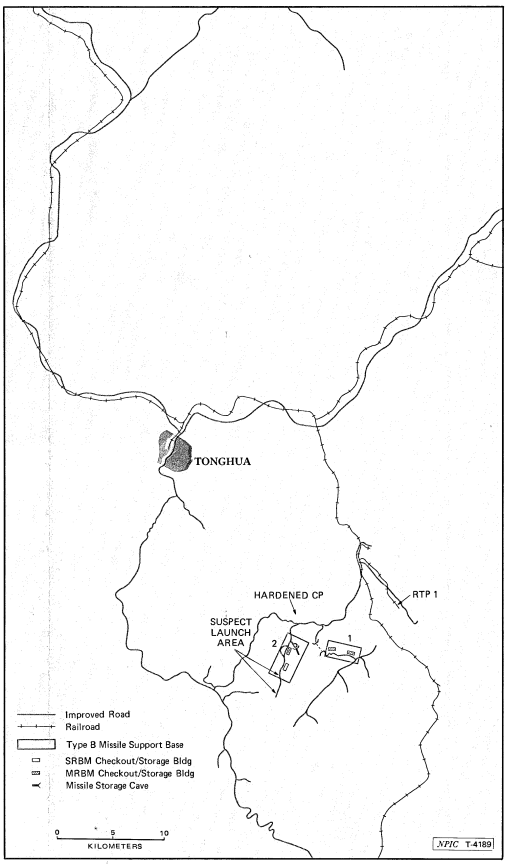

FIGURE 2. LOCATION OF SRBM AND CSS-1 MRBM TYPE B MISSILE SUPPORT BASES AT TONGHUA MISSILE LAUNCH COMPLEX SSM IN DECEMBER 1967

25X1

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25X1

25X1

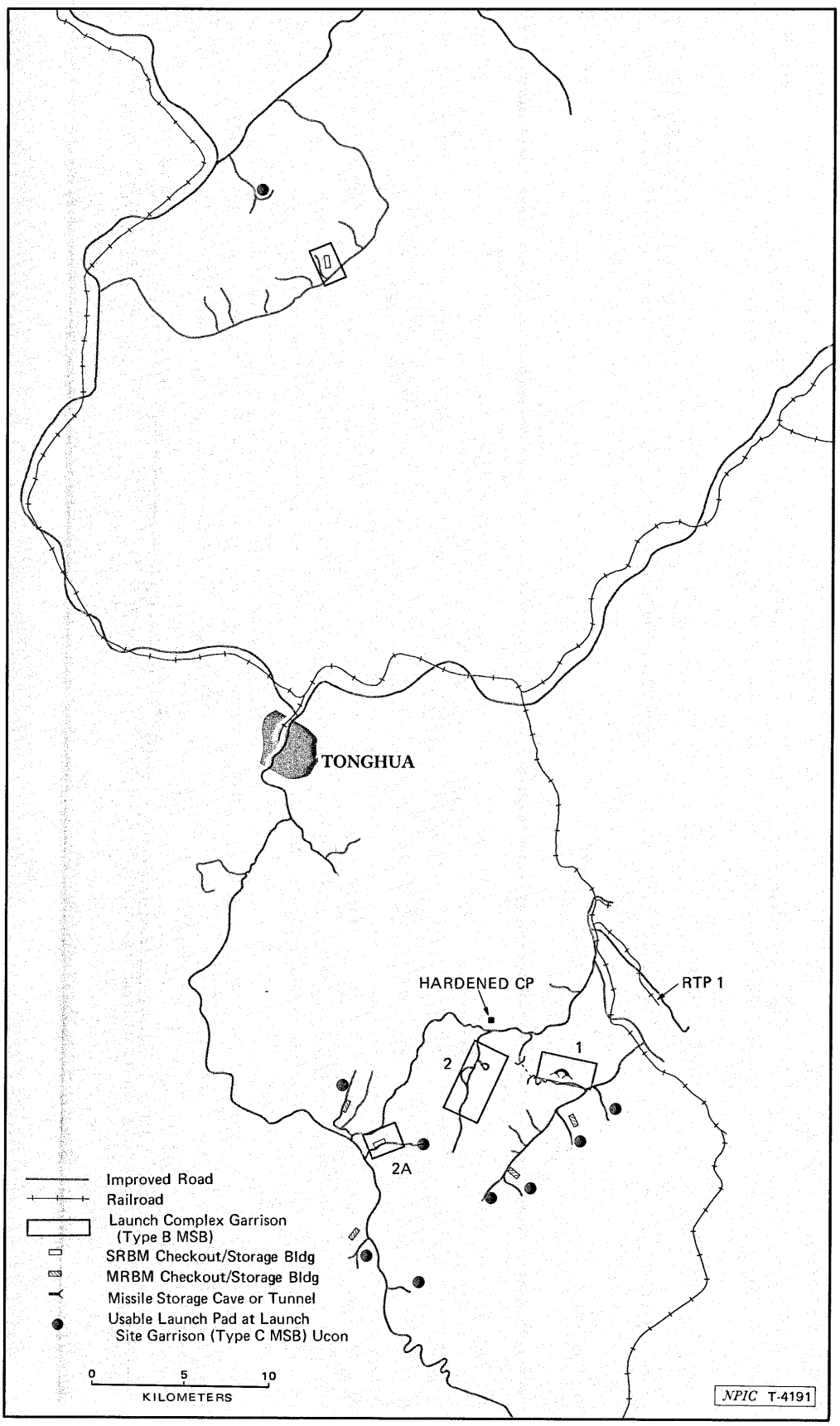
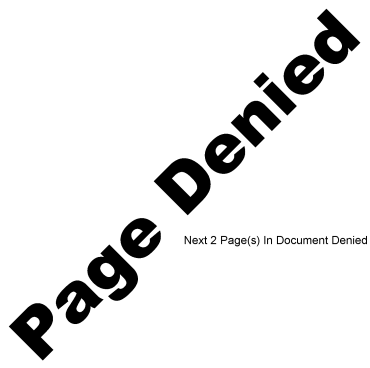


FIGURE 4. LOCATION OF SRBM AND CSS-1 MRBM TYPE B MISSILE SUPPORT BASES AND USABLE LAUNCH PADS AT TONGHUA MISSILE LAUNCH COMPLEX SSM IN DECEMBER 1969

25X1



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25X1

a missile storage cave like those at Xuanhua SSM Depot [redacted] However, this cave is much larger and may contain as much space for missile storage as do all of the caves at Xuanhua. [redacted] 25X1 25X1

[redacted] 25X1

[redacted] Tonghua RTP 2 provides easy and direct access to this part of Tonghua complex. 25X1

18. (S/WN) Liuqingkou SSM Launch Complex Garrison 1 should probably be redesignated. It contains an odd-sized, single-bay building, apparently used basically for missile and vehicle repair or maintenance, and one vehicle garage. There is no launcher storage area and the facility is more properly designated as a RIM facility. Liuqingkou Complex does not have another RIM facility. Additionally, Tonghua SSM Launch Complex Garrison 2A appears, in part, to be also operating as a RIM facility. Jianshui SSM Launch Complex Garrison 2 is, except for one building, a typical regimental motor pool area. Since the launch group around this facility has been recently occupied by CSS-2 equipment, it probably functions as a motor pool, which was its original function. Tonghua SSM Launch Complex Garrison 3 has been abandoned as a base, and construction on its underground GSE storage area has also been abandoned. More details on each of these facilities are presented in the basic reports in Section IB.

19. (S/WN) The remaining six active type B missile support bases are more similar to each other and are closely associated with the launch groups next to or surrounding them. They contain missile check-out/storage buildings and garages (Figure 7), and some have small caves. Together with the propellant and propellant vehicle storage facility in each launch group (a launch regiment area), the missile equipment in these six type B missile bases constitutes a sizable element to support the regiment where they are located. Presently, where a launch group is occupied by CSS-2 units, the type B base and propellant storage facility in it are most likely organized as a subordinate support (rear services) element of the launch regiment. Therefore, on a day-to-day basis, the equipment in the type B base would be available as replacements to the launch units in the regiment. During periods when the regiment or an element of the regiment has deployed to the field outside of the complex, the equipment could be used in several ways, depending on the circumstances—to replace damaged equipment, to provide the means for refire, or to equip missile launch companies which do not have a complete set of equipment.

20. (S/WN) The information in this subsection supersedes the previously published NPIC basic reports listed below.

[redacted] 25X1

RCA-03/0008/76, Jun 76 (TOP SECRET [redacted])
RCA-01/0008/74, Jan 74 (TOP SECRET [redacted])
RCA-01/0007/74, Jan 74 (TOP SECRET [redacted])
RCA-01/0011/74, Feb 74 (TOP SECRET [redacted])
RCA-01/0003/73, Oct 72 (TOP SECRET [redacted])
RCA-01/0009/74, Feb 74 (TOP SECRET [redacted])
RCA-01/0010/74, Feb 74 (TOP SECRET [redacted])

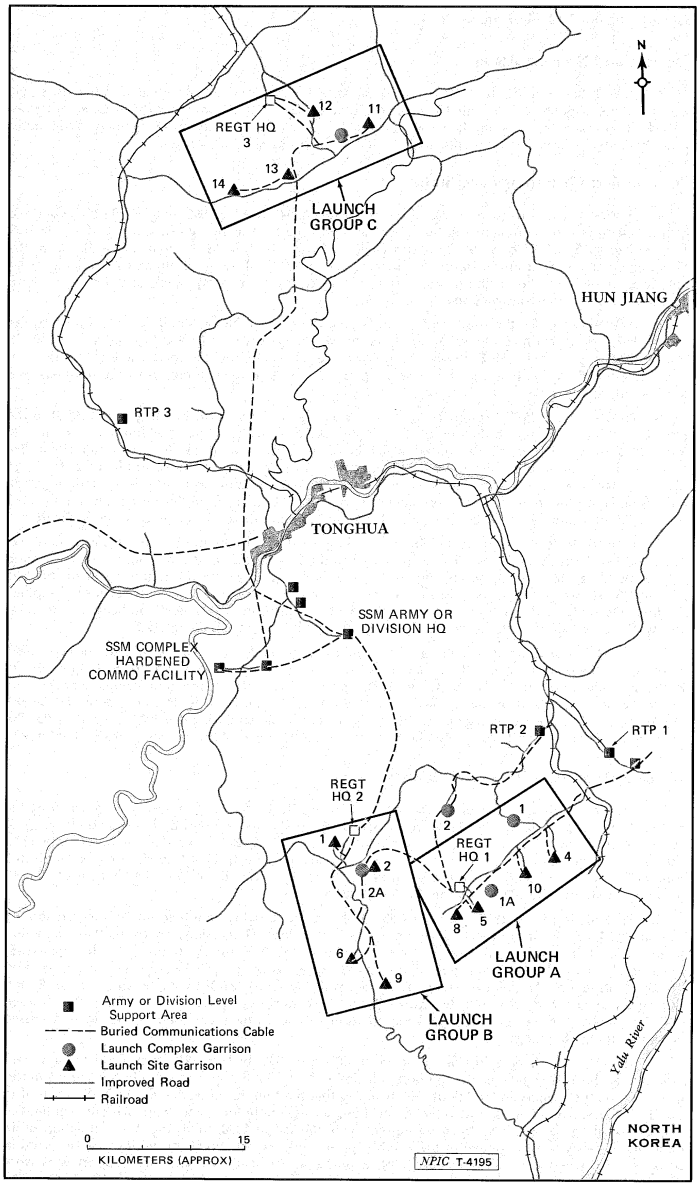

FIGURE 1. TONGHUA MISSILE LAUNCH COMPLEX SSM, CHINA

TONGHUA MISSILE LAUNCH COMPLEX SSM (S)

1. (S/WN) The Tonghua Missile Launch Complex SSM [redacted] is in northeastern China. The complex contains 12 launch site garrisons (type C missile support bases). The launch site garrisons are organized by groups of four into a total of three launch groups, designated A, B, and C (Figure 1). Each launch group is administered from a regiment-level headquarters, SSM Regiment Headquarters 1, 2, and 3, respectively. The Tonghua Complex also contains five type B missile support bases, called complex garrisons. One army or division headquarters installation has been identified as a part of the Tonghua complex. 25X1

2. (S/WN) The launch site garrisons are served directly by road. Paved all-weather roads lead to each launch group, but roads within the launch group are composed of packed earth that is probably overlain with gravel. There is rail service directly to the complex, and three RTPs have been identified. Electric power is supplied from the local power grid via aboveground lines. Aboveground and buried communications lines extend to all areas of the complex.

3. (S/WN) The launch site and complex garrisons and support areas of Tonghua complex are in separate valleys in a mountainous and forested area surrounding the city of Tonghua. Winters are severe and there is snow cover four to five months of the year. Summers are mild with moderate rainfall. The steep mountainsides provide the isolation and physical security for the missile installations. Fences are not used. There are guardposts along the access road to each valley where a missile installation is located. A lift gate is across the road leading to each launch site garrison.

4. (S/WN) SRBMs were probably deployed to the Tonghua complex as early as 1965. Portions of what is now Tonghua Launch Complex Garrison 2 [redacted] were complete in May 1965, including one missile storage/checkout building, garages, and barracks. SSM-associated railcars were first confirmed at the complex in September 1967. Missile-associated vehicles could not be identified until June 1971 when medium-resolution photography was first available. Both CSS-1 and CSS-2 equipment were observed, indicating that both systems already were deployed at Tonghua complex in 1971. By 1972, more than 30 missile railcars and propellant railcars were seen at one time in the railyard. The complex has grown gradually but continually throughout the 1970s as well as during the 1960s. 25X1

Z-14578/82

RCA-01/0006/82

INSTALLATION OR ACTIVITY NAME	COUNTRY
Tonghua SSM Launch Complex Garrison 2	CH

UTM COORDINATES	GEOGRAPHIC COORDINATES
NA	41-28-55N 126-08-16E

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0290-17, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
Feb 82	Feb 64

BASIC DESCRIPTION

Location

1. (S/WN) Tonghua SSM Launch Complex Garrison 2, originally designated Possible SSM Launch Site 3 and later SSM Complex Support Facility, is one of five type B missile support bases in Tonghua Missile Launch Complex SSM, China (Figure 1). It is the oldest part of the complex and was operating in 1965 independently of any launch group. It still appears to provide support to the complex as a whole, rather than to any particular launch group. The base is approximately 11 km by road from Tonghua SSM RTP 2 and extends for 5 km through a forested mountain valley. Both buried and aboveground communications lines serve the garrison. Power is supplied through the local power grid. Launch Complex Garrison 2 contains aboveground and below ground storage for missiles and missile GSE, a hardened command post, and a barracks and housing area (Figure 2).

Missile and GSE Storage

2. (S/WN) Surface storage for missiles is provided by missile checkout/storage buildings, one single bay and two double bay (Figure 2B). One of the double-bay buildings and was built in 1965 to accommodate SRBM-sized equipment. It is, however, long enough to accommodate CSS-2 IRBM transporters which have been observed at the base since 1970. Surface GSE storage is in five buildings which contain a total of 30 equipment bays.

3. (S/WN) There are four drive-in caves, two of which have been confirmed as missile and/or missile GSE storage. The cave is serviced by a loop road and had rail guides extending from the adit. However, the rail guides apparently were removed in the mid-1970s. Based on the amount of spoil removed, this cave is approximately 100 to 150 meters long if the coring for the cave was 5 meters high and 4 meters wide. In late 1980, the entranceway was extended and clamshell-type (convex) blast doors installed.

4. (S/WN) A very large missile storage cave (Figure 2C) is located 1.1 km south-southwest of the first cave. Based on the amount of spoil removed, it is the largest single cave or tunnel in any of China's missile launch complexes. If it is a single cave, it could be nearly 1 km in length. Because both missile storage cave entrances are on the same elevation, it is conceivable that they are connected (Figures 2B and 2C). This very large cave is apparently used solely for the storage of missiles on transporters and T/Es, based on equipment sightings and the rail guide-to-road transfer system at the entrance. Guide rails extend 175 meters from the adit where they are parallel with a double-loop road. This configuration enables two missile transfer operations to proceed simultaneously. Recent construction, however, has blocked one of the loops. A cave for environmental control equipment for the missile storage cave is 36 meters southeast of the large missile storage cave. Coal for a heating system is outside the walk-in entrance, and two large stacks or ventilators are on the hillside above the cave.

5. (S/WN) At the south end of the garrison (Figure 2C), two new drive-in caves, two flat-roofed buildings, and one walk-in cave were completed in 1981. No GSE has been observed nearby to provide evidence of the function or the purpose of the new area. Following interior modifications to the environmental control cave, from December 1974 to May 1979, a buried pipeline was installed between it and a flat-roofed building 306 meters to the south. The pipeline passes but does not enter one of the drive-in caves where a door opening and 3.0 meters high has been observed (Figure 2C). The door opening was concealed before blast doors could be observed on the adit.

Other Storage

6. (S/WN) No other storage was observed except for 19 small personnel support/general storage buildings. A hardened command post for the garrison (inset, Figure 2A) is located at the north end of the facility. It consists of one walk-in cave, one barracks with an attached kitchen, one barracks and support building, and one basketball court.

Barracks and Housing Areas

7. (S/WN) Base housing facilities consist of 30 barracks and five messhalls situated in five physically separate areas (Figures 2A, B, and C). Launch Complex Garrison 2 contains 4,049 square meters of barracks floorspace to accommodate 880 personnel representing five to seven company-sized units. Seven basketball courts, five messhalls, and an auditorium are within the garrison. 25X1

Construction Chronology and Status

8. (S/WN) Initial construction was observed in July 1964. By May 1965, two missile checkout and storage buildings were complete and the missile storage cave was under construction. By late 1965, a buried communications cable had been completed through the facility from the hardened command post (inset, Figure 2A), located 1.5 km north of the garrison, and 22 buildings were complete. In addition, the northernmost missile storage cave was probably usable and the large missile storage cave was under construction. 25X1

9. (S/WN) Except for the south end of the facility, the garrison had attained its present form by the end of 1967. Construction continued on the large missile storage cave until it was finished in late 1969. In March 1970, a probable CSS-2 missile transporter was observed on the road leading to the cave. Construction activity continued in the same area, and the walk-in cave 36 meters to the southeast was considerably enlarged.

10. (S/WN) From 1971 through 1974, three barracks and one support building were added to the garrison, followed by refurbishment of the single-bay, drive-in checkout building. A third missile checkout/storage building was also added, which increased aboveground missile storage capacity to five bays. Initial excavation of a third drive-in storage cave approximately 120 meters southeast of the large missile storage cave was confirmed in November 1975. A seven-bay addition to an existing vehicle garage and a foundation for an auditorium were added in the fall of 1976. Work on the auditorium was finished in July 1977. In September 1977, construction of the southernmost drive-in storage cave was initiated. 25X1

11. (S/WN) In 1978, a support building on the loop road next to the northernmost storage cave was razed and two barracks and a messhall were added to the base in the southern area. A new, flat-roofed support building, , was built approximately 20 meters north of the new drive-in GSE storage cave on the east side of the stream. In January 1979, a second flat-roofed support building was under construction at the south end of the garrison, 140 meters southeast of the cave. During the latter half of 1979, the cave and second support building were completed. 25X1

12. (S/WN) Construction activity at the southern end of the garrison continued through 1980. Excavation of the drive-in cave and associated walk-in cave on the west side of the stream and installation of the pipeline were nearly complete. In 1981, construction cleanup and landscaping work was in progress at the south end of the garrison, and new clamshell-type blast doors were confirmed on the missile storage cave. No changes were observed during late 1981 and early 1982. The function of the most recently completed facilities at the southern end of the garrison remained unknown. 25X1 25X1 25X1

Missile System Association and Activity

13. (S/WN) Limited field deployment of the Chinese SRBM is believed to have occurred at Tonghua SSM Complex beginning in 1965. However, because of constraints imposed by low-resolution imaging systems, confirmation/identification of equipment and possible SRBM bases did not occur until 1972. Although restricted by imagery of poor interpretability, analysis of activity at Launch Complex Garrison 2 from 1965 to 1969 indicated that the base was operationally associated with the deployment of China's first missile systems—the SRBM and the CSS-1 MRBM.

14. (S/WN) In March 1970, probable CSS-2 GSE was identified for the first time in the garrison. By February 1974, CSS-2 transporters had been confirmed on at least 15 occasions. Following the completion of additional GSE storage buildings in 1974, quantities of CSS-2 launch support vehicles increased; however, sightings of missile transporters decreased. Appearances of CSS-1 equipment in the garrison remained infrequent. An A-frame crane, associated with the CSS-1 MRBM complement, was confirmed on imagery in 1975 and 1979. Activity involving two CSS-2 transporters was observed from 1973 through 1976. Frequently, the transporters were seen adjacent to and partially enclosed by the drive-in missile checkout/storage buildings.

15. (S/WN) An increase in GSE occurred in 1979 and 1980. In May 1979, two warhead vans were parked near the 14-bay garage. Five support vehicles and a CSS-2 transporter were in the south support area. Subsequent imagery in the fall of 1980 revealed that the number of warhead vans had increased to four and at least five other support vehicles, including a truck-mounted crane, were present. Sightings of missile-related equipment have been infrequent since the fall of 1980, following the completion of an additional five-bay vehicle garage in the north support area. Activity involving missile GSE occurred in October 1981, when a missile checkout tent, a probable warhead van, and two support vans were adjacent to the entrance of the northernmost storage cave. This activity, which had ended by 15 October, was the most recent missile-related activity observed through February 1982. 25X1

INSTALLATION OR ACTIVITY NAME		COUNTRY
Tonghua SSM Launch Complex Garrison 1		CH
UTM COORDINATES	GEOGRAPHIC COORDINATES	
NA	41-28-21N 126-13-06E	

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0290-18, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
Jan 82	Mar 65

BASIC DESCRIPTION

Location

1. (S/WN) Tonghua SSM Launch Complex Garrison 1, originally designated Unidentified Support Area 8 and later designated SSM Garrison Support Area, is one of five type B missile support bases within Tonghua Missile Launch Complex SSM, China (Figure 1). The base is approximately 10 km by road from Tonghua SSM RTP 2 . It is situated in a narrow, forested stream valley on the northwest edge of Launch Group A (Figure 3) but its construction and operation predated any part of that launch group. The launch complex garrison contains aboveground and below ground storage for missiles and GSE and a barracks area (Figure 4).

Missile and GSE Storage

2. (S/WN) Aboveground missile and GSE storage is provided by two drive-in missile checkout/storage buildings 1,000 meters apart. Additional aboveground storage is provided by seven GSE storage buildings, the largest of which has ten bays. There is a total of 39 drive-in-capable vehicle storage bays in the garrison.

Other Storage

4. (S/WN) Early in 1972, installation of four light-toned, cylindrical tanks was begun. The tanks were located in two shallow rectangular excavations immediately east of the eastern missile checkout building; by August 1974, all four tanks were in place. The construction of a ten-bay building in 1975 necessitated the removal of the tanks. Similar-sized liquid storage tanks placed in the open or in shallow excavations have been seen at Tonghua Propellant Storage Area 1 . Therefore, the tanks appear to be for ordinary POL storage or for CSS-1 fuel storage which is not temperature-sensitive or toxic.

Barracks and Housing Areas

5. (S/WN) Launch Complex Garrison 1 contains 12 barracks and two messhalls. The garrison contains 1,106 square meters of barracks floorspace to accommodate 240 persons, probably organized in three company-sized areas. There are three basketball courts, one of which has no backboards.

Construction Chronology and Status

6. (S/WN) The facility was in the initial stage of construction in May 1965. By October 1965, the two missile checkout buildings, three multibay garages, and at least eight barracks/support buildings were present; therefore, the base could have been operational. Also in October 1965, spoil from the west entrance indicated that the drive-through missile and GSE tunnel was under construction. Work on a 682-meter-long road tunnel (not on graphic), connecting the garrison to Complex Garrison 2, was in progress.

7. (S/WN) By the spring of 1966, the number of structures in the facility had increased and the garrison access road had been improved. Except for three GSE storage buildings added in 1975, the garrison had achieved its present form by February 1969. During the summer of 1975, construction of the three additional GSE storage buildings was completed. This increased the surface GSE storage from 20 bays to a total of 39 bays. No new construction has been noted since 1975.

Missile Association and Activity

8. (S/WN) Although this facility was probably operational as early as 1965, missile equipment could not be confirmed until the first medium-resolution imagery was available in June 1971. CSS-1-associated GSE was identified at that time and continued to be observed regularly through January 1982. GSE-related activity was infrequent during 1972 and 1973 with only three sightings of equipment: eight CSS-1 oxidizer trailers, five fuel transporters, and seven prime movers were in the garrison. Activity recurred on when five CSS-1 fuel transporters, four prime movers, and three oxidizer trailers were present. Sporadic GSE movement occurred from 1975 through 1977 with no significant number of vehicles noted; a possible warhead van, seven probable CSS-1 fuel transporters, three oxidizer trailers, and four prime movers were observed. Infrequent missile-related activity has occurred since August 1978. Movement of CSS-1 fuel transporters has been detected as recently as September 1980. No further missile equipment activity was noted through January 1982.

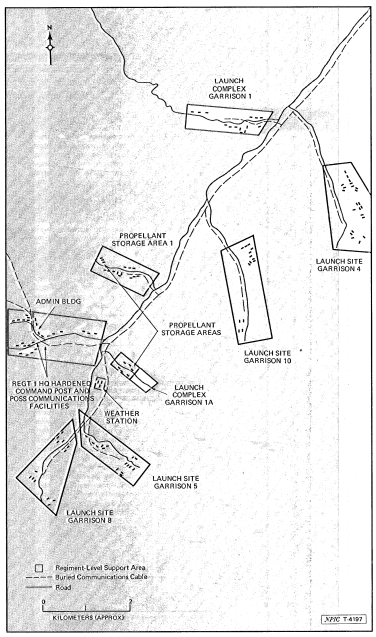

FIGURE 3. LAUNCH GROUP A (REGIMENT 1), TONGHUA MISSILE LAUNCH COMPLEX SSM

INSTALLATION OR ACTIVITY NAME		COUNTRY
Tonghua SSM Launch Complex Garrison 1A		CH
UTM COORDINATES	GEOGRAPHIC COORDINATES	
NA	41-26-10N 126-11-13E	

MAP REFERENCE

SAC, USATC, Series 200, Sheet 0290-17, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
Jan 82	May 65

BASIC DESCRIPTION

Location

1. (S/WN) Tonghua SSM Launch Complex Garrison 1A, originally designated Unidentified Area 7, is one of five type B missile support bases within Tonghua Missile Launch Complex SSM, China (Figure 1). The base is in Launch Group A (Figure 3), approximately 28 km by road from Tonghua SSM RTP 2 (BE), in a narrow, forested stream valley northeast of Launch Site Garrison 5 The launch complex garrison contains below ground storage for missiles and GSE and surface storage for GSE only (Figure 5).

2. (S/WN) The base is in the same valley and probably shares housing and support buildings with Tonghua Propellant Storage Area 1 Three caves used for propellant storage are located on the east side of the valley, north of the garrison area.

Missile and GSE Storage

3. (S/WN) There are no aboveground checkout/storage facilities for missiles within the garrison. Surface GSE storage is provided by a gable-roofed, three-bay building in the southeast corner of the garrison. Underground missile and GSE storage is furnished by a single drive-in cave. Flat, garage-type doors were confirmed on the cave entrance in October 1975. A 48- by 4-meter concrete hardstand extends from the cave entrance.

Other Storage

4. (S/WN) A 3.4- by 1.6-meter cylindrical tank, probably for POL, is in a shallow rectangular excavation just west of the westernmost barracks. The tank is partially earth-covered and has an earthen ramp which extends from the service road to a point level with the top of the tank.

Barracks and Housing Areas

5. (S/WN) The garrison contains two barracks and one messhall situated south of the service road and west of the equipment storage area. Launch Complex Garrison 1A contains 231 square meters of barracks floorspace to accommodate 50 personnel. Two basketball courts are within the garrison.

Construction Chronology and Status

6. (S/WN) Construction of the base was started between May and August 1965. In August 1965, the road extending into the valley had been improved. The missile storage cave was being excavated and the three-bay GSE storage building was complete. By October, the two barracks and messhall were finished and two temporary construction support buildings were present. During 1971 and 1972, the service road was widened and approximately 13 construction support buildings were scattered in the garrison area. A set of rails for spoil removal carts extended from the mouth of the missile and GSE storage cave to the spoil area adjacent to the west side of the adit. Spoil from the cave excavation was used to enlarge the area adjacent to the cave entrance and alter a nearby stream channel. Construction of the concrete hardstand in front of the storage cave was underway in the fall of 1973. In October 1975, garrison construction was finished.

7. (S/WN) Construction of the separate propellant storage facilities adjacent to the garrison was started at the same time as the garrison construction and continued well after the garrison was operational. Prior to completion of the three propellant storage caves, two large cylindrical tanks were temporarily placed in a graded area southeast of the three-bay GSE storage building in the garrison (Figure 5). In November 1977, the tanks were gone and probably had been installed in the caves. The propellant storage facility had been completed by August 1978.

Missile System Association and Activity

8. (S/WN) A CSS-1/CSS-2 missile checkout tent (12 sections, totaling 24 meters in length) was erected in the garrison and was gone suggesting that missile-related training/storage/deployment activity had occurred.

25X1

INSTALLATION OR ACTIVITY NAME	COUNTRY
Tonghua SSM Launch Complex Garrison 2A	CH

UTM COORDINATES	GEOGRAPHIC COORDINATES
NA	41-25-10N 126-02-10E

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0290-17, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
Jan 82	Dec 67

BASIC DESCRIPTION

Location

1. (S/WN) Tonghua SSM Launch Complex Garrison 2A, originally designated Launch Site 2 West Support Area, is one of five type B missile support bases within Tonghua Missile Launch Complex SSM, China (Figure 1). Garrison 2A is situated in Tonghua Launch Group B (Figure 6), approximately 36 km by road from Tonghua SSM RTP 2 [redacted] 750 meters east of the mouth of the narrow, forested stream valley which also contains Tonghua SSM Launch Site Garrison 2 [redacted] There is a separate security post at the entrance to Complex Garrison 2. The complex garrison contains above-ground and below ground facilities for missile checkout/storage and storage of GSE and a barracks area. Aboveground power and communications lines and a buried communications cable serve the base. A 4.6-meter-square concrete launch pad for missile crew training is located in the northeast corner of the garrison, approximately 200 meters from the garrison service road (Figure 7).

Missile and GSE Storage

2. (S/WN) Aboveground missile and GSE storage is provided by a double-bay, drive-in missile checkout/storage building, [redacted] in the east-central portion of the vehicle storage area and [redacted], drive-through RIM building. The RIM building has a high-bay, gable-roofed center section which allows for operation of an overhead crane. Additional aboveground storage is provided by eight GSE storage buildings located in two rectangular areas in the southeast corner of the garrison. Three inline vehicle storage buildings are interconnected by two shorter, gable-roofed structures which are probably for offices and repair equipment storage. A third similar structure is attached to the south end of the southernmost garage. The adjacent GSE storage area consists of four multibay garages, the RIM building, and a checkout/storage building. There is a total of 46 drive-in vehicle storage bays in the garrison.

3. (S/WN) Underground missile and GSE storage is furnished by a single drive-in cave, located in the southwest corner of the garrison on the west side of a small stream. The cave is approximately 123 meters west of the garrison service road. A short, single-lane bridge connects the cave to the main road. Clamshell-type (convex) doors have been confirmed on the single entrance.

Other Storage

4. (S/WN) In the fall of 1972, construction of a POL storage bunker was confirmed. The bunker consists of an earth-covered concrete building containing storage tanks with an earthen ramp road leading to the top. At least four other cylindrical tanks have been installed adjacent to the southwest corner of the bunker. There are six other buildings within the garrison for personnel and general support, the largest of which [redacted] None are drive in.

Barracks and Housing Areas

5. (S/WN) The garrison contains eight barracks, one messhall, and one kitchen. All but two barracks are west of the garrison service road. Launch Complex Garrison 2A has 989 square meters of barracks floorspace to accommodate 215 personnel, housed as two separate company-sized units. Two basketball courts are at the north end of the garrison. 25X1

Construction Chronology and Status

6. (S/WN) Construction began between December 1967 and May 1968. In May 1968, six small housing/support buildings for construction workers were clustered west of the valley access road, adjacent to a single cave adit under excavation. The garrison was essentially operational by October 1968 when six additional buildings were added, including four multibay garages and the two-bay missile checkout building. An unimproved road extended from the service road east to the location where a training launch pad would eventually be built. Cave construction and road work continued during 1969 and 1970. Installation of the training pad occurred between July 1971 and February 1972.

7. (S/WN) From February 1972 through November 1974, the number of buildings in the garrison increased from 12 to 21; among them were six barracks and five garages. Refurbishment of a five-bay garage was completed during the period and clamshell-type doors were confirmed on the single drive-in cave. In 1975, a new support building was erected on an existing foundation on the west side of the south vehicle storage area. Three inline, multibay garages, present since 1968, were made into a single structure by the addition of two gable-roofed structures, each having a lower roof level than the garages. Four multibay garages and the [redacted] RIM building were added to the north GSE storage area in 1976 and 1977. All garages were completed by 1978, which provided the garrison with a total of 48 storage bays. During the period 1979–1981, construction activity was reduced and involved only minor modification/repair to existing structures. 25X1 25X1

Missile System Association and Activity

8. (S/WN) Facilities for maintenance and storage of missile-related equipment were available in the fall of 1968; however, low-resolution imagery prevented positive identification of GSE and system association until June 1971. Since that time, all GSE observed has been for the CSS-2. Quantities of GSE were high during 1972 and 1973, frequently numbering as many as 30 missile-related vehicles which included CSS-2 transporters, launch stand transporters, and propellent vehicles. By the fall of 1973, however, 25 vehicle storage bays were available and sightings of missile-related vehicles began to decrease substantially. Two electronics van trailers arrived at the garrison in March 1978 and have remained in the northeast corner of the south vehicle area. 25X1 25X1

9. (S/WN) In April 1974 and September 1979, activity involving one CSS-2 transporter was noted on or near the training launch pad. A missile launch stand has been noted on the training pad on at least four separate occasions [redacted] 25X1

10. (S/WN) Missile equipment activity declined during 1980 and 1981. In May 1980, a launch stand transporter and three prime movers were near the GSE storage building. In addition to the equipment seen in May, three truck-mounted cranes arrived in June 1980. The garrison was observed on 14 occasions from July 1980 through January 1982 and no missile-related activity was noted.

Imagery Analyst's Comments

11. (S/WN) Although smaller than the typical structure used for RIM purposes, the presence of the high-bay, RIM-type building suggests that these functions, previously performed at Tonghua RTP 1 (BE [redacted], may be performed at Complex Garrison 2A. However, the unique size and lack of other support buildings known to be associated with the RIM functions is an indication that the high-bay building observed here may serve primarily as a vehicle maintenance building. 25X1 25X1

25X1

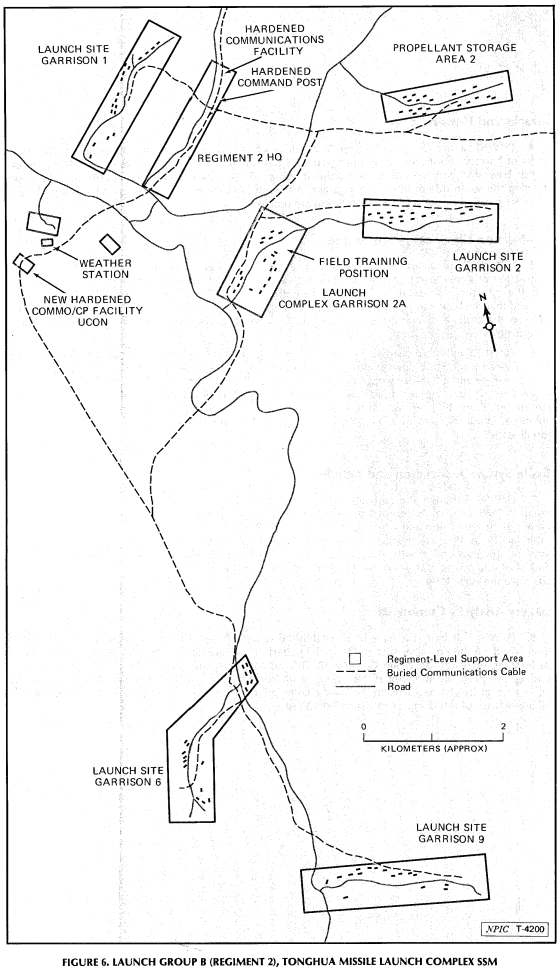

FIGURE 6. LAUNCH GROUP B (REGIMENT 2), TONGHUA MISSILE LAUNCH COMPLEX SSM

INSTALLATION OR ACTIVITY NAME		COUNTRY
Tonghua SSM Launch Complex Garrison 3		CH
UTM COORDINATES	GEOGRAPHIC COORDINATES	
NA	42-03-55N 126-00-15E	

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0290-12, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
Feb 82	May 69

BASIC DESCRIPTION

Location

1. (S/WN) Tonghua SSM Launch Complex Garrison 3, formerly known as the East Support Area of Tonghua SSM Regimental Headquarters 3[redacted], is one of five type B missile support bases within the Tonghua Missile Launch Complex SSM, China (Figure 1). The garrison is in Tonghua Launch Group C (Figure 8), approximately 50 km by road from Tonghua SSM RTP 3[redacted]. The garrison is situated in a narrow, forested valley. Launch Complex Garrison 3 (Figure 9) contains aboveground facilities for missile checkout/storage and GSE storage, and a barracks area. Construction of a GSE storage cave was started but abandoned before it was complete.

Missile and GSE Storage

2. (S/WN) Aboveground missile and GSE storage is provided by a two-bay, drive-through missile checkout and storage building and one five-bay garage. Though shorter than the typical 24-meter-long missile checkout/storage building, the double-bay building[redacted] and was built to accommodate the SRBM. Prior to the spring of 1975, the total number of GSE bays was 14 in three garages; however, two garages were razed at that time, decreasing vehicle storage capacity to five bays.

Other Storage

3. (S/WN) No other storage was observed.

Barracks and Housing Areas

4. (S/WN) Launch Complex Garrison 3 contains six barracks and one messhall, providing 575 square meters of barracks floorspace to accommodate 125 personnel in one company-sized unit. The garriso25X1 has two basketball courts—one in the northeast corner of the base near a barracks area, and the other adjoining the south side of the five-bay garage. Although both courts have been used for storing locally harvested wood, they do have backboards and are usable.

Construction Chronology and Status

5. (S/WN) Construction of the garrison was initiated between November 1968 and May 1969 with construction of a new road that extended into the valley from the main east/west highway. By December 1969, the garrison contained 12 buildings, including the missile checkout/storage building, which indicated that the base was probably usable at that time. Spoil from the cave excavation was also present. Work on the storage cave and the addition/modification of construction support buildings continued through 1974.

6. (S/WN) Detectable changes in construction progress and numbers of support buildings in early 1975 indicated a probable downgrading of the garrison to a lesser role, relative to SSM deployment. A four-bay garage and a five-bay garage in the south end of the garrison were dismantled along with most of the construction support buildings. Rails for the spoil removal carts used in cave excavation deteriorated. From 1976 through 1979, activity declined and removal of construction support structures continued. Dismantlement of a building and a support barracks in early 1980 brought the base to it25X1 present status.

25X1

Missile System Association and Activity

7. (S/WN) Although the garrison was functional and the missile checkout/storage building was present in 1969, constraints imposed by low-resolution imagery prevented confirmation/identification of missile system association and equipment prior to 1971. While construction support vehicles were noted at this facility in 1972, no missiles or related GSE has been confirmed within the garrison. Failure to complete underground missile storage facilities, lack of missile-related equipment/activity, and the removal of equipment and personnel housing indicate that the base has not been used for operational units since the early 1970s.

25X1 25X1

[redacted]

25X1

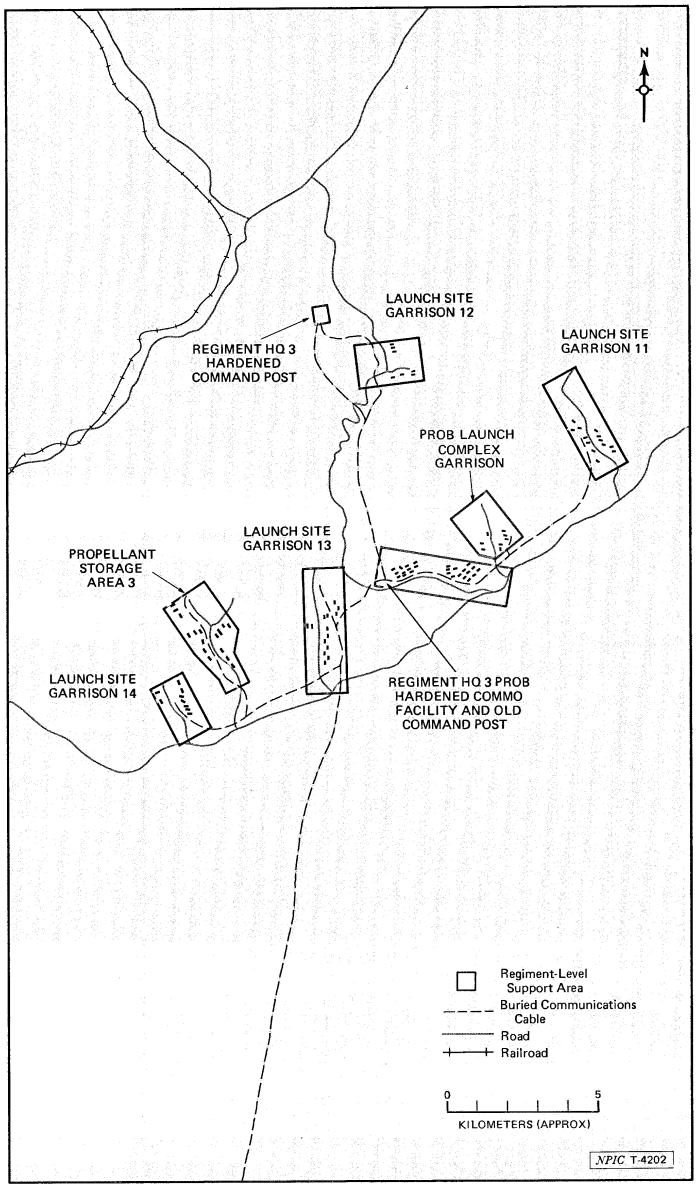

FIGURE 8. LAUNCH GROUP C (REGIMENT 3), TONGHUA MISSILE LAUNCH COMPLEX SSM

Z-14578/82

RCA-01/0006/82

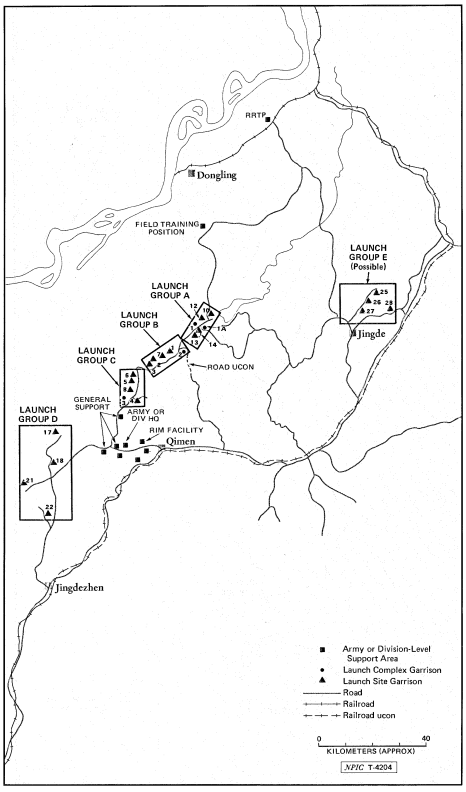

FIGURE 1. LIANXIWANG MISSILE LAUNCH COMPLEX SSM, CHINA

LIANXIWANG MISSILE LAUNCH COMPLEX SSM (S)

1. (S/WN) The Lianxiwang Missile Launch Complex SSM [redacted] is in east-central China 160 km south-southwest of Nanjing in Anhwei Province. The complex is in a mountainous area of narrow valleys and steep ridges. Although the general area is accessible by rail, road, and water, the complex itself is served only by road and during construction could only be reached from the north. The nearest rail line to the north is at the town of Dongling, 75 km away. Another rail line is under construction across the eastern edge of the complex. Port facilities along the Yangtze River are 50 km northwest of the complex. 25X1

2. (S/WN) The complex contains 16 launch site garrisons (type C missile support bases) divided into four launch groups (A through D), four possible launch site garrisons which would constitute a fifth launch group (group E) and four type B missile support bases. A field training position (Lianxiwang Field Training Position [redacted] an RTP (Lianxiwang SSM RTP, [redacted] a RIM facility (Lianxiwang SSM RIM Facility, BE [redacted] have also been identified. 25X1 25X1 25X1

3. (S/WN) Construction at the complex was started between September 1965 and January 1967. The first launch complex garrison (a type B missile support base) was completed in 1966–1967. A total of four type B bases were constructed. The first launch site garrison (a type C missile support base) was initially complete by December 1970, and some of the launch areas were usable by late 1968–1969. Launch Group E, which was still under construction, is considered to be a possible launch group.

4. (S/WN) SSM GSE has been observed consistently at the complex since early 1972. CSS-1 GSE was first discernible in February 1972, followed by the first observation of CSS-2 GSE in August 1972. Poor resolution and infrequent photographic coverage precluded identification of missile equipment prior to 1972, except at the RTP, which was first operating in 1966 or 1967.

Z-T4578/82

RCA-01/0006/82

INSTALLATION OR ACTIVITY NAME		COUNTRY
Lianxiwang SSM Launch Complex Garrison 1		CH
UTM COORDINATES	GEOGRAPHIC COORDINATES	
NA	30-20-18N 117-51-09E	

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0493-14, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
Jan 82	Aug 65

BASIC DESCRIPTION

Location

1. (S/WN) Lianxiwang SSM Launch Complex Garrison 1, originally designated MRBM Support Facility and later SSM Support Facility and SSM Garrison Support Area 1, is one of four type B missile support bases within Lianxiwang Missile Launch Complex SSM, China (Figure 1). The garrison is in Lianxiwang Launch Group A (Figure 2), approximately 122 km by road from the SSM RTP and approximately 96 km from the SSM RIM facility. The garrison is in a narrow, forested stream valley which extends approximately 3 km north from the main highway. Lianxiwang Garrison 1 contains aboveground and below ground areas for missile and GSE storage, barracks areas in six geographically separate locations, and a missile unit training area (Figure 3).

Missile and GSE Storage

2. (S/WN) Surface missile and GSE storage is provided by two double-bay, drive-in missile checkout/storage buildings, side-by-side in the north end of the garrison. Additional aboveground storage is provided by five GSE storage buildings with a combined capacity of 30 vehicle bays. Underground missile and GSE storage is available in two drive-in caves situated approximately 275 meters apart in the north end of the base.

Other Storage

3. (S/WN) No other storage was discernible.

Barracks and Housing Area

4. (S/WN) The garrison contains 20 barracks and five messhalls situated in six physically separate areas (Figure 3, A through D). Launch Complex Garrison 1 contains 2,881 square meters of barracks floorspce to accommodate 626 personnel, probably representing five company-sized units. An auditorium/classroom building (Figure 3C) is adjacent to a 98- by 32-meter, packed-earth field, where missile unit training has been observed. The base contains four basketball courts. The northernmost basketball court also serves occasionally as a GSE parking area.

Construction Chronology and Status

5. (S/WN) Construction of the base was begun in September 1965 when an unimproved road extended into the valley, and excavation of the storage caves was in progress. On the next usable imagery in January 1967, a double-bay, SRBM-sized checkout building was complete, indicating that the base was usable. Two new double-bay missile checkout/storage buildings (Figure 3D) were under construction at the north end of the garrison. Improvements were being made to the garrison service road and work continued at the two cave excavation sites. At that time (January 1967), the base contained 40 to 44 buildings.

6. (S/WN) By November 1967, two double-bay checkout/storage buildings (Figure 3D) had been completed and the construction of three additional missile checkout/storage buildings (Figure 3C) was underway. Cave construction continued and the number of buildings in the garrison increased from 44 to at least 55. Construction continued in 1968 and 1969. By December 1970, there were six completed missile checkout/storage buildings with nine missile checkout/storage bays. In July 1972, the two missile and GSE storage caves were complete and two, probably single-bay, missile checkout/storage buildings were removed. During 1973, a single-bay, drive-through missile checkout/storage building and the SRBM double-bay checkout/storage building were razed (Figure 3C). This decreased the number of missile checkout/storage buildings to two and storage bays to four. From 1974 through 1976, two small support buildings were removed and a second water reservoir (Figure 3D) was constructed in the extreme north end of the valley. No construction/dismantlement activity was noted from 1976 to February 1982.

Missile System Association and Activity

7. (S/WN) Although the garrison was essentially complete and probably in use in 1966 or 1967, confirmation/identification of missile equipment could not be made due to constraints imposed by low-resolution imagery. In July 1972, missile GSE was confirmed in the garrison for the first time. A CSS-1 T/E, one CSS-1 cryogen trailer, seven support vans, and six cargo trucks remained in the base through August. The amount of GSE observed in the facility declined until June 1973 when the major elements of a CSS-1 unit were observed. Missile equipment seen during the period included a CSS-1 T/E, three oxidizer trailers, four fuel transporters, and an A-frame crane.

8. (S/WN) During 1974 and 1975, the level of missile equipment activity remained somewhat constant, with CSS-1 T/E activity confirmed on five separate occasions. Other elements of the CSS-1 GSE complement, together with two warhead vans, were present over a 16-month period. Equipment sightings were infrequent during the four years prior to 1980. In May 1980, CSS-2 missile support equipment was first verified in the garrison. A truck-mounted crane, six CSS-2 propellant vehicles, one warhead van, and three other support vehicles were noted. Similar CSS-2 activity also took place in October 1980. No significant sightings of missile support equipment occurred through January 1982.

9. (S/WN) From July 1972 through July 1978, missile crew training was observed in the garrison training area on seven occasions. Initial sightings of missile GSE during July and August 1972 were confirmed as training related. In August 1973, probable training of propellant-handling personnel was noted when four CSS-1 fuel trucks, three oxidizer trailers, and a CSS-1 T/E were in the training area (Figure 3C). A canvas-covered CSS-1 T/E was present again in September 1974 and in June 1975. With the completion/enlargement of complex training facilities at Lianxiwang SSM Training Launch Site 1 in 1975, occurrences of GSE in the training area virtually ended. The only activity observed within the garrison training area was in July 1978 and in 1981 when vehicle tracks indicated that driver training had occurred.

Imagery Analyst's Comments

10. (S/WN) In addition to location, the chronology of construction and missile system association show that Lianxiwang Launch Complex Garrison 1A and Garrison 1 are closely associated and are probably one organizational entity. They were complete and usable before Launch Group A and other parts of the complex. The size of both garrisons, taken together, indicates that they could accommodate a regiment-sized unit.

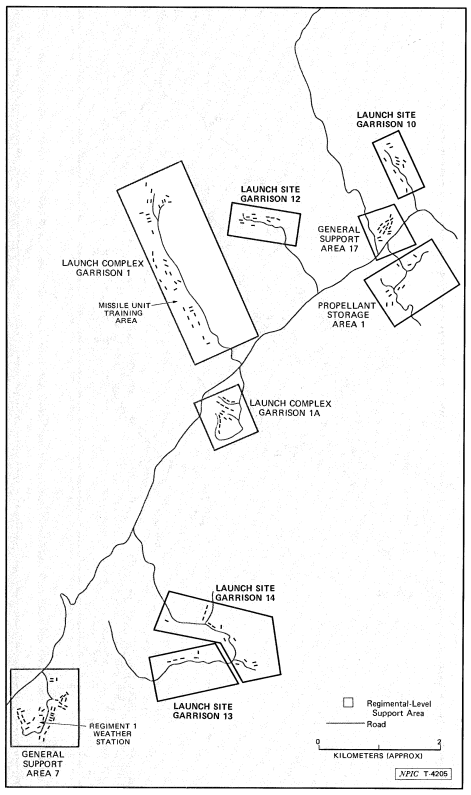

FIGURE 2. LAUNCH GROUP A (REGIMENT 1), LIANXIWANG MISSILE LAUNCH COMPLEX SSM

INSTALLATION OR ACTIVITY NAME	COUNTRY
Lianxiwang SSM Launch Complex Garrison 1A	CH

UTM COORDINATES	GEOGRAPHIC COORDINATES
NA	30-18-23N 117-51-34E

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0493-14, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
Jan 82	Sep 65

BASIC DESCRIPTION

Location

1. (S/WN) Lianxiwang SSM Launch Complex Garrison 1A, originally designated General Support Area 8, is one of four type B missile support bases within Lianxiwang Missile Launch Complex SSM, China (Figure 1). Although Garrison 1A is in Lianxiwang Launch Group A, it is possibly not subordinate to that group (Figure 2). The garrison is approximately 118 km by road from the SSM RTP and approximately 92 km from the SSM RIM facility. The garrison is situated in three parallel ravines approximately 1 km from the main highway and is surrounded by cultivated fields. Launch Complex Garrison 1A contains aboveground storage for missiles and GSE and barracks (Figure 4). An electric substation is near the center of the garrison.

Missile and GSE Storage

2. (S/WN) Aboveground storage for missiles and GSE is provided by drive-in missile checkout/storage buildings, one double bay and one single bay. Additional aboveground GSE storage is provided by five multibay garages having a combined total of 20 vehicle bays and one single-bay GSE storage building 20 meters long and accessible only from the end. It is probably used for A-frame or gantry crane storage, equipment which will not fit in a standard GSE garage-type building. The garrison contains no underground missile or GSE storage facilities.

Other Storage

3. (S/WN) Ten small support buildings and two general storage/warehouse buildings are dispersed within the garrison. A single cylindrical POL storage tank was placed adjacent to the west end of the seven-bay garage in the center valley. In 1980, eight small cylindrical POL-type tanks were in the north end of the center valley. At least five of the tanks were probably buried approximately 112 meters north of the seven-bay garage, near the east end of a barracks.

Barracks and Housing Areas

4. (S/WN) Seventeen barracks and five messhalls are situated among the three small valleys. Launch Complex Garrison 1A contains 1,488 square meters of barracks floorspace to accommodate 324 personnel, probably representing three company-sized units. There are three basketball courts, one in each valley, which also serve occasionally as vehicle parking areas.

Construction Chronology and Status

5. (S/WN) Construction of Garrison 1A was probably begun in early 1966. In January 1967, the service road and ten buildings, including the missile checkout and storage buildings, were complete. By November 1967, 34 buildings had been completed and the garrison was probably usable. Between 1968 and 1977, only the addition of three small support buildings and minor roof repairs were observed. A temporary storage building on the south side of the garrison service road was razed in October 1977. This represented the only significant change until 1980. Installation of POL-type storage tanks in the center valley began in 1980, and related excavation activity continued through June 1981.

Missile System Association and Activity

6. (S/WN) The base was usable in 1967; however, confirmation/identification of equipment storage buildings, missile checkout buildings, and barracks/support structures could not be made until 1971 because of constraints imposed by low-resolution imagery. The presence of a CSS-1 launch stand transporter, an A-frame crane, and a launch support van in March 1973 was the first confirmation of missile GSE in the garrison. In June 1974, a truck-mounted crane, a launch stand transporter, and three support vans were in the garrison. CSS-1 equipment including fuel transporters, a warhead van, and launch support vans was noted on imagery between 1973 and 1980. The first CSS-2 GSE was observed in the garrison when a probable CSS-2 transporter or T/E was noted [redacted] a CSS-2 transporter (T/E) was confirmed in the center valley just north of the two-bay checkout building. The presence of CSS-1/2 GSE has been detected as recently as June 1981. A truck-mounted crane and one warhead van remained in the garrison through January 1982.

Imagery Analyst's Comments

7. (S/WN) The location, chronology of construction, and missile system association indicate that Lianxiwang SSM Complex Garrison 1 [redacted] and Garrison 1A are closely associated and are probably one entity. They were complete and usable before Lianxiwang Launch Group A and other parts of the complex. The size of both garrisons, taken together, indicates that they accommodate a regiment-sized unit.

25X1

25X1

25X1

25X1

INSTALLATION OR ACTIVITY NAME	COUNTRY
Lianxiwang SSM Launch Complex Garrison 2	CH

UTM COORDINATES	GEOGRAPHIC COORDINATES
NA	30-13-11N 117-48-03E

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0493-14, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
Jan 82	May 65

BASIC DESCRIPTION

Location

1. (S/WN) Lianxiwang SSM Launch Complex Garrison 2, originally designated SSM Launch Site 9, then General Support Area 10, and later Garrison Support Area 2, is one of four type B missile support bases within Lianxiwang Missile Launch Complex SSM, China (Figure 1). The garrison is located in Launch Group B (Figure 5), approximately 152 km by road from the SSM RTP and approximately 87 km from the SSM RIM facility. Situated in a narrow stream valley, the garrison extends approximately 650 meters south from the main highway. The garrison contains barracks, aboveground missile and GSE storage facilities, and below ground storage facilities for GSE only (Figure 6).

Missiles and GSE Storage

2. (S/WN) Aboveground missile and GSE storage is provided by a single-bay, drive-in missile checkout/storage building and three multibay garages with a combined total of 20 vehicle bays.

Other Storage

3. (S/WN) In July 1972, six cylindrical POL-type storage tanks were noted approximately 350 meters south of the site entrance and west of the garrison service road. In 1973, the number of tanks increased to nine. During 1976, the tanks were removed and the space was used for vehicle parking.

Barracks and Housing Areas

4. (S/WN) The garrison contains eight barracks and two messhalls situated in close proximity to the equipment storage areas. Launch Complex Garrison 2 contains 1,003 square meters of barracks floorspace to accommodate 218 personnel, representing two company-sized units. Two basketball courts are within the garrison area. One court, adjacent to the multibay garages, is frequently used for GSE parking. Additional structures include one dining hall/food storage building and five small support or general storage buildings.

Construction Chronology and Status

5. (S/WN) The facility was in an initial stage of construction in the fall of 1965. An unimproved road extended into the valley, and the construction of housing for workers was underway. By January 1967, at least three temporary housing/support buildings for construction workers were present and facility road improvement was in progress. Work continued in November 1967, including establishment of an additional construction workers' support area northwest of the garrison entrance adjacent to the main highway. By November 1967, the garrison contained approximately nine permanent buildings including the drive-in missile checkout and storage building, which indicated that the base was usable. Early excavation of the two storage caves was noted. Construction continued during 1968 and 1969. Evidence of construction completion was detected in 1970 when the number of construction support buildings was reduced by five. Except for minor changes, the garrison had achieved its present form by the summer of 1972. Excavation of underground storage facilities was complete and the base contained 12 permanent buildings. A barracks, two small support sheds, and a basketball court were added in 1974 – 1975; [redacted] footings for a multibay garage were present; [redacted] the new ten-bay building had been completed. This doubled the total number of vehicle storage bays, bringing the number to 20. No other construction was noted through January 1982.

Missile System Association and Activity

6. (S/WN) Though construction continued through 1972, the garrison was initially usable in 1967 when the missile checkout and storage building and GSE garages were complete. Confirmation/identification of missile equipment could not be made because of the poor interpretability of available imagery. In July 1973, missile GSE was confirmed in the garrison for the first time. CSS-1 propellant-related vehicles, launch support vehicles, and a probable CSS-1 T/E were in the facility. Support equipment for the CSS-2 missile system was first seen at the base in 1975. In addition to elements of a CSS-1 missile GSE complement, CSS-2 propellant transporters, support vans, and a warhead van were noted [redacted]

7. (S/WN) Quantities of GSE related to both CSS-1 and CSS-2 systems remained relatively constant during 1976 and 1977. Vehicle tracks within the garrison and variations in parking procedure and location, probably related to driver training, continued to be observed. The amount of CSS-2 equipment increased significantly in 1978 and 1979, along with a noticeable decrease in CSS-1 equipment activity. Repeated sightings of ten or more CSS-2 propellant trucks as well as one to three control/alignment vans and truck-mounted cranes occurred during the period. Following a decline in equipment movement in 1980, CSS-1 and CSS-2 activity increased in the spring of 1981; [redacted] ten CSS-2 support vans, 11 CSS-2 propellant trucks, and a warhead van were in the garrison. This equipment was present [redacted] at which time it was probably relocated because of the space requirements of equipment and materials needed during construction of a new garage. After construction work ended, ten CSS-2 propellant trucks and two CSS-1 fuel trucks remained in the garrison through early January 1982, confirming that the base continues its dual-system association.

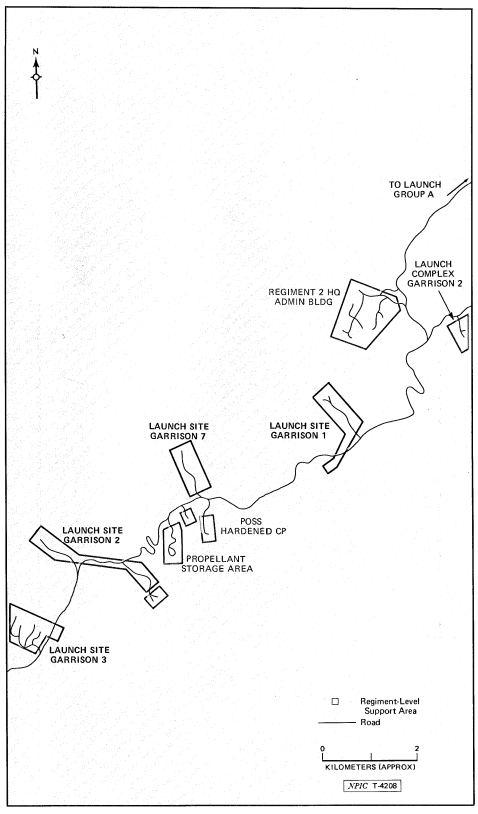

FIGURE 5. LAUNCH GROUP B (REGIMENT 2), LIANXIWANG MISSILE LAUNCH COMPLEX SSM

INSTALLATION OR ACTIVITY NAME	COUNTRY
Lianxiwang SSM Launch Complex Garrison 3	CH

UTM COORDINATES	GEOGRAPHIC COORDINATES
NA	30-03-13N 117-34-11E

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0493-13, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
Jan 82	Dec 70

BASIC DESCRIPTION

Location

1. (S/WN) Lianxiwang SSM Launch Complex Garrison 3, formerly designated General Support Area 19, is one of four type B missile support bases within Lianxiwang Missile Launch Complex SSM, China (Figure 1). The facility is approximately 179 km by road from the SSM RTP and approximately 51 km from the SSM RIM facility. Situated in a broad, level area of cultivated fields, the garrison is centrally located within Launch Group C (Figure 7), approximately 0.4 km west of the main highway. The garrison contains aboveground facilities for missile checkout/storage, garages for GSE, and a small vehicle service area (Figure 8). Barracks and mess facilities are on the west side of the garrison, generally separate from the missile-related buildings.

Missile and GSE Storage

2. (S/WN) Aboveground missile storage is provided by a 29- by 13-meter, double-bay, drive-through missile checkout/storage building and a 26- by 9-meter, single-bay, drive-in building. GSE storage is furnishe by four garages, two with 18 bays each, one with three bays, and one with five bays. The garrison contains no underground missile or GSE storage.

Other Storage

3. (S/WN) A possibly related area, Lianxiwang Regiment 3 Support Area D [redacted] consists of two caves (possibly drive in) located approximately 150 meters west of the garrison. Though not directly linked by road, the related area is cable connected to the garrison. [redacted]

[redacted]

Barracks and Housing Areas

5. (S/WN) The base contains ten barracks and two messhalls in a consolidated support area situated primarily west of the GSE and missile-related buildings. Launch Complex Garrison 3 contains 1,407 square meters of barracks floorspace to accommodate 306 personnel, representing two company-sized units. There are two basketball courts within the base. One is south of the support area access road and is also used as a vehicle parking area, and the other is in the center of the garrison. 25X1

Construction Chronology and Status

6. (S/WN) Launch Complex Garrison 3 was in the initial stage of construction in January 1972 and consisted of three buildings in a graded clearing surrounded by cultivated fields. A foundation for a fourth building was adjacent to the south edge of the graded area. In March 1973, a foundation for a fifth building was under construction. By December, two new buildings had been erected in the area which would eventually become the northeast corner of the garrison.

7. (S/WN) Work continued during 1974, by which time the base consisted of ten completed structures and three structures under construction. In January 1975, the garrison contained one single-bay missile checkout/storage building, four barracks, three support buildings, two messhalls, and two buildings still under construction. Following the completion of the double-bay, drive-through missile checkout/storage building in the fall of 1976, the garrison service road was straightened, widened, and resurfaced. After a 3-year hiatus, the expansion of garrison facilities resumed in 1980. In addition to a new barracks, a loading dock was built in the center of the GSE storage area. The GSE buildings were also fence secured by connecting the outer walls of the buildings on the perimeter. Wall supports for a new five-bay garage were identified [redacted] the building had been completed and the garrison had reached its present form. 25X1

[redacted] 25X1

Missile System Association and Activity

9. (S/WN) With the completion of the single-bay missile checkout/storage building in 1972, the garrison was first usable. Three CSS-1-associated, van-bodied trucks were identified in the garrison in August 1975. This was the first confirmation of missile GSE in the facility. In July 1976, two CSS-1 cryogenic trailers, a probable launch stand transporter, and four support vehicles were in the garrison. Sightings of small quantities of CSS-1 GSE continued with regularity through 1979. 25X1 25X1 25X1

10. (S/WN) Following the arrival of CSS-2 GSE at the base in 1980, CSS-1 equipment sightings declined. During 1980, three to six CSS-2 propellant transporters and control/alignment or support vans were in the garrison. A CSS-2 transporter was in the GSE storage area [redacted] and CSS-2 equipment activity continued into early 1981. Beginning in April 1981, CSS-1 equipment sightings became more frequent and [redacted] a CSS-1 T/E was observed. [redacted] the CSS-1 T/E was gone. One warhead van, two to six CSS-2 propellant transporters, one cryogenic trailer, four support vans, and one launch stand transporter remained in the garrison through January 1982. 25X1 25X1

25X1

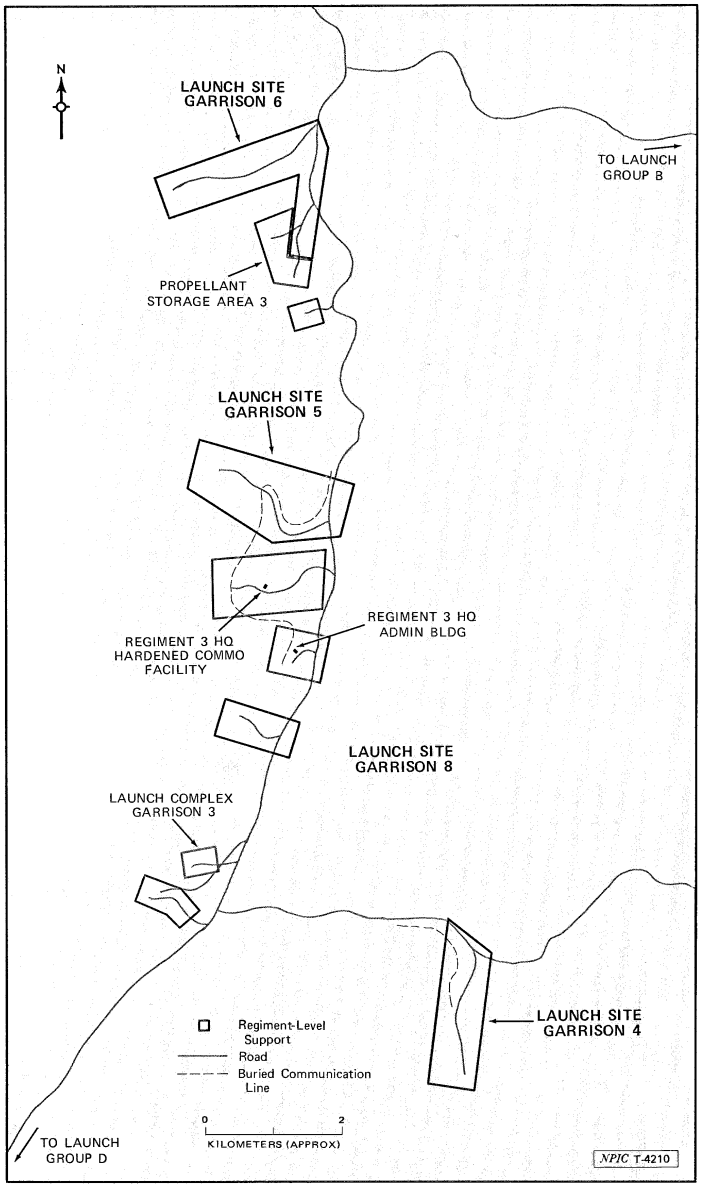

FIGURE 7. LAUNCH GROUP C (REGIMENT 3), LIANXIWANG MISSILE LAUNCH COMPLEX SSM

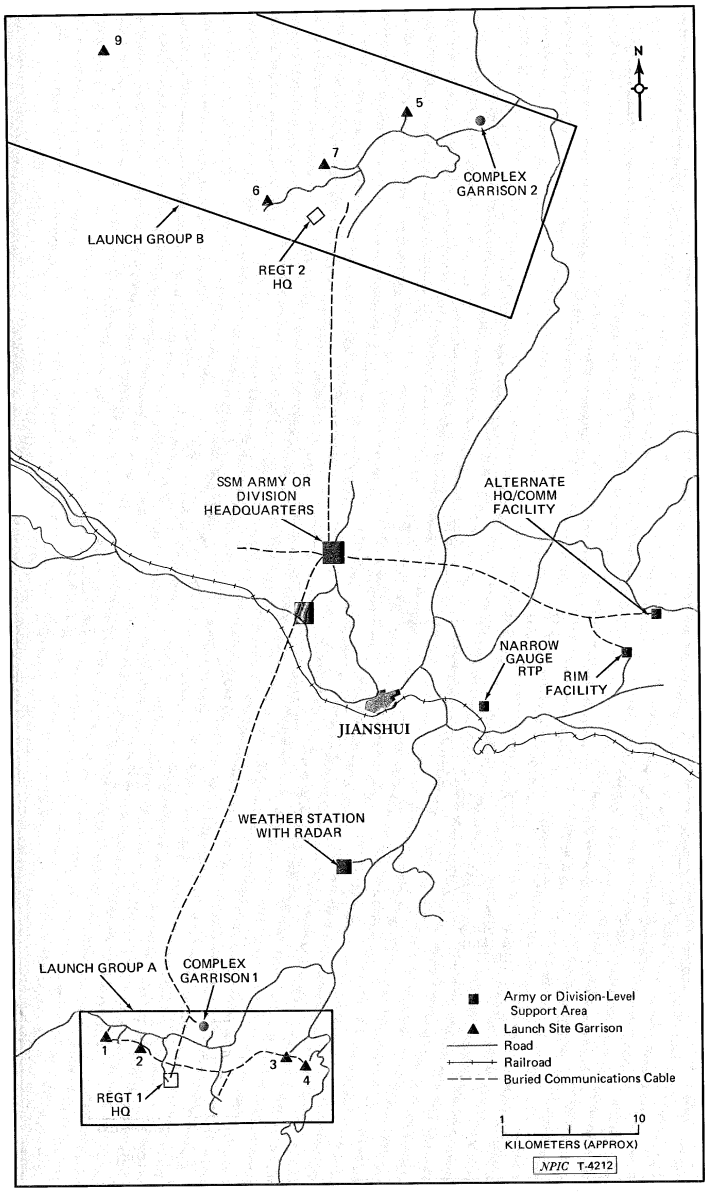

FIGURE 1. JIANSHUI MISSILE LAUNCH COMPLEX SSM, CHINA

JIANSHUI SSM MISSILE LAUNCH COMPLEX (S)

1. (S/WN) The Jianshui SSM Missile Launch Complex [redacted] is in southwest China, 120 km south of Kunming and 45 km north of the Vietnamese border. The complex contains eight launch site garrisons (type C missile support bases) and two launch complex garrisons (type B missile support bases). The launch site garrisons are organized by groups of four into a total of two launch groups, designated A and B (Figure 1). Each launch group is administered by a regiment-level headquarters, SSM regiment headquarters 1 and 2, respectively. One SSM army or division headquarters installation has been identified in Jianshui. 25X1

2. (S/WN) The launch site garrisons are served directly by road. Paved all-weather roads lead to each launch group, but roads within the launch group are composed of packed earth that is probably overlain with gravel. There is only narrow-gauge rail service directly to the complex, and the specialized missile railcars and propellant railcars cannot use this service. The nearest standard-gauge rail service is at the Kunming SSM RTP [redacted] in Kunming. Electric power is supplied from the local power grid via aboveground lines. Aboveground and buried communications lines extend to all the launch site garrisons. 25X1

3. (S/WN) The garrisons and support areas of the Jianshui complex are in separate valleys in a mountainous and forested area surrounding the city of Jianshui. The climate is moderate and temperatures are rarely below freezing. The rainfall is about 40 inches (1,000 millimeters), occurring mostly between May and August. The steep mountainsides provide the isolation and physical security for the missile installations. Fences are not used. There are guardposts along the access road to each valley where a missile installaton is located. There is a lift gate across the road leading to each launch site garrison.

4. (S/WN) Jianshui complex is probably closely associated with the Kunming SSM Field Garrison [redacted] the Kunming SSM Training Launch Site 1 [redacted] and the Kunming SSM RTP. The RTP is the nearest rail service to Jianshui, and the training positions are the only field training areas identified in the region. SRBMs were based at the Kunming SSM Field Garrison in 1966; CSS-1 MRBMs arrived in 1967. Construction at the Jianshui complex was also started in 1967. The first observation of missile equipment at Jianshui was not until 1972 when in July, CSS-2 GSE was observed in Launch Group A. CSS-1 MRBM GSE, identified in Launch Group B in 1976, was the first missile equipment observed in that launch group. 25X1 25X1

Z-14578/82

RCA-01/0006/82

INSTALLATION OR ACTIVITY NAME		COUNTRY
Jianshui Launch Complex Garrison 1		CH
UTM COORDINATES	GEOGRAPHIC COORDINATES	
NA	23-24-49N 102-46-57E	

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0616-2, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (if required)
Jan 82	Jul 74

BASIC DESCRIPTION

Location

1. (S/WN) Jianshui SSM Launch Complex Garrison 1, formerly known as Jianshui Missile Support Facility, is one of two type B missile support bases within Jianshui Missile Launch Complex SSM, China (Figure 1). The garrison is situated in Launch Group A (Figure 2), approximately 284 km by road from the Kunming SSM RTP, the nearest SSM RTP to the complex, and approximately 42 km from the Jianshui SSM RIM Facility. The garrison is situated in a forested, level foothill area in the north-central section of Launch Group A and is bounded on three sides by the Regimental Headquarters 1 Support Area A. Electricity and communications lines serve the installation. The launch complex garrison contains aboveground storage areas for missiles and GSE and a barracks area (Figure 3).

Missile and GSE Storage

2. (S/WN) Missile and GSE storage is provided by two double-bay, drive-in missile checkout/storage buildings. Additional storage is furnished by seven GSE storage buildings, four in the walled compound containing the missile checkout and storage buildings and three approximately 200 meters to the south. There is a total of 48 drive-in vehicle storage bays in the garrison. The base contains no underground storage for missiles or GSE.

Other Storage

3. (S/WN) A POL storage area, partially underground, is located on the west edge of the garrison. Regiment Headquarters 1 Support Area A contains a motor pool and its garages could be used to store additional GSE.

Barracks and Housing Areas

4. (S/WN) The garrison contains 11 barracks and three messhalls. Launch Complex Garrison 1 has 1,631 square meters of barracks floorspace to accommodate 354 personnel. They are housed as three company-sized units or two company-sized units and two platoons of a third company. The garrison contains two basketball courts.

Construction Chronology and Status

5. (S/WN) Construction of the garrison began between July 1974 and April 1975 when foundations for the drive-in missile checkout buildings and three vehicle storage buildings were observed. By November, these buildings had been completed and the base was initially usable. During 1976 and 1977, construction of additional housing was underway in the garrison. In 1978, all barracks-related construction was finished and the garrison had achieved its present form. No construction activity or status changes occurred from 1979 through February 1982, the date of latest available imagery.

Missile System Association and Activity

6. (S/WN) No missile GSE has been confirmed inside the fence-enclosed missile checkout/storage area. In the vehicle storage area a truck-mounted crane and a launch support van were present in December 1976. On three occasions in 1977, CSS-2 activity involving propellant transporters, a cherry-picker, and other support vehicles was observed. the complement also contained a warhead van. No significant equipment activity occurred during 1978 and 1979, except for the presence of a van-bodied truck and a "figure-eight" driver-training course within the enclosed missile checkout area. three CSS-2 T/Es, a truck-mounted crane, and a prime mover were in the Regimental Headquarters 1 Support Area A motor pool just west of the garrison. the GSE training or maintenance activity had ended. No movement of missile GSE was detected during all of 1981 and January 1982.

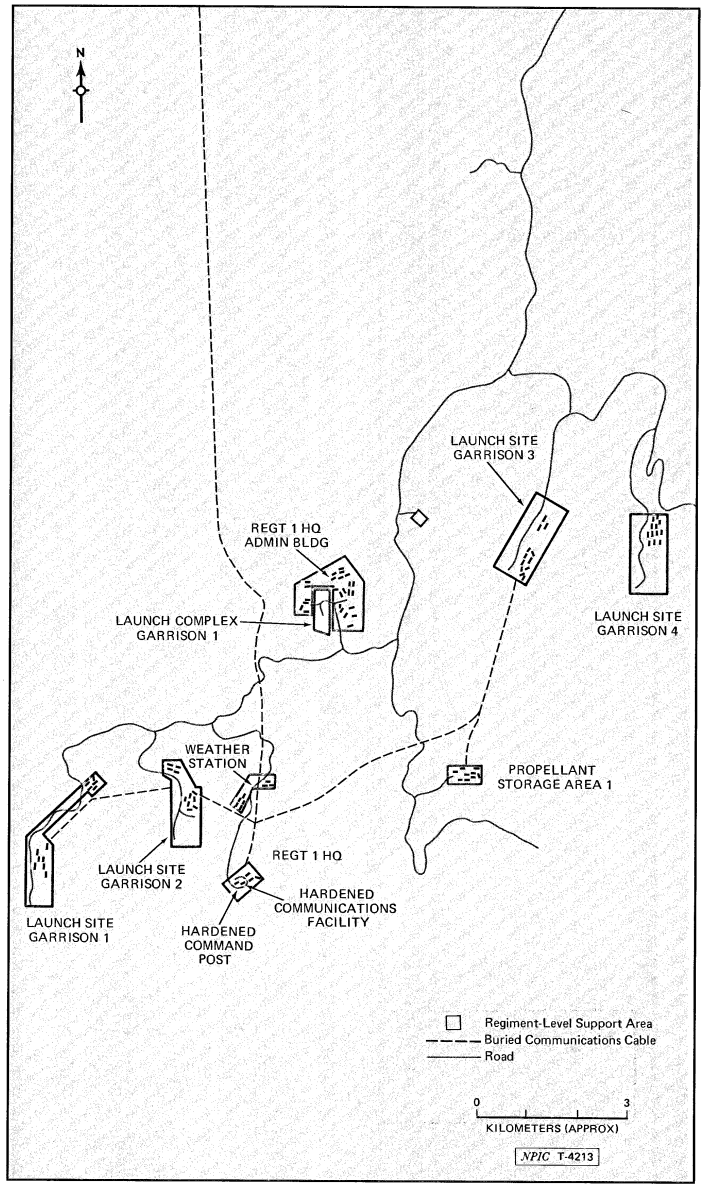

FIGURE 2. LAUNCH GROUP A (REGIMENT 1), JIANSHUI MISSILE LAUNCH COMPLEX SSM

INSTALLATION OR ACTIVITY NAME	COUNTRY
Jianshui SSM Launch Complex Garrison 2	CH

UTM COORDINATES	GEOGRAPHIC COORDINATES
NA	23-56-20N 102-46-30E

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0616-2, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
Jul 81	Feb 74

BASIC DESCRIPTION

Location

1. (S/WN) Jianshui SSM Launch Complex Garrison 2, formerly the vehicle maintenance/storage area within Jianshui Main Support Base, is one of two type B missile support bases within the Jianshui Missile Launch Complex SSM, China (Figure 1). The garrison is in Jianshui Launch Group B (Figure 4), approximately 180 km by road from the Kunming SSM RTP [redacted] and approximately 69 km from the Jianshui SSM RIM Facility [redacted] Situated in a broad, level area of cultivated fields, the garrison is adjacent to the main highway which connects to the launch site garrisons in Launch Group B and the complex support facilities. Aboveground power and communications lines serve the installation. The garrison (Figure 5) contains an aboveground facility for missile checkout/storage and five multibay garages which, because of the narrow width of the bays, are restricted to storage of CSS-1 GSE or ordinary cargo vehicles. The facility, except for the missile checkout/storage building, contains the same number and type of buildings as the motor pool attached to each regiment headquarters. The messhall and five barracks are approximately 100 meters west of the fence-secured GSE storage area.

Missile and GSE Storage

2. (S/WN) Missile and GSE storage is provided by a [redacted] single-bay, drive-through missile checkout/storage building. GSE storage is furnished by five garages with a total of 38 bays. The garrison contains no underground missile or GSE storage.

Other Storage

3. (S/WN) No other storage was observed.

Barracks and Housing Areas

4. (S/WN) The garrison contains six barracks and one messhall for one company-sized unit. Launch Complex Garrison 2 contains 870 square meters of barracks floorspace to accommodate 189 personnel. The housing area has one basketball court.

Construction Chronology and Status

5. (S/WN) In February 1974, two agriculture-related buildings were razed to make room for the missile checkout/storage building. Building materials were stacked in the area, and nine small sheds were razed in the area intended for garrison housing. In April, early construction of foundations for the missile checkout/storage building and a shop/warehouse building were confirmed. By July 1974, the missile checkout/storage building and two shop/warehouse buildings were complete. Three vehicle garages were under construction and the associated housing area contained six buildings. Except for minor reconfiguring of two small support buildings in 1978, the garrison had reached its present form by January 1975. The garrison was fence-secured by interconnecting the outer walls of buildings on the perimeter.

Missile System Association and Activity

6. (S/WN) With the completion of the single-bay missile checkout building in July 1974, the garrison was initially usable [redacted] missile GSE was confirmed at the base for the first time. One canvas-covered CSS-1 transporter, one probable launch stand trailer, one prime mover, and two support vans were in the enclosed garrison area. No other missile equipment has been seen in the garrison. Since 1976, from one to three cargo trucks or prime movers have been parked in the base.

Imagery Analyst's Comments

7. (S/WN) CSS-1 GSE has been observed in the base and also at two launch site garrisons in the launch group. Apparently, one or two CSS-1 units were assigned to the launch group from 1976 through 1979. Some of the GSE for the units was stored at this facility. Since mid-1980, CSS-2 equipment has arrived in Launch Group B and no CSS-1 GSE has been observed. No missile GSE has been observed in Complex Garrison 2, indicating that it may now be used as a motor pool.

25X1

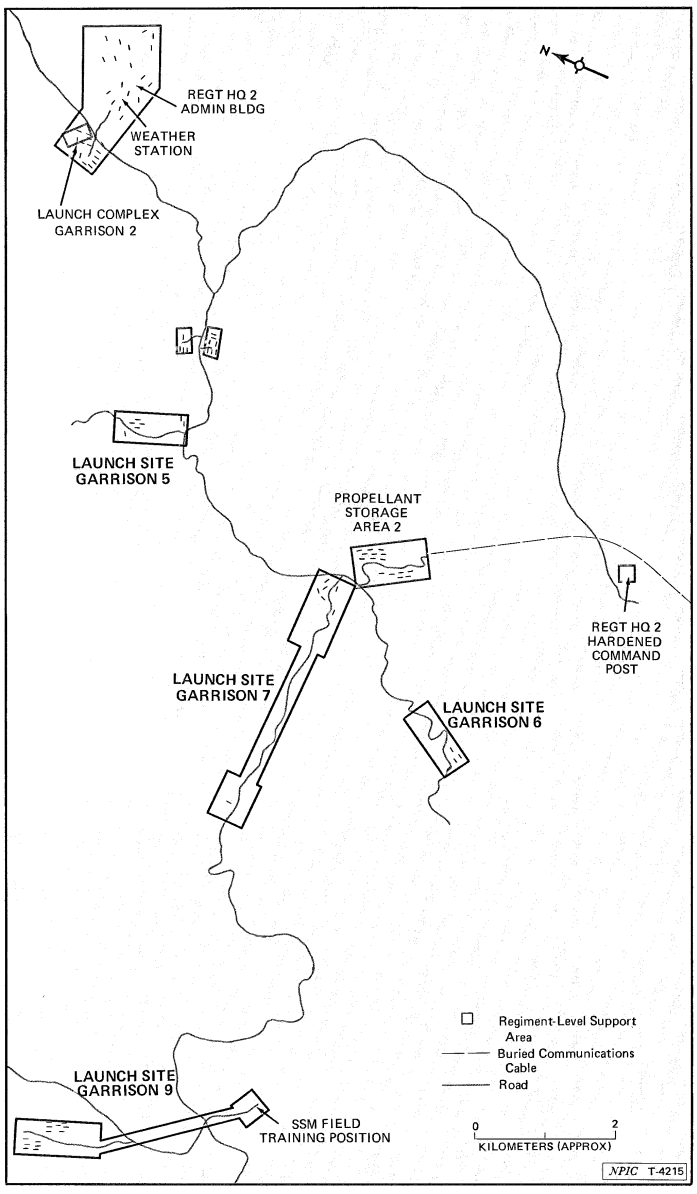

FIGURE 4. LAUNCH GROUP B (REGIMENT 2), JIANSHUI MISSILE LAUNCH COMPLEX SSM

Z-14578/82

RCA-01/0006/82

LIUQINGKOU SSM LAUNCH COMPLEX (S)

1. (S/WN) The Liuqingkou SSM Launch Complex (Figure 1) is in the Lanzhou MR in north-central China. Most of the complex is west of and within 21 km of the town of Qilian. The village of Liuqingkou is immediately northwest of Qilian. The complex is in the Qilian Shan (mountains), an area of very high elevation. Some of the mountain peaks in the area are over 4,570 meters high. The launch site garrisons are situated in mountain valleys above 3,000 meters in elevation. An improved road network serves most areas within the complex. The nearest RTP, Liuqingkou RTP [redacted] is 100 km by road south of the complex. A second possible RTP (Shandan RTP; [redacted] is in the town of Shandan, approximately 180 km by road to the northeast. Other SSM-related installations in the region include the CSS-3 rollout-to-launch sites at Delingha and Daqaidam, the field garrison at Datong, and the Haiyan SSM Field Training Facility [redacted] 25X1 25X1 25X1

2. (S/WN) The complex currently consists of one launch group of four launch site garrisons, two field training positions (Liuqingkou Field Training Positions 1 and 2; [redacted] a launch complex garrison (Liuqingkou Launch Complex Garrison, [redacted] and a command post/bunker facility (Liuqingkou Command Post/Bunker Facility, [redacted] There may be related installations in the town of Qilian. 25X1 25X1 25X1

3. (S/WN) Construction of the four launch site garrisons began between March 1968 and November 1970. All of the launch areas were usable in 1969 or 1970. The site garrisons were essentially complete by June 1975 but have been improved since then. An intersite communications cable trench linking major installations within the complex was observed in mid-1973. The complex garrison was completed during 1976. Communications cable trenches linking most of the underground storage facilities within each launch site garrison were constructed in mid-1978.

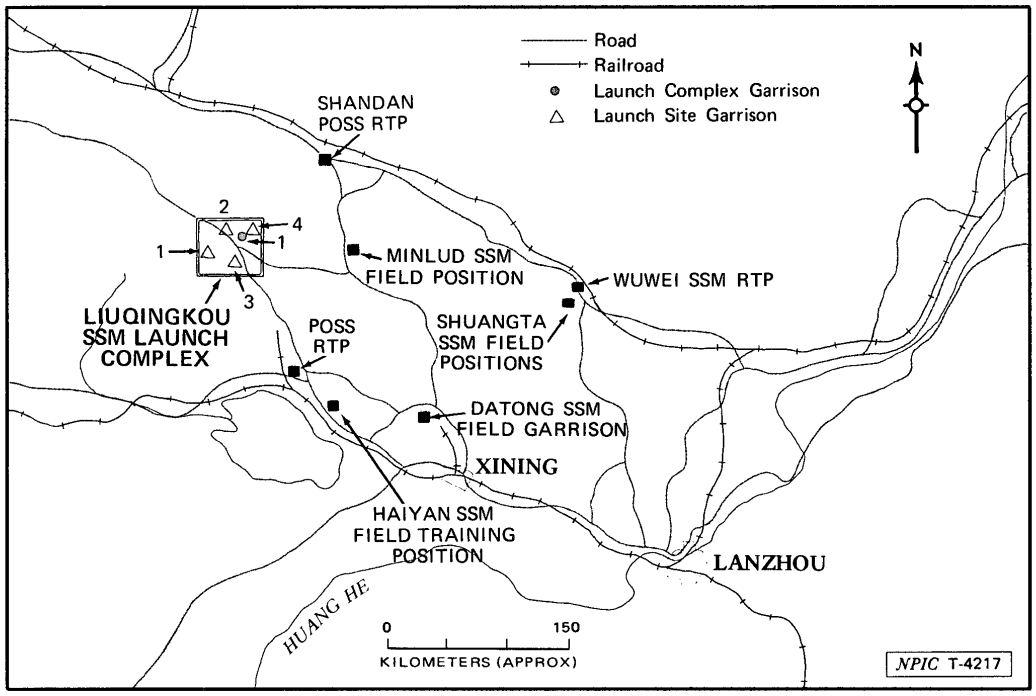

FIGURE 1. LIUQINGKOU MISSILE LAUNCH COMPLEX SSM, CHINA

INSTALLATION OR ACTIVITY NAME		COUNTRY
Liuqingkou SSM Launch Complex Garrison		CH
UTM COORDINATES	GEOGRAPHIC COORDINATES	
NA	381150N 1001424E	

MAP REFERENCE

SAC. USATC, Series 200, Sheet 0332-14, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
Jan 82	Nov 72

25X1

BASIC DESCRIPTION

Location

1. (S/WN) Liuqingkou SSM Launch Complex Garrison, formerly the complex support facility, is a type B missile support base within Liuqingkou Missile Launch Complex SSM, China (Figure 1). The facility is approximately 100 km by road from the Liuqingkou RTP [redacted] and approximately 1 km north of the town of Liuqingkou. The garrison is situated on the north bank of the Hei Ho River, just west of the access road and approximately 4.5 km from Launch Site Garrison 4 [redacted]. Located in Launch Group A (Figure 2), the only launch group in the complex, the garrison contains aboveground facilities for missile checkout/storage and housing of GSE (Figure 3). The garrison does not contain underground missile or GSE storage areas. Electric power and communication lines, all aboveground, serve the installation.

25X1

25X1

Missile and GSE Storage

2. (S/WN) Missile and GSE storage is provided by a single-bay, drive-through missile checkout and storage building [redacted] and one six-bay garage. The 33-meter length of the drive-through building enables it to easily accommodate the CSS-2 road transport equipment. Total vehicle storage capacity remained at six bays as of January 1982.

25X1

Other Storage

3. (S/WN) A POL storage area consisting of six cylindrical, aboveground tanks is just north of the service road in the northeast corner of the base.

Barracks and Housing Areas

4. (S/WN) The garrison contains 24 barracks and seven messhalls situated within a fence-enclosed area. The launch complex garrison contains 4,768 square meters of barracks floorspace to accommodate 1,036 persons, representing seven company-sized units. Seven basketball courts are within the garrison area; however, only four have backboards and are usable. Additional structures include a double-build-

ing dispensary and two warehouses for general storage. One warehouse has a combination barracks and messhall attached.

Construction Chronology and Status

5. (S/WN) The facility was in the initial stage of construction in the spring of 1973. A new road was graded into the area and old buildings (probably abandoned civilian housing) were being dismantled. Eight barracks foundations were under construction just south of the access road. By September, the service road had been improved and temporary housing and support buildings for construction workers were present in addition to 11 completed barracks.

6. (S/WN) In 1974 and 1975, three more barracks were completed and construction materials/-equipment were stacked in the area. Six more barracks foundations were under construction and five temporary construction support buildings were added in the east end of the base. By the fall of 1975, the garrison contained 33 completed buildings and two buildings under construction.

7. (S/WN) During 1976, three additional barracks were finished and foundations for the missile checkout/storage building and a multibay vehicle storage building were confirmed. By November 1976, the facility had attained its present form; the missile-related structures were complete and the perimeter of the garrison was fence secured.

Missile System Association and Activity

8. (S/WN) Following the completion of the missile checkout/storage building in 1976, the base was first usable. In October 1976, CSS-2 missile GSE was confirmed in the garrison for the first time. During September 1977, a small quantity of CSS-2 support equipment arrived at the base, including three launch support vans and a truck-mounted crane which remained there through May 1978. three CSS-2 transporters or T/Es, one warhead van, and a truck-mounted crane were adjacent to the missile checkout building. CSS-2 propellant transporters and other elements of the CSS-2 GSE complement continued to arrive through early January 1979. only one CSS-2 transporter or T/E and a prime mover remained in the garrison a second CSS-2 transporter or T/E, one warhead van, and a truck-mounted crane were parked near the missile checkout building. By June, both of the CSS-2 transporters or T/Es were gone. From three to five pieces of GSE remained in the garrison through

9. (S/WN) Quantities of missile GSE remained low from September 1979 through June 1980. In July 1980, at least seven CSS-2 propellant transporters arrived at the base and remained in garrison through April 1981. 12 probable CSS-2 propellant transporters, four support vans, and a truck-mounted crane were in the missile checkout area. By June 1981, missile GSE activity had ended and the GSE was gone; at least seven CSS-2 propellant transporters had returned to the base and a possible launch stand transporter and two support vans were near the missile checkout building. No further significant missile GSE or missile-related activity was observed at the garrison from October 1981 through January 1982.

Imagery Analyst's Comments

10. (S/WN) This garrison functions more as a small RIM facility for the Liugingkou complex than as a missile base. The single missile checkout/storage building actually is an auditorium which has been converted to a drive-through maintenance building. The lack of other GSE storage areas and the large housing areas associated with this facility indicate that it is one of the regiment headquarters support areas rather than a missile base.

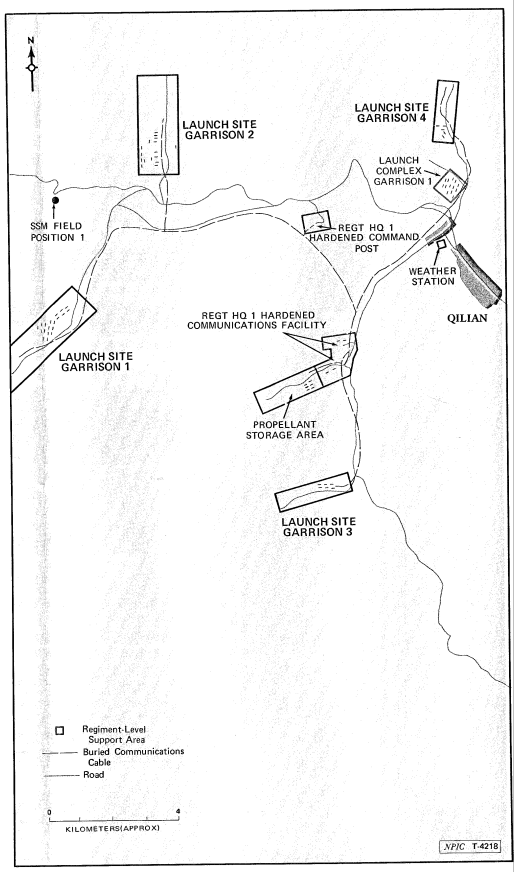

FIGURE 2. LAUNCH GROUP A (REGIMENT 1), LIUQINGKOU MISSILE LAUNCH COMPLEX SSM

25X1
25X1
25X1
25X1
25X1
25X1
25X1

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