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Imagery Analysis Monthly Review

September 1979

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Imagery Analysis Monthly Review

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The information and judgments presented in this publication were derived principally from analysis of imagery. Although information from other sources of intelligence may be included for background, this publication does not reflect an all-source assessment and has not been formally coordinated within CIA. (U)

Comments and queries on the contents of this publication are welcomed. They should be directed to the analyst whose name and green line extension appear after each article. (U)

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Contents

25X1

25X1

25X1

25X1

25X1

USSR

Satellite Communications Equipment Identified at SS-20 Base (TSR)

The first satellite communications equipment to be identified at an SS-20 missile base was seen on October 1979 imagery at Drovyanaya Mobile IRBM Base 1. What appear to be two PARK DRIVE antennas in the deployed mode were observed next to an 11-bay garage in the vehicle support area. PARK DRIVE antennas are normally deployed in pairs with three support vehicles associated with each unit. However, no support vehicles were observed at Drovyanaya. (TSR)

The PARK DRIVE system can be used to provide direct satellite communications with Strategic Rocket Forces (SRF) headquarters in Moscow or with any other SRF command center equipped for satellite communications. This added satellite communications capability fits the Soviet trend toward redundant command and control communications. Additionally, the use of the PARK DRIVE system provides for mobility required to support the SS-20 system, and complements the current landline, VHF, and UHF capabilities. (TSR)

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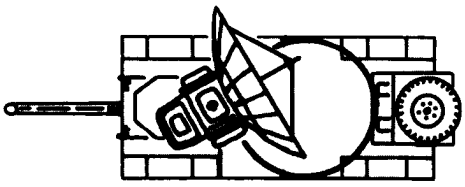
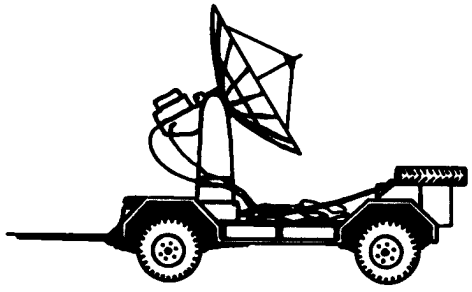
PARK DRIVE Communications Antenna Trailer. (S)



Top View



Side View

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25X1

USSR

Problems in Transshipping Grain Imports (U)

Analysis of imagery of Soviet grain ports during the July-to-early-September-1979 period indicates the Soviets are experiencing some difficulty in transshipment of imported grain. This year, as in 1975, the Soviets have been forced to more than double their usual grain imports due to a poor harvest. Imagery of 17 of the 18 ports traditionally involved in grain transfer shows shortages of available grain-carrying railcars, large numbers of ships waiting at anchor, relatively long periods at quayside berths, the use of lightering, and the widespread use of general cargo berths in addition to berths at specialized grain handling facilities. The situation probably will deteriorate further in coming months as the amount of grain arriving at the ports increases and port operations slow due to cold weather and iced harbors. (TSR)

The widespread use of general cargo berths for grain transfer, rather than the specialized grain berths which have storage facilities, has increased the need for railcars at the ports at a time when they are also required in the harvest areas. However, an average of only 17 railcars per ship were observed at or near the quay when grain ships were berthed. We would expect to see many more, if they were available, as about 500 sixty-ton railcars are necessary to accommodate an average shipment. The railcar shortage has contributed to the extended period grain ships have been observed at quayside berths. One ship was observed at a Batumi berth for at least 30 days in August and September and another spent a minimum of 20 days at Odessa in August. Much shorter periods would be expected for rapid transfer of the grain. (TSR)

At the end of August there were 19 ships anchored at Vladivostok and at least 22 ships at Nakhodka some of which were probably carrying grain. Many of the other grain ports imaged also had ships at anchor although fewer than were seen at Vladivostok and Nakhodka. Usually, ships are at anchor when berths are not available, but general cargo ships have been observed in the anchorage when there were open general cargo berths. This could be another indicator of a shortage of railcars to unload the ships. Lightering operations have been observed at eight of the ports, both to speed the quayside transfer of grain and to move the grain to smaller coastal and river ports. (TSR)

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China

China Forms New Infantry Division Near Lao Border (S)

The Chinese have formed a new main force infantry division near the Lao border in southern Kunming (K'unming) Military Region. The division was formed by upgrading an internal defense division that operated with the 11th Army during China's incursion of Vietnam. The new division is subordinate to the 11th Army and provides that army with its third infantry division--the standard number in a Chinese army. The strengthening of the 11th Army in all likelihood was prompted by China's deteriorating relationship with Laos and tensions with Vietnam. (S)

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According to NSA, communications intercepts of late May and early June 1979 provided evidence that an internal defense division in southern Kunming Military Region was being upgraded to a main force infantry division. The division was identified as the 33rd. Examination of satellite photography since late May corroborates NSA's analysis. A number of garrisons that formerly housed an internal defense division have been equipped with heavy weapons and equipment characteristic of a main force infantry division. The divisional elements identified to date include a division headquarters, three infantry regiments, an artillery regiment, an antiaircraft artillery battalion, and a ponton bridge company. (S)

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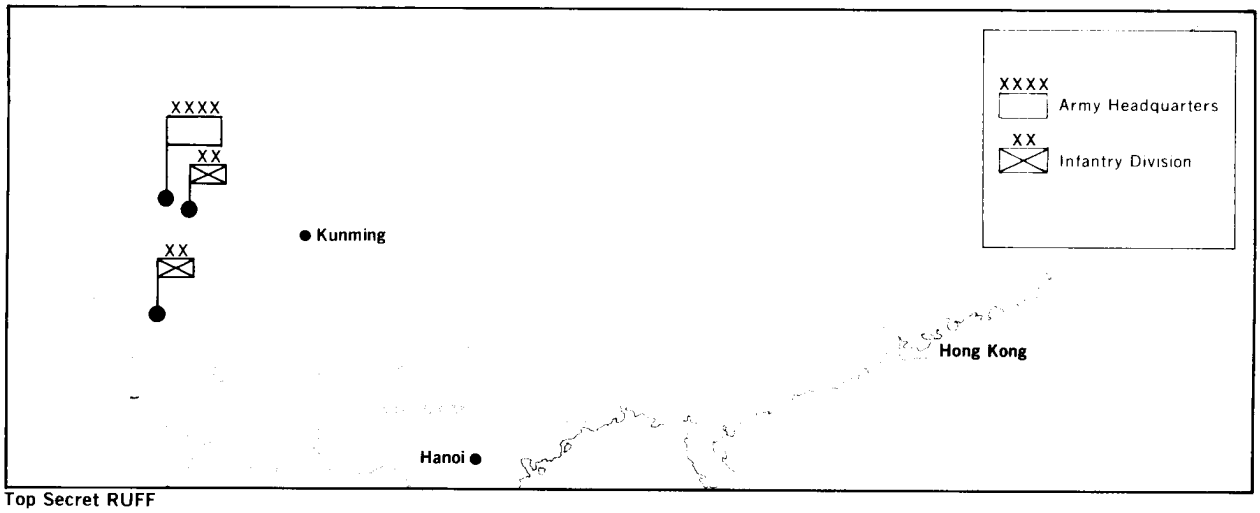
Location of 11th Army Units, Kunming Military Region. (S)



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China

Chinese May Be Testing An ABM (TSR)

The first missile ever seen at the Dianwei (Tien-wei) Missile Test Center was observed on [redacted] It could be China's first attempt to develop an antiballistic missile (ABM). (TSR) 25X1

The Dianwei Missile Test Center is in Yunnan Province. It was constructed in 1971 and consists of a launch site with a fixed-azimuth zero-length launcher; four tracking facilities arranged in a fan pattern extending out from the launch site; and several support facilities. The missile seen at the test center on [redacted] was conically shaped for most of its length, was light-toned, was about 12 meters in overall length, and had a maximum diameter of [redacted] The conical shape extends from the missile's tip to a point [redacted] back, and the rear [redacted] is cylindrical. Enhanced imagery shows what may be small fins on the forward portion of the missile. The rear portion of the missile was obscured by the launcher and it could not be determined if fins were present there. (TSR) 25X1 25X1 25X1 25X1

The combination of the design of the launcher and the pattern formed by the tracking facilities is compatible with both ABM and surface-to-air missile (SAM) testing facilities. The configuration of the missile--which is similar to that of both the US Sprint high-acceleration ABM and the Soviet SH-08 high-acceleration ABM--suggests that the Chinese could be testing a developmental version of an ABM rather than a SAM. (TSR)

Although constructed in 1971, the Dianwei Test Center was inactive until April 1978 when a missile load simulator was seen attached to the launcher. Activity associated with this simulator was completed by [redacted], when the simulator was returned to the missile assembly and checkout facility near the launch site. On [redacted], the conical missile was first observed as it was being attached to the launch rail. By [redacted], the missile had been suspended from the launch rail and a larger number of vehicles and personnel were present in the area. On [redacted] the missile, vehicles, and personnel were no longer visible, and the launch rail was elevated to about 45 degrees. [redacted] 25X1 25X1 25X1 25X1 25X1 25X1 25X1 25X1 25X1

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China

Civil Defense Shelter Program (U)

A preliminary review of 1970-79 photography of 13 major urban areas* in northeast, north central, and east China confirms that the Chinese have developed an extensive urban personnel shelter program. In addition to the known urban tunnel networks which provide evacuation routes and sheltering capability, the shelter program includes detached, semi-detached, and basement shelters. Although preliminary findings indicate that the highest rate of shelter construction occurred between 1975 and 1977, both shelter and tunnel construction were continuing in mid-1979. (TSR)

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The majority of the nearly 100 detached, semidetached, and basement shelters observed under construction during the 1970s appear to be independent of any urban tunnel network. Although there is a high degree of similarity in the construction techniques, there are notable differences

*Mudanjiang (Mu-tan-chiang), Qiqihar (Chi-chi-ha-erh), Harbin (Ha-erh-pin), Changchun (Chang-chun), Shenyang (Shen-yang), Luda (Lu-ta), Tianjin (Tientsin), Shijiazhuang (Shih-chia-chuang), Baotou (Pao-tou), Hohhot (Hu-ho-hao-te), Lanzhou (Lan-chou), Hangzhou (Hang-chou), and Shanghai (Shang-hai).

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in the physical design and sizes of the shelters. Generally, the shelters are constructed below ground level, are vented, and have associated entrance/exit structures. In most shelters, prefabricated roof arches span brick or concrete walls. Following completion of the shelter and application of waterproof sealant, the shelter is earth covered and the surface landscaped. A high percentage of the detached and semidetached shelters observed are located at schools, parade fields within military installations, and institutional-type facilities. (TSR)

The sizes of the detached, semidetached, and basement shelters observed to date range from 75 square meters to 2,200 square meters. Applying the standards used for the Soviet civil defense program, where two-thirds of the shelter area is considered useable for people and 0.5 square meter is allocated per person, the capacity of these individual shelters range from 100 to almost 3,000 people. (TSR)

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Many military, government, and other institutional buildings and facilities have direct access to the tunnel network, the other important aspect of the Chinese civil defense program. Portions of these underground tunnel networks have been seen under construction in several cities. However, the extent of the tunnel networks has not been determined. (S[redacted] 25X1

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China

Status of the Chinese Aluminum Industry (U)

A recently completed imagery analysis study reveals China's aluminum industry has continued to grow over the past five years, although at a much slower rate than in the early 1970s. No new aluminum-producing plants have been built since 1973, and the growth that has occurred in the industry is the result of plant expansion and improvements in operating efficiency. There was considerable growth in China's production capacity for alumina, the raw material for producing aluminum. Between 1975 and 1977, one new alumina-producing plant began operating, and in 1978, alumina production facilities at three of the other four alumina-producing plants were being expanded. (S

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The Chinese aluminum industry consists of 40 plants. Nine of these plants account for over half of the country's aluminum production capacity, and in 1978 they accounted for an estimated 70 percent of actual production. The remaining 31 aluminum-producing plants are small operations. Based on the number of potrooms seen operating in 1978 and early 1979, the nine large plants were operating at full capacity and the 31 smaller plants at about 60 percent of capacity. Assuming that these levels of operation were maintained throughout the year, and using a methodology which relates roof area of a potroom to production capacity, the total aluminum industry production for 1978 would have been about 400,000 metric tons production of aluminum, or about 83 percent of capacity. No method for estimating alumina production from photography has been developed. (TSR)

For additional details see IS 79-10127K, Aluminum and Alumina Production Facilities, China, September 1979 (Top Secret

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China

China's Iron and Steel Industry (U)

A recently completed imagery analysis study provides information on 39 of the largest plants in China's iron and steel industry. Estimates of blast furnace capacities derived from analysis of satellite photography indicate that these plants have the capacity to produce about 30 million metric tons of iron annually -- about three-fourths of the industry's overall estimated annual capacity of almost 42 million metric tons. The Chinese reportedly expected to produce about 33 million metric tons of iron and from 31.7 to 34.3 million metric tons of steel in 1978. (TSR)

Since 1974 construction of new production facilities and renovation or expansion of existing production facilities has been observed at 33 of these 39 plants. The nature of the recent construction indicates that the Chinese are attempting to increase productivity in their iron and steel industry by introducing modern technology such as basic oxygen furnaces and eliminating bottlenecks in raw materials processing and finished steel production. (TSR)

For additional details see IS 79-10149K, [redacted] Major Chinese Iron and Steel Plants, October 1979 (Top Secret [redacted] 25X1 25X1 25X1

(TOP SECRET RUFF)

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New OIA Publications (U)

The following reports have been published by the Office of Imagery Analysis since the last issue of the Imagery Analysis Monthly Review.

Imagery Research Papers

1. IS 79-10141K, [redacted], Baykal-Amur Mainline Railroad: Construction Status (U), September 1979 (Top Secret RUFF/ [redacted] 25X1 25X1

2. IS 79-10143K, [redacted], Bulgarian Petroleum Refining Industry (U), October 1979 (Top Secret [redacted] 25X1 25X1

3. IS 79-10149K, [redacted] Major Chinese Iron and Steel Plants (U), October 1979 (Top Secret [redacted] 25X1 25X1 25X1

4. IS 79-10127K, [redacted], Aluminum and Alumina Production Facilities, China (U), September 1979 (Top Secret [redacted] 25X1 25X1 25X1

5. IS 79-10146K, [redacted], Chang-Chun Motor Vehicle Plant, China (U), September 1979 (Top Secret [redacted] 25X1 25X1

6. IS 79-10145K, [redacted], Sain-Ni Motor Vehicle Assembly Plant, North Korea (C), September 1979 (Top Secret [redacted] 25X1 25X1 25X1

7. IS 79-10117JX, [redacted] Possible Laser Test Range, Chernomorskoye, USSR (TSR), August 1979 (Top Secret [redacted] 25X1 25X1 25X1

8. IS 79-10138K, [redacted] Trends in the Development of Soviet Patrol Combatants and Fast Patrol Craft (S), September 1979 (Top Secret [redacted] 25X1 25X1

9. IS 79-10124J, [redacted], Photographic Indicators of Missile Launchers, Shuangchengzi Missile Test Center, China (TSR), August 1979 (Top Secret [redacted] 25X1 25X1 25X1

10. IS 79-10119K, [redacted] Chinese Han-Class Submarine: An Imagery Analysis (S), August 1979 (Top Secret [redacted] 25X1 25X1 25X1

11. IS 79-10092K, [redacted], Albania's Petroleum Refining Industry (U), August 1979 (Top Secret [redacted] 25X1 25X1

 25X1

12. IS 79-10097K, [redacted], Urea Production Facilities in China (U), July 1979 (Top Secret [redacted]) 25X1 25X1

Imagery Analysis Memorandums

1. IS 79-10101K, [redacted], Modernization of Cascade Building at the Tomsk Uranium Isotope Separation Plant, USSR (Top Secret RUFF) 25X1

2. IS 79-10153K, [redacted] Transportation Systems and Communications Facilities in the Vicinity of the Ros Koh Tunneling Activity, Pakistan (Top Secret RUFF) 25X1

3. IS 79-10120K, [redacted], Search for Military Presence at the Pelindaba National Nuclear Research Center, South Africa (Top Secret RUFF) 25X1

4. IS 79-10130K, [redacted] N-Class SSN in Reserve Status at Severodvinsk Naval Base, West (Top Secret RUFF) 25X1

5. IS 79-10136K, [redacted], Typhoon SSBN Will Have Larger Pressure Hull Diameter Than Delta-Series SSBNs (Top Secret RUFF) 25X1

6. IS 79-10140K, [redacted] Recent Changes at Tunneling Site Western Pakistan (Top Secret RUFF) 25X1

7. IS 79-10122K, [redacted], Coal Mining Activity in the Kuznetsk, Basin, USSR (Top Secret RUFF[redacted]) 25X1 25X1

8. IS 79-10142K, [redacted] China: Analysis of Civilian Industrial Plants for Evidence of Missile Transporter Production (Top Secret RUFF) 25X1

9. IS 79-10148, Status of Selected Industrial Facilities in Albania (Secret[redacted]) 25X1

10. IS 79-10131J, [redacted], Isfahan Iron and Steel Plant, Iran (Top Secret RUFF[redacted]) 25X1 25X1

11. IS 79-10153K, [redacted] POL Storage Facilities in South Africa (Top Secret RUFF) 25X1

12. IS 79-10125K, [redacted] Shock Isolation Component for the Type IIIF (SS-18) Missile Silo (Top Secret RUFF) 25X1

 25X1

13. IS 79-10134K, [redacted] Construction Schedule for Completing SS-18 ICBM Silo Groups (Top Secret [redacted] 25X1 25X1

14. IS-79-10132K, [redacted] Analysis of Chinese CSS-1 MRBM From Ground Photographs (Top Secret RUFF) 25X1

15. IS 79-10139K, [redacted] Photographic Analysis of Cosmos 1100/1101 Dual-Payload (Top Secret Ruff) 25X1

16. IS 79-10163J, [redacted] Unidentified Ponton Bridge Regiment (Independent), Kunming Military Region, China (Top Secret RUFF [redacted] 25X1 25X1

17. IS 79-10162J, [redacted] 4th Artillery Division (Independent), Kunming Military Region, China (Top Secret RUFF [redacted] 25X1 25X1

18. IS 79-10164J, [redacted] 65th Antiaircraft Artillery Division (Independent) in Kunming Military Region, China (Top Secret RUFF [redacted] 25X1 25X1

19. IS 79-10159, Analysis of Soviet Ground Force Combat Units in Cuba 1962-1967 (Secret)

20. IS 79-10156K, [redacted] Soviet Probable Airborne Unit in Afghanistan (Top Secret RUFF) 25X1

21. IS 79-10151K, [redacted] Algerian Military Installations and Order of Battle (Top Secret RUFF) 25X1

22. IS 79-10147J, [redacted] The Identification of a Soviet Brigade Size Unit in Cuba (Top Secret RUFF [redacted] 25X1 25X1

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