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May 1965

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EVALUATIONS OF SOVIET SURFACE-TO-SURFACE MISSILE DEPLOYMENT

18TH REVISION

A Report of the Deployment Working Group

of the

Guided Missile and Astronautics Intelligence Committee

25X1

[redacted]

DECLASS REVIEW by NIMA/DOD

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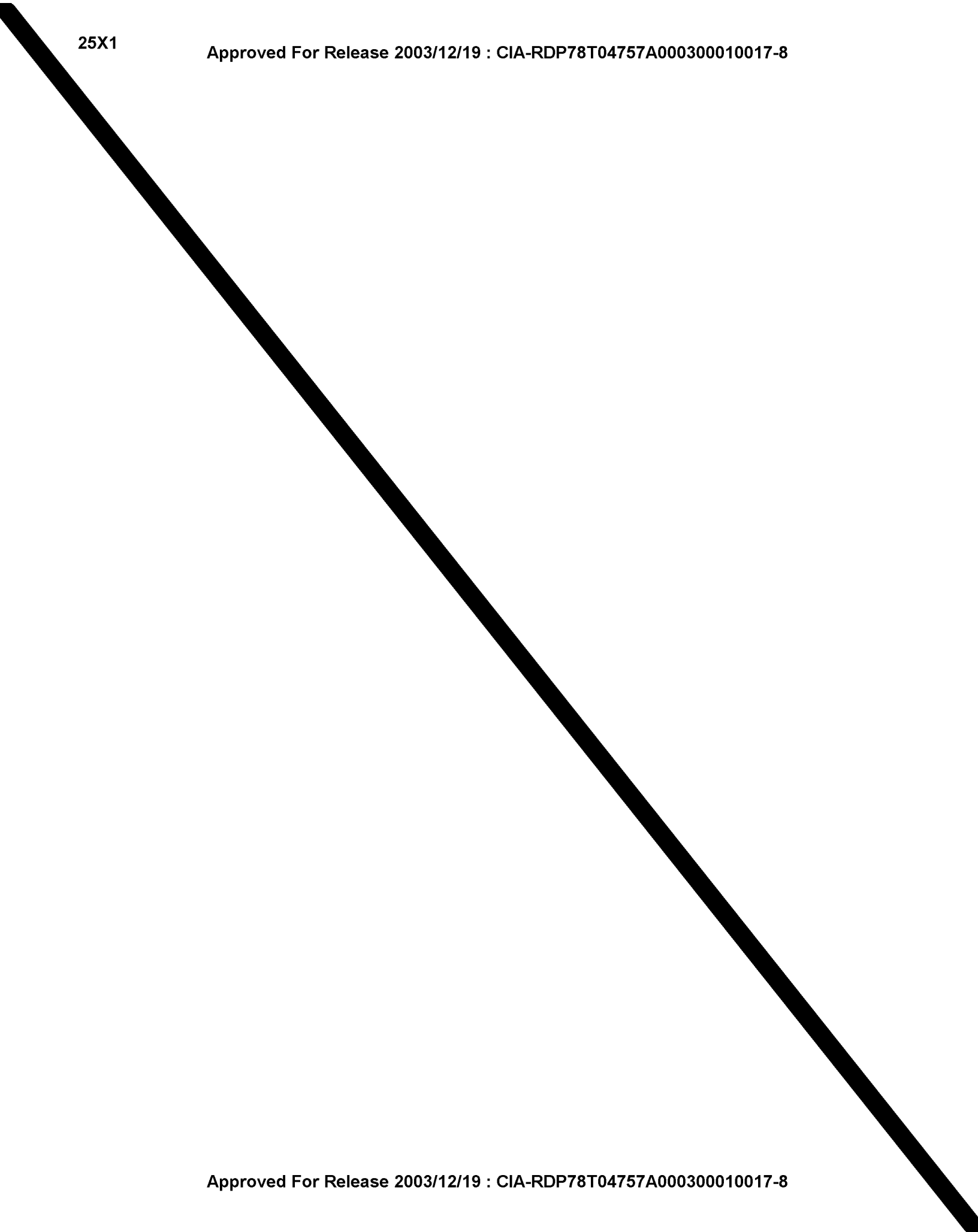
The Guided Missile and Astronautics Intelligence Committee (GMAIC) wishes to express its appreciation to the National Photographic Interpretation Center for its assistance in the editing, illustration, and publication of this report.



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PREFACE

This report, published bimonthly by the GMAIC Deployment Working Group (DWG), provides a comprehensive, ready-reference listing of all ICBM, IRBM, and MRBM deployment locations, types of site configurations, photographic references, estimated construction and operational status, and other evaluations by the DWG. These data constitute the majority view of the DWG membership, and may not correspond precisely to individual assessments by each member. Additional data may be added to future revisions.

Dissemination of the report was previously limited to holders of the DWG report, Soviet Surface-to-Surface Missile Deployment. Because the information contained herein is both supplemental and self-sustaining, distribution will no longer be limited to holders of the above report.

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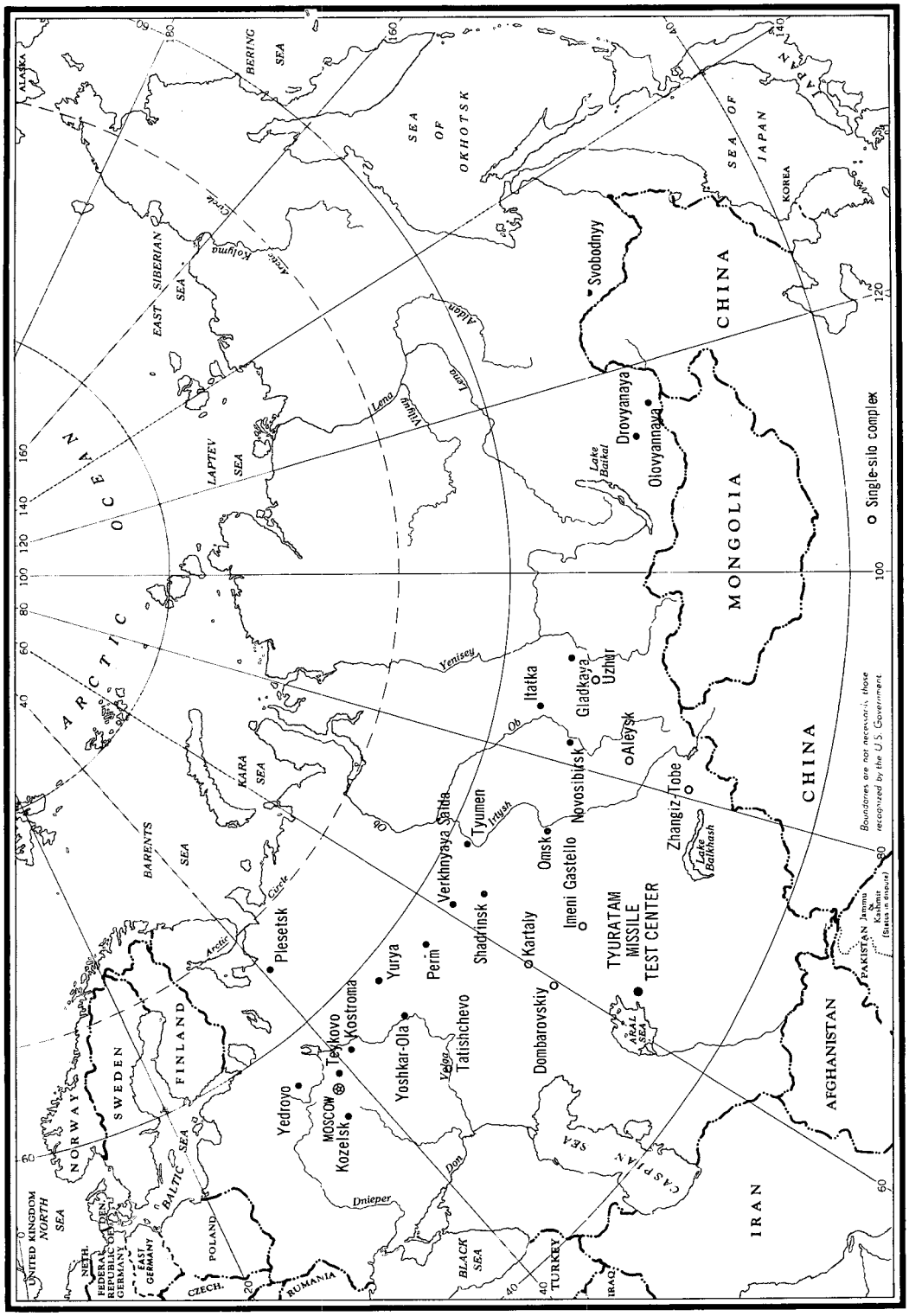

FIGURE 1. DEPLOYMENT OF SOVIET ICBM COMPLEXES.

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INTRODUCTION

This report is the 18th Revision of Evaluations of Soviet Surface-to-Surface Missile Deployment prepared by the Deployment Working Group (DWG) of the Guided Missile and Astronautics Intelligence Committee (GMAIC). While information contained in this and previous revisions is self-sustaining, it serves to supplement the basic DWG report Soviet Surface-to-Surface Missile Deployment, which provides detailed information on individual launch facilities of the Soviet Strategic Rocket Forces. The basic report, dated 1 January 1962 (Control Number [redacted] has been revised and updated on a periodic basis. Further updating is accomplished in reports prepared and published for GMAIC by the National Photographic Interpretation Center.

[redacted]

sis of previous missions and other sources have provided additional information on the Soviet strategic ballistic missile deployment program. The new data are reflected in Table 1 and in the estimated operational status shown in Tables 2 through 6. Technical characteristics of Soviet ICBM, IRBM, and MRBM systems currently operational or under development are given in Table 10. Cutoff date for information contained in this report is [redacted]

SOVIET ICBM DEPLOYMENT

Significant developments in the Soviet ICBM deployment program since publication of our 17th Revision is limited to identification of additional single-silo sites under construction at deployed complexes and at the Tyuratam Missile Test Center.

CURRENT DEPLOYMENT

The number of identified ICBM complexes remains at 25. These complexes now contain a total of 341 confirmed and probable launchers in various stages of construction, an increase of 18 over the number reported in our 17th Revision. Of these 341 launchers, 150 are soft and 191 are hard. Included in the hard launchers are 113 single silos. In addition, we are carrying 14 additional single-silo sites in the possible category. See Figure 1 for locations of deployed ICBM complexes.

Of the 341 confirmed and probable launchers, 224 are estimated to be operational, including 78 in a hard configuration. In addition, we believe that 26 of the 46 launchers at Tyuratam are operational, although not normally considered as part of the operational ICBM force. The ICBM sites have been designated by type, as shown and explained in Figure 2.

Evaluation of all evidence received since our last revision has resulted in the following additions at the complexes indicated, and at Tyuratam:

- DROVYANAYA, Launch Group H(19-21), Type IIID, under construction
- GLADKAYA, Possible Launch Group G, Type IIID, under construction
- IMENI GASTELLO, Launch Site G(7), Type IIIC, under construction
- KARTALY, Launch Sites G(7) and H(8), Type IIIC, under construction
- TATISHCHEVO, Probable Launch Group C (25-29), Type IIID, under construction
- UZHUR, Launch Sites I(9), J(10), and Possible Launch Site K(11), Type IIIC, under construction
- TYURATAM, Launch Group L(21-30), Type III, under construction.

SINGLE-SILO DEPLOYMENT

General

We have now confirmed single-silo deployment at 7 new and 4 of the older ICBM complexes. In addition, a fifth older complex is currently suspect for deployment of a single-silo configuration. It is apparent that deployment of both the Type IIIC and IIID sites is continuing. We still are unable to firmly identify the missile system(s) to be employed in either.

Type IIIC Sites

GENERAL

Identified deployment of Type IIIC sites continues to be limited to the Aleysk, Dombarovskiy, Imeni Gastello, Kartaly, Uzhur, and Zhangiz-Tobe Complexes, where a total of 41 confirmed and probable sites have been observed. In addition, 2 areas of activity at Uzhur are currently assessed as possible Type IIIC launch sites in a very early stage of construction.

Total sites at the IIIC complexes range from a low of 5 at Dombarovskiy, which has not been covered by good [redacted] photography since [redacted] to a high of 11 (including 2 possible) at Uzhur. It appears plausible that eventually each complex will contain at least 12 sites, or 4 groups of 3 each, if our assessment of groupings of 3 is correct (see 17th Revision). Identification of additional possible control facilities under construction at Aleysk Launch Site F(6), Imeni Gastello Launch Site C(3), and Uzhur Launch Site F(6) on [redacted] add credibility to the "troika" deployment-pattern judgment (see 17th Revision), since probable control facilities have already been identified at 1 of the 6 original sites at each of these complexes. We have no new evidence which changes the tenuous site groupings within each complex postulated in our 17th Revision.

None of these identified Type IIIC sites at deployed complexes has yet progressed beyond the midstage of construction,* although backfilling may have begun at a few. We continue to believe that the minimum completion time for each group of 3 sites will be 21 to 24 months. Succeeding paragraphs summarize developments since out last revision at the 6 complexes where Type IIIC sites are currently under construction.

ALEYSK COMPLEX

Useable photography of the Aleysk Complex was obtained only on [redacted] All 6 sites remain in a midstage of construction, but details are obscured by snow cover. The most significant development is the identification of earth scaring approximately 300 feet southwest of the silo excavation at Launch Site F(6), a location which renders this activity suspect for construction of a control bunker. If and when confirmed, this would be the second facility associated with control at the 6 sites. A probable control bunker has been identified previously at Launch Site C(3). Both these sites have security fencelines large enough to accommodate an interferometer, though none can be identified yet.

DOMBAROVSKIY COMPLEX

[redacted]

*To clarify the terms used in referring to construction stages at single-silo sites, identifiable steps in the construction process have been categorized as follows: early stage, clearing and grading, open-cut silo excavation, silo coring; midstage, silo under construction, silo backfilling; late stage, silo door installed, final backfill and grading; complete, final configuration apparent; operational, equipment installed and checked out (estimated).

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assessment of details on the latter mission. Launch Site A(4) remains in a midstage of construction, although backfilling may have begun. Launch Site B(3) is also in midstage. A row of probable footings extends several hundred feet north from the probable control facility under construction east of the silo (Figure 3). This activity probably represents construction of an L-shaped guidance facility (interferometer) similar to those identified at Launch Complex I(14) and Launch Site G7(18) at Tyuratam. Launch Sites C(2), D(1), and E(6) show little change over previous coverage, with C(2) and D(1) at midstage, and E(6) still early.

IMENI GASTELLO COMPLEX

25X1 [redacted] covered the Imeni Gastello Complex, but only the earliest mission provides good quality coverage. All 6 of the launch sites previously identified are in a midstage of construction, although Launch Sites A(1) and E(5) are partly backfilled. A probable control facility is under construction at Launch Site D(4), where the security fence is large enough to enclose an interferometer. At Launch Site C(3), a new excavation containing a possible unidentified object adjacent to the southeast side of the silo is a candidate for a second control facility (Figure 4).

25X1 A new launch site, designated G(7), is [redacted] initial construction of a third group of sites at this complex.

A unique development is occurring at all 7 sites at Imeni Gastello. It is unique in that similar construction activity cannot be identified at Type IIIC sites at the other 5 deployed complexes, or at the prototype sites at Tyuratam. This activity consists of a plus-shaped configuration defined by areas of ground scarring. At Launch Sites C(3) and G(7), apparently the farthest advanced in this respect, small unidentified objects are on each segment of the plus configuration (Figure 6). Lines projected between opposite pairs of objects intersect at the silo structure. The signature and mensuration of the plus configuration formed by the inner objects on each segment suggest a similarity to the crossed baseline guidance facility at Type IIIB sites (Figure 7). We cannot determine the significance of this construction activity at the present time. A schematic layout of the Imeni Gastello Complex is shown in Figure 8.

KARTALY COMPLEX

The Kartaly Complex was covered by good [redacted] 25X1

Highlight of the coverage is the identification of 2 new Type IIIC launch sites in an early stage of construction on [redacted] 25X1 apparently the start of a third launch group (Figure 9). Launch Site G(7), located approximately 8 nm northeast of the complex support [redacted] 25X1

Launch Sites A through F (1-6) are all in a midstage of construction, and a probable control facility can be identified at Launch Site A(1). A rail-to-road transfer point (Figure 10) is confirmed near the terminus of a rail spur approximately 1.5 nm southwest of the complex support facility. A schematic layout of the Kartaly Complex is shown in Figure 11.

UZHUR COMPLEX

25X1 provided partial coverage of the Uzhur Complex. Launch Site G(7), previously carried in the possible category, can be confirmed on this photography; newly identified are 2 confirmed and 1 possible Type IIIC launch sites, designated Launch Sites I(9), J(10), and Possible Launch Site K(11), respectively (Figure 12). 25X1 Possible Launch Site H(8), first seen on 25X1 remains in the possible category pending identification of a silo excavation.

25X1 Launch Site I(9) can be negated in 25X1 Sites G(7) and possible H(8), it is in an early stage of construction. These 3 sites were begun in the same time period, and probably will form a launch group. Launch Site J(10) and Possible Launch Site K(11) can both be negated 25X1 They probably will be allied with a third site, not yet identified, to form a fourth launch group at this complex.

Of the 6 original sites, only Launch Sites B(2), E(5), and F(6) have been covered by photography since our last revision. At Launch Site B(2), construction continues on the L-shaped electronic facility and probable control bunker, but poor image quality on 25X1 25X1 prevents detailed interpretation. At Launch Site E(5), a loop road now passes to the north of the silo and approaches it from the west. The construction ramp still extends to the silo structure. At Launch Site F(6), the silo appears to be approaching ground level. Ground scarring 500 to 600 feet south of the silo excavation is assessed as the start of a possible control facility, the second instance of such activity identified at the 6 original launch sites. A schematic layout of the Uzhur Complex is shown in Figure 13.

ZHANGIZ-TOBE COMPLEX

25X1 The Zhangiz-Tobe Complex was partially Launch Sites A(1), B(2), and C(3) remain in a midstage of construction, with ramps extending out to all 3 silo structures. Launch Sites D(4) and E(5) are identified only. Probable Launch Site F(6) is in an early construction stage, with possibly the early stages of an excavation visible. The site support area contains 3 buildings.

Type IIID Sites

GENERAL

We have identified a total of 84 confirmed, probable, and possible Type IIID launch sites at 1 new (Tatishchevo) and 4 of the 18 older ICBM complexes (Drovyanaya, Gladkaya, Olovyannaya and Perm). The older complexes were all associated previously with the SS-7 missile system. We are still unable to determine the system to be employed in the Type IIID silos.

The number of confirmed and probable launch groups of this configuration now stands at 9, an increase of 3 over the figure reported in our 17th Revision. This increase is based on the identification of additional launch groups at Drovyanaya and Tatishchevo, and deployment of 1 new group of this configuration at Perm. Since we believe that each Type IIID launch group will ultimately contain 10 launch silos (see 17th Revision), the total count of launchers under construction, or soon to be started, at these 9 groups is 90. In addition, we are carrying a second launch group at Gladkaya in the possible category and activity at Perm is suspect

for deployment of still another Type IIID group.

Construction of individual sites at identified launch groups ranges from early to late stages. We do not believe, however, that all of the sites at any 1 launch group have reached a late construction stage. We have no reason, as yet, to modify our previous estimate that a minimum of 18 to 21 months will be required for each launch group to reach an operational status.

Succeeding paragraphs summarize developments since our last revision at complexes where deployment of Type IIID launch groups has been identified.

DROVYANAYA COMPLEX

25X1

Good quality coverage of the Drovyanaya

25X1

resulted in the identification of additional Type IIID launch sites, bringing the total at this complex to 14 confirmed and probable, and 1 possible, launch silos (Figure 14). The number of silos identified and the geographic pattern of the sites indicate that 2 separate launch groups, designated G and H, are under construction. We cannot, however, determine with confidence the specific sites comprising each launch group. Therefore, the sites have been designated G1(7) through G16(21), excluding G10 which has been dropped, pending further coverage and analysis.

All of the 14 confirmed and probable sites are in a midstage of construction and activity at Launch Sites G2(8) and G13(17) indicates that these sites will contain the guidance, control, and support facilities for the 2 respective launch groups.

GLADKAYA COMPLEX

Launch Group F(7-13), consisting of 5 confirmed and probable and 4 possible launch silos, could be viewed for identification only on

25X1

This same coverage, however, revealed a possible second group, designated Possible Launch Group G, approximately 12 to 18 nm west-northwest of the complex support facility (Figure 15). The new activity consists of 3 possible launch sites in a very early stage of construction and 5 additional areas of unidentified activity. Possible Launch Site G1 can be negated on Mis-

25X1

OLOVYANNAYA COMPLEX

Coverage of Launch Groups D(4-13) and E(14-23) at Olovyannaya was accomplished on all missions since our last revision. No significant changes are discernible at Launch Group D(4-13), which contains 10 confirmed launch sites. This launch group remains generally in a midstage of construction, although several individual sites are in a late stage. Six of the sites have small excavations near the silos, probably to provide access to the silo structure. Launch Group E(14-23) is in a midstage of construction and now contains 10 confirmed launch sites.

PERM COMPLEX

Launch Group G(7-17), reported as possible in the 17th Revision, can be confirmed as a

25X1

probable sites, and 1 possible site, indicates a similarity to those deployed at other Type IIID launch groups, although neither the circular pattern nor a support/control facility can be identified on the non-stereo photography with scattered clouds and haze. In view of the fact that the eastern and westernmost sites are 15 nm apart, it is possible that these sites may be part of at least 2 launch groups; the usual circular pattern may be apparent when additional sites are identified. Re-evaluation of available photography indicates that construction of the identified sites began in the [redacted] time period. All but one can be negated on [redacted] Some may be in a late stage of construction. Pending further coverage, we are carrying these sites as a single launch group.

25X1
25X1
25X1

TATISHCHEVO COMPLEX

[redacted] revealed further evidence that a third launch group is under construction west of Probable Launch Group B(12-21) at the Tatishchevo Complex, and we have designated it Probable Launch Group C(25-29). This group (Figure 16) currently consists of 5 probable and 1 possible launch sites. In addition, 3 other areas are suspect launch sites in an early stage of construction. This activity [redacted] construction stage.

25X1
25X1

Launch Group A(1-11) contains 10 confirmed single silos and is probably nearing a late stage of construction. Snow cover prevents detailed interpretation of some of the sites, but Launch Sites A1(1), A3(3), and A6(6) have been backfilled and have square structures covering them. We cannot determine whether these covers are silo doors or temporary environmental shelters. A schematic layout of Launch Group A(1-11) is shown in Figure 17.

Launch Group B(12-21) remains in the probable category; all 10 probable sites show activity in the snow in the vicinity of an excavation, and security fences can be identified at all but 2 of the sites.

OTHER ACTIVITY AT DEPLOYED COMPLEXES

General

[redacted] coverage of the 18 older ICBM complexes since our last revision continues to confirm our previous judgment that there is no evidence of phaseout or retrofit of launch sites associated with first and second generation missile systems (SS-6, SS-7, and SS-8).

25X1

Significant developments are summarized in succeeding paragraphs.

Kozelsk Complex

[redacted] revealed several areas of new activity in the vicinity of the Kozelsk Complex. The most prominent of these areas is located about 14 nm south-southwest of the complex support facility (Figure 18). It consists of 2 separate areas of ground scarring, 1 Y-shaped, and the other a plus configuration. This activity can be [redacted] Adjacent to the ground scarring are 2 large multistory buildings and a third under construction. First evidence of these buildings was on [redacted]

25X1
25X1
25X1
25X1

Two other areas of track activity and ground scarring are located, respectively, 18 nm south-southwest and 5.5 nm west-southwest of the complex support facility. First evidence of activity at these areas is identifiable on [redacted]

25X1
25X1

Novosibirsk Complex

25X1 [redacted] confirmed that Launch Site C(3) at Novosibirsk is complete (Figure 19). Our estimate that all Type IIIA sites are complete and operational is 25X1 now confirmed on [redacted] photography.

Olovyannaya Complex

Coverage of the L-shaped ground scar at Olovyannaya Launch Site C(3) since our last revision reveals no significant change on snow-covered photography. There is still no evidence that such a facility is under construction at any other Type IIIA launch site.

25X1 ### Plesetsk Complex

[redacted] information on construction activity at the Plesetsk Complex. Significant developments are the identification of 2 new areas of unidentified construction activity and relatively detailed coverage of Launch Site F and Probable Launch Sites G(9) and H(10).

25X1 An area of unidentified activity, suspect for a new launch site, is newly identified on [redacted] 25X1 [redacted] approximately 20 nm east of the complex support facility. It is served by the road extending eastward about 15 nm beyond Probable Launch Site H(10). The area (Figure 20) contains 3 buildings and ground scarring. This 25X1 activity is new since [redacted] 25X1 [redacted] The access road has well-engineered, wide-radius turns. Two unimproved roads/trails extend north from the access road to a possible power trace. A support-type area is immediately across the access road, south of the area of unidentified activity. It contains approximately 20 buildings, including 6 probable barracks.

A second area of unidentified activity is newly identified on [redacted] 25X1 west-southwest of the complex support facility. This area consists of ground scarring, track activity, and possible building or structure footings (Figure 21). The area can be negated [redacted] The location 25X1 and nature of this activity indicate that it is not intended as a launch facility.

[redacted] provides the 25X1 basis for a detailed analysis of Launch Site F, a unique 2-pad soft launch facility which resembles Launch Site 5C1 at the Kapustin Yar Missile Test Center rather than any known ICBM site. A line drawing and an artist's concept of this facility are shown in Figure 22. The launch pads are approximately 90 feet wide, 645 feet apart (center-to-center), and oriented generally east and west. There is a probable canvas-covered launcher/erector on the right (south) pad. The left pad contains a small unidentified object near the center. There is a building approximately 105 by 40 feet inboard of each pad, and a linear revetment between each pad and its associated building. There is vehicular access to the inboard side of each building, but no entrances can be identified. There are 2 buildings in line and centered between the pads, 1 approximately 100 by 40 feet and the other about 30 feet square. The larger building is accessible by road, but no entrance can be identified; a probable ditch connects the smaller building with each launch pad. There are 2 probable earth-mounded bunkers and a small building on the west side of the loop road system. A probable missile-ready building, 135 by 35 feet, and 4 smaller structures are located in the southwest part of the launch site. At least 15 vehicles/pieces of equipment are parked on an apron in the southeast portion of the launch site. They range from 40 to 100 feet in length. We are still

unable to determine the purpose of this launch facility, but continue to believe that is it not an operational ICBM site.

25X1

of construction activity at the probable rail-served soft sites designated Probable Launch Sites G(9) and H(10). Both are currently in a midstage of construction (Figures 23 and 24). The pad area(s) cannot be defined, but we continue to believe that each site will ultimately contain 2 pads. We cannot equate these probable launch sites to any prototype at Tyuratam. In an earlier revision we pointed out certain similarities between the configuration of these sites and an area of construction activity at Tyuratam, Launch Complex B (Figure 25). Continued analysis of construction progress at Complex B indicates that it is not related to the sites at Plesetsk.

TYURATAM MISSILE TEST CENTER
Test Range Facilities

25X1

is the identification of a new launch group (Figure 27), composed of 10 single silos in a midstage of construction and designated Launch Group L (21-30).

The new launch group is located at the west end of the rangehead, in the vicinity of Launch Complexes F, G, and K. It can be

25X1

The launch group configuration is similar to those at Olovyannaya and Tatishchevo, with 6 sites in a circular pattern around a central site, and 3 additional silos forming a segment of an outer circle. The center site, L1(21), has a control facility and an L-shaped interferometer under construction. The silo structures appear to be circular and similar to the Type IIID sites. We are awaiting further photographic coverage, however, before firmly identifying these silos as to type.

At Launch Complex A, Launch Site A3 (15) has progressed to a late stage of construction, with the silo completely backfilled. No significant change or activity can be observed at Launch Sites A1(1) or A2.

The silo at Launch Site B2(16) has been backfilled, and the site is in a late stage of construction. No significant activity is visible at Launch Sites B1(2) and B3(17).

25X1

probable missile, approximately 105 feet in length, erected on Pad C1 (Figure 28) at Launch Complex C(3). In addition, a possible missile transporter is aligned with the launcher/erector on Pad C3; their overall length is about 180 feet.

No significant change or activity is identifiable at Launch Complexes D(4,9), E(6), and F(5) and Launch Sites G1/G2(7), G3/G4(11), G5/G6(12) and G8/G9(19). At Launch Site G7(18), neither the silo nor the probable control building at the intersection of the segments of the L-shaped electronic facility are backfilled. The ditching from Launch Site K1/K2(13) now terminates at the probable control building.

25X1

probable missile dolly, approximately 105 feet long, on the rail serving Pad H1 (Figure 29) at Launch Complex H(8). Two small earth-mounded buildings with a road-served hard-stand between them have been constructed at a point approximately 300 feet south-southwest of Pad H1. First evidence of this construction was observed on 25X1

At Launch Complex I(14), the silo is back-filled and backfilling is in progress at the prob-

able control facility located at the junction of the segments of the L-shaped interferometer. A new ditch extends from a point just west of the silo to the west fenceline.

At Launch Complex J (Figure 30), the high bay of the large building is approximately 75 percent roofed. The rail embankment parallel to the main road has been extended approximately 0.5 nm, and curves north-northeast in the general direction of the probable launch area to its present terminus. There are 3 additional shallow rectangular excavations in the area of construction activity approximately 400 feet northwest of the large excavation at the probable launch area. The road connecting Launch Complexes A and J is now complete.

Neither silo at Launch Site K1/K2(13) appears to be up to ground level (Figure 31). The ditch from Launch Site G7(18) crosses the access road serving K2 and terminates at a small unidentified structure near K1. At Launch Site K3(20), open excavations continue to be visible in the vicinity of the silo and the probable control building. Details of the nature of the operation in progress cannot be determined, nor can it be ascertained if the silo is intact or undergoing modification.

25X1 An H-shaped building approximately 360 by 140 feet overall can be identified on [redacted] 25X1 [redacted] in the area of unidentified construction activity south of the [redacted] Launch Complex G (Figure 32). The center bar of the "H", approximately 70 by 80 feet, is approximately 3 times as high as the other 2 parts of the building. There are at least 5 smaller buildings and an excavation in the area.

[redacted] revealed new and similar construction activity at both Tyuratam and the Kapustin Yar Missile Test Center (Figure 33). At Tyuratam the activity is located 1.5 nm southwest of the propellant production plant. It can be negated on [redacted] 25X1 [redacted] 25X1 this construction activity is located approximately 0.5 nm north of the former rocket launch complex. In general, this activity at each range consists of a geometric configuration of excavations, ditches, and scars which is suggestive of an electronic facility under construction.

Test Range Activity

ICBM firing activity accelerated during the period [redacted] with a total of 7 successful firings from Tyuratam to the Klyuchi Impact Area on Kamchatka. ICBM operations were canceled [redacted] SS-7 firings were identified on [redacted] SS-8 firings were accomplished on [redacted] The highlight of this activity, however, was the successful launch of what appears to be a new ICBM and/or space vehicle on [redacted] Flim Flam tracking data indicates that the new vehicle may have been launched from Launch Site G5/G6 at Tyuratam. If so, it represents the first successful launch from this facility.

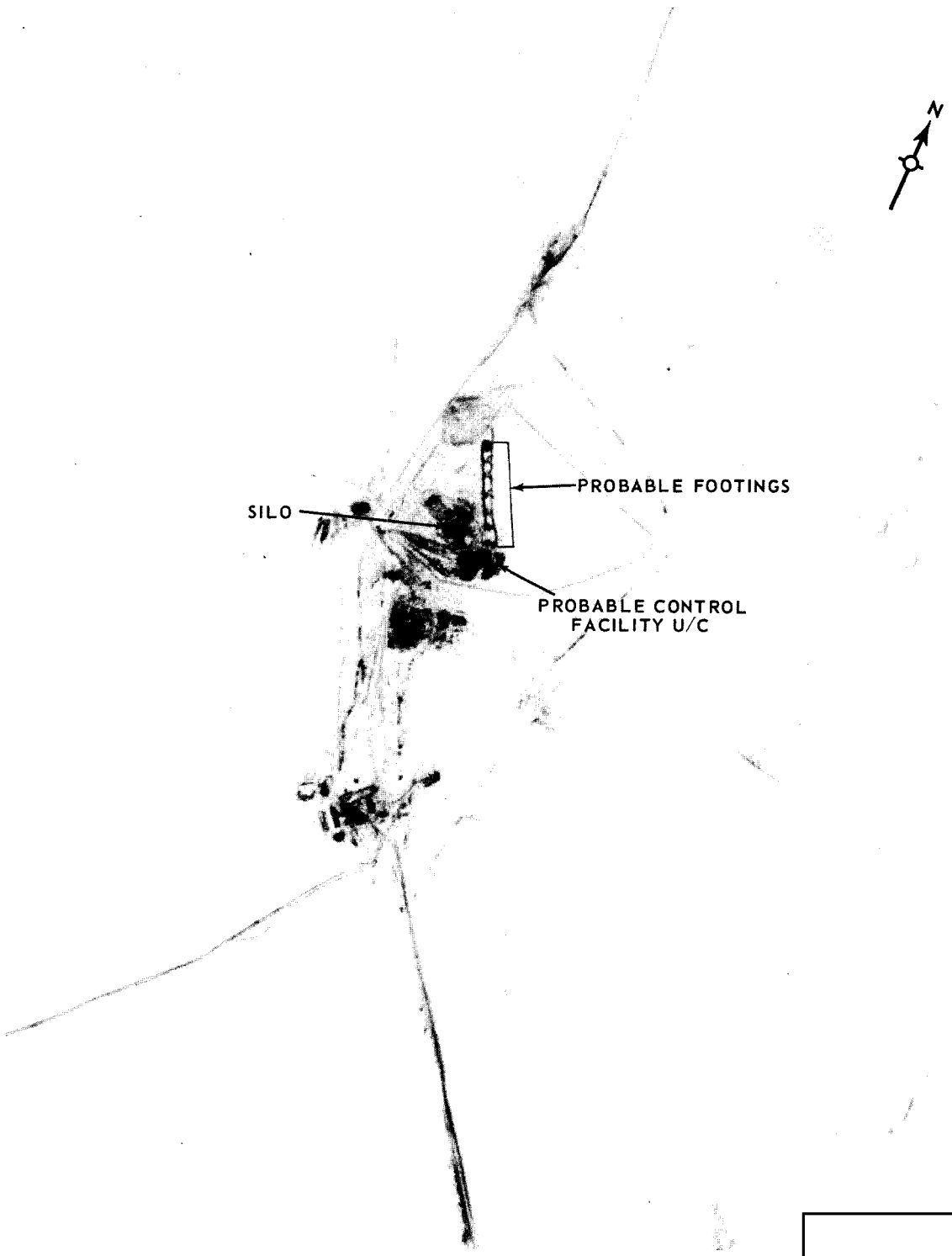

FIGURE 3. LAUNCH SITE B(3), DOMBAROVSKIY ICBM COMPLEX.

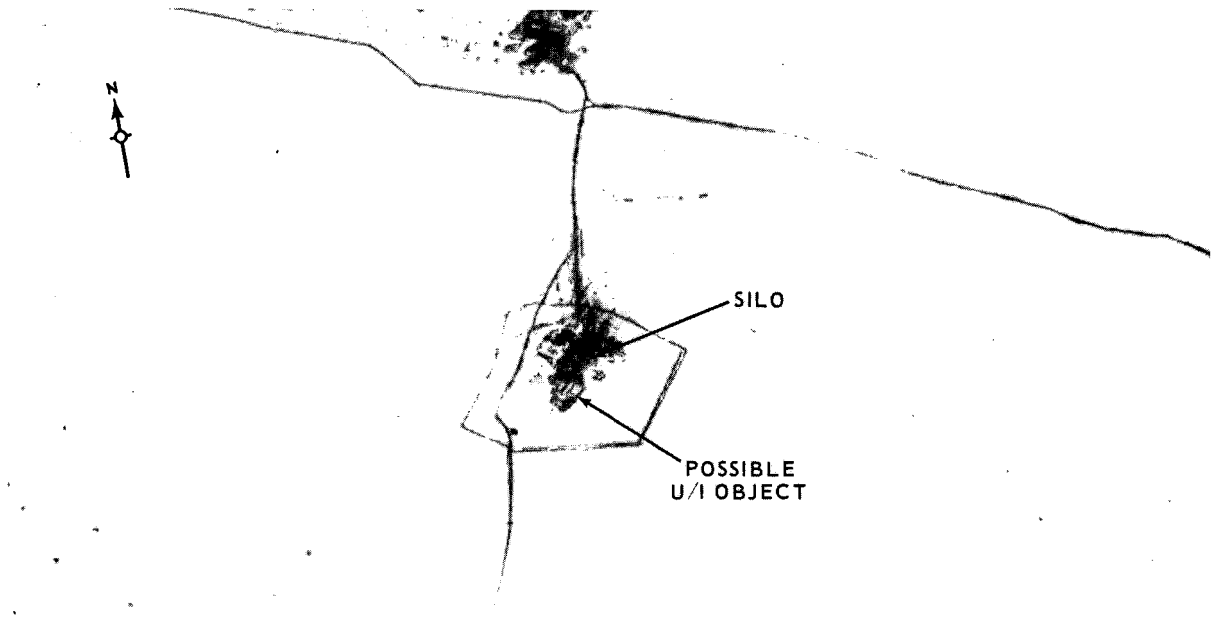

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FIGURE 4. POSSIBLE CONTROL FACILITY UNDER CONSTRUCTION, LAUNCH SITE C(3), IMENI GASTELLO ICBM COMPLEX.

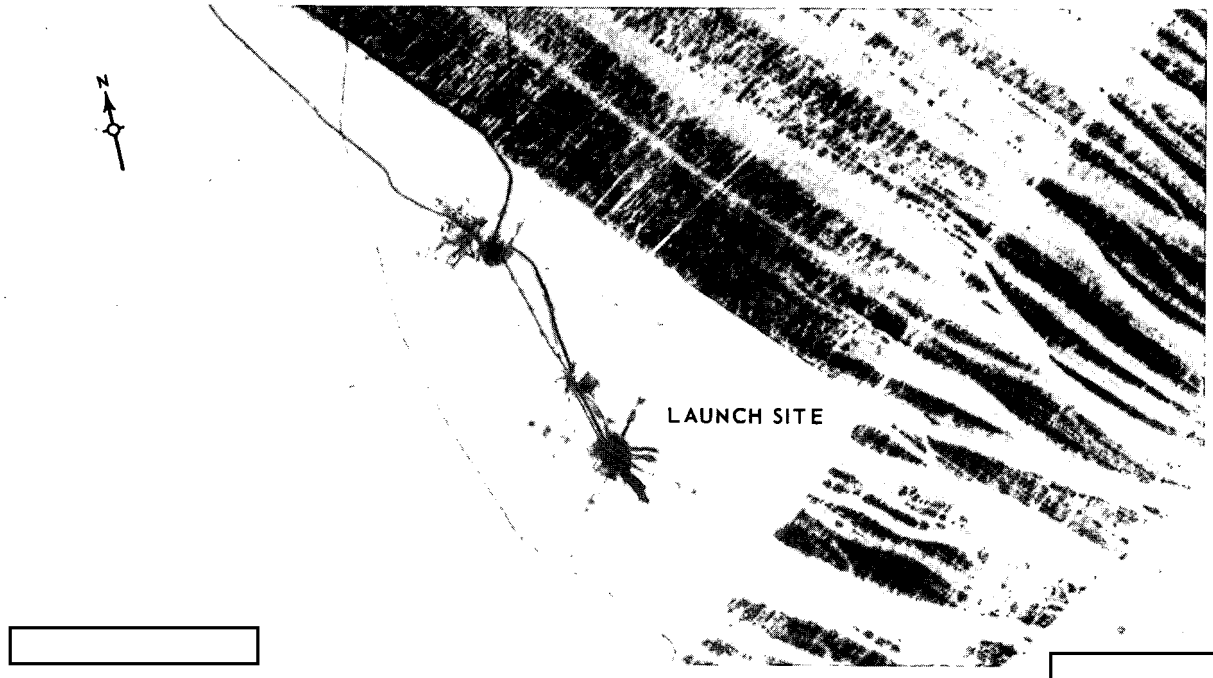

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FIGURE 5. LAUNCH SITE G(7), IMENI GASTELLO ICBM COMPLEX.

25X

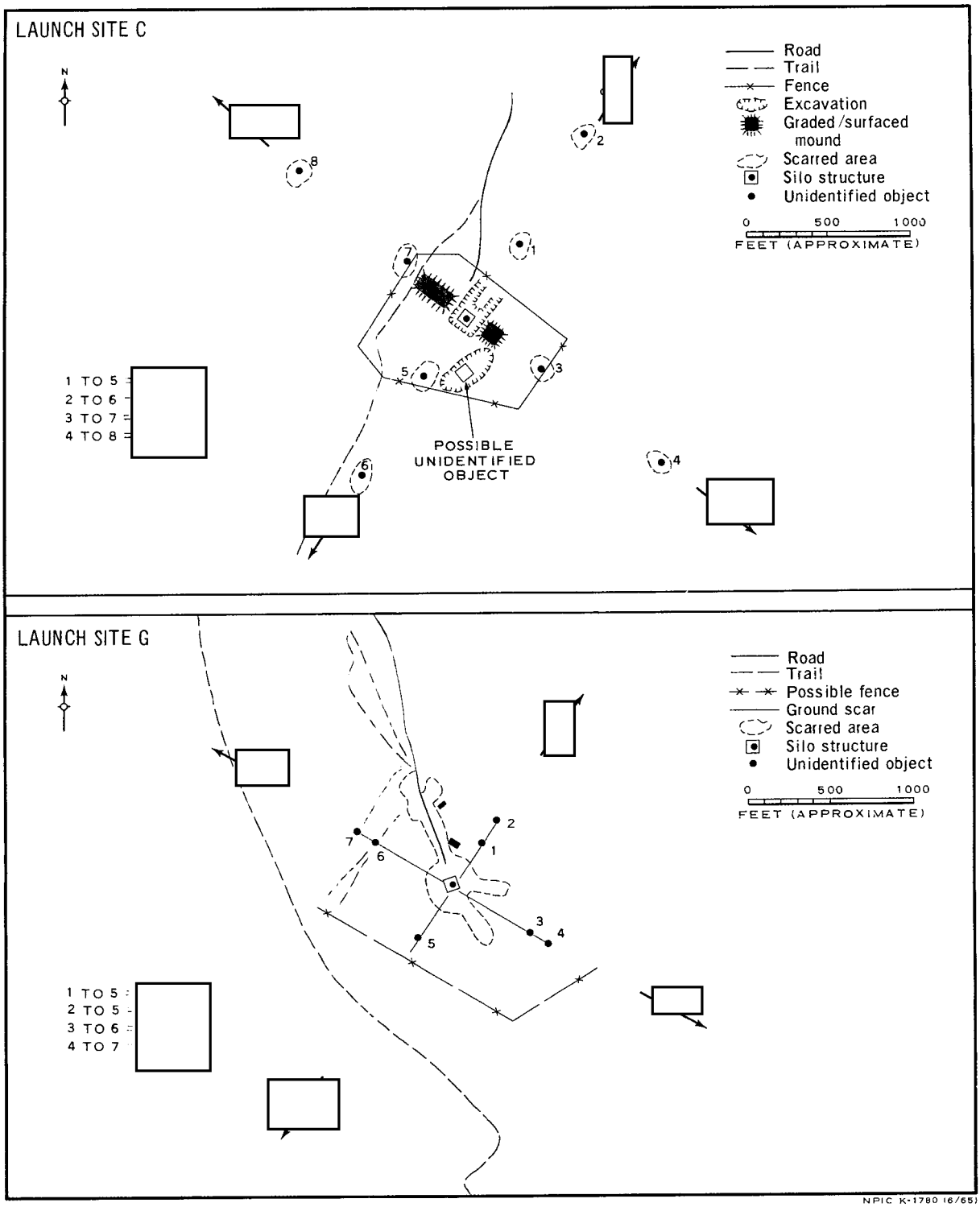


FIGURE 6. PLUS CONFIGURATIONS, LAUNCH SITES C(3) AND G(7), IMENI GASTELLO ICBM COMPLEX.

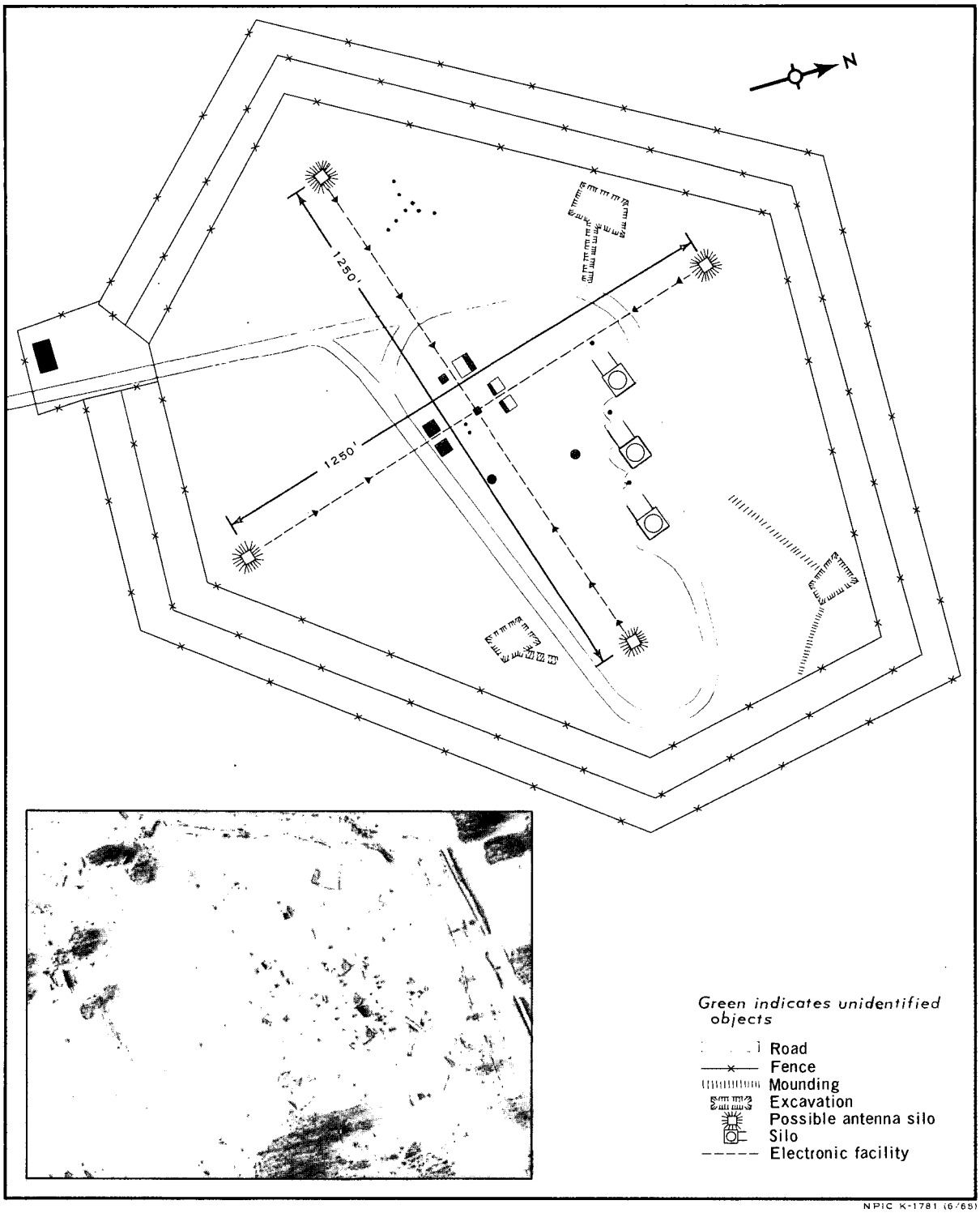
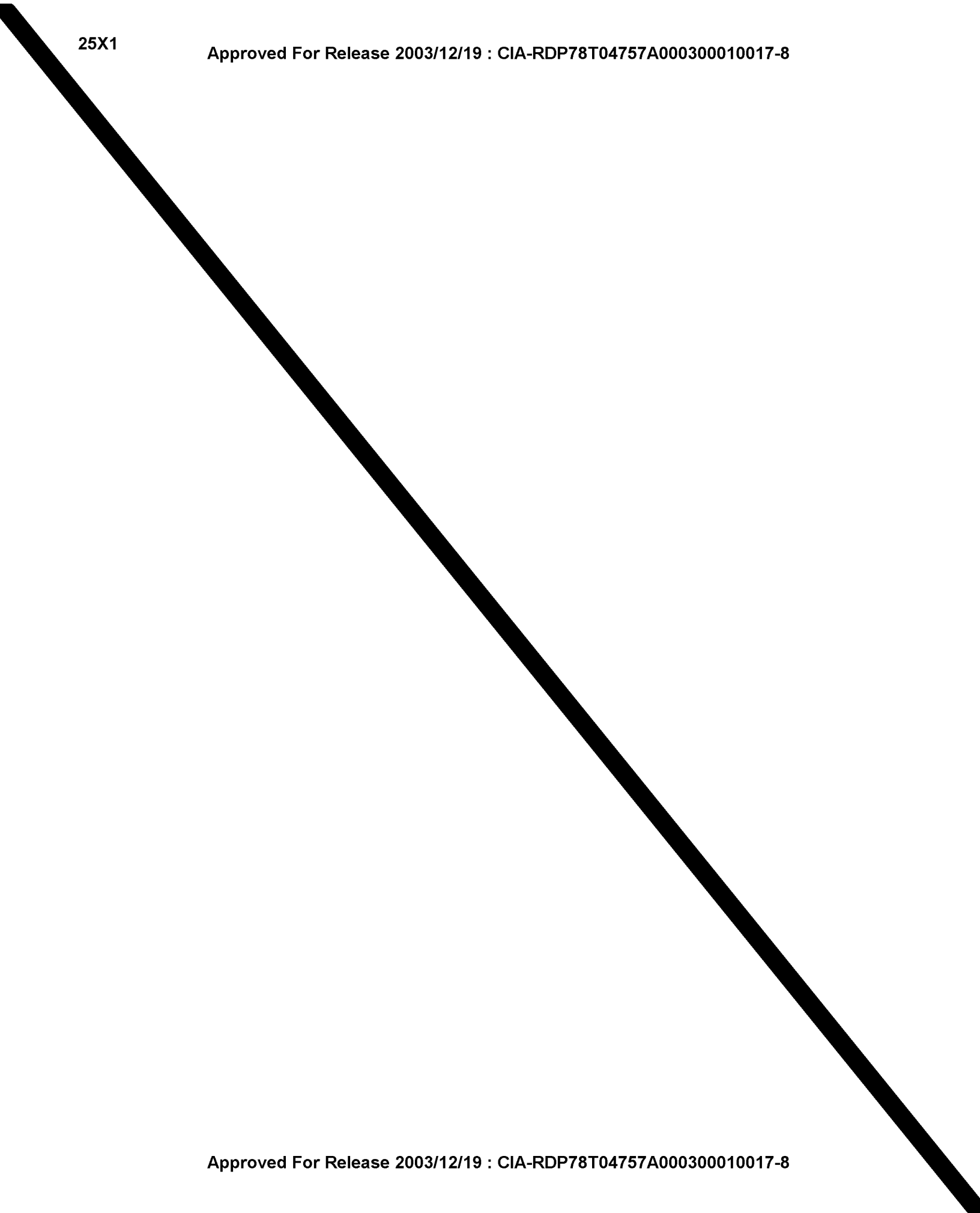


FIGURE 7. ELECTRONIC FACILITY AT TYPE IIIB ICBM LAUNCH SITE (LAUNCH SITE A(1), OMSK ICBM COMPLEX).



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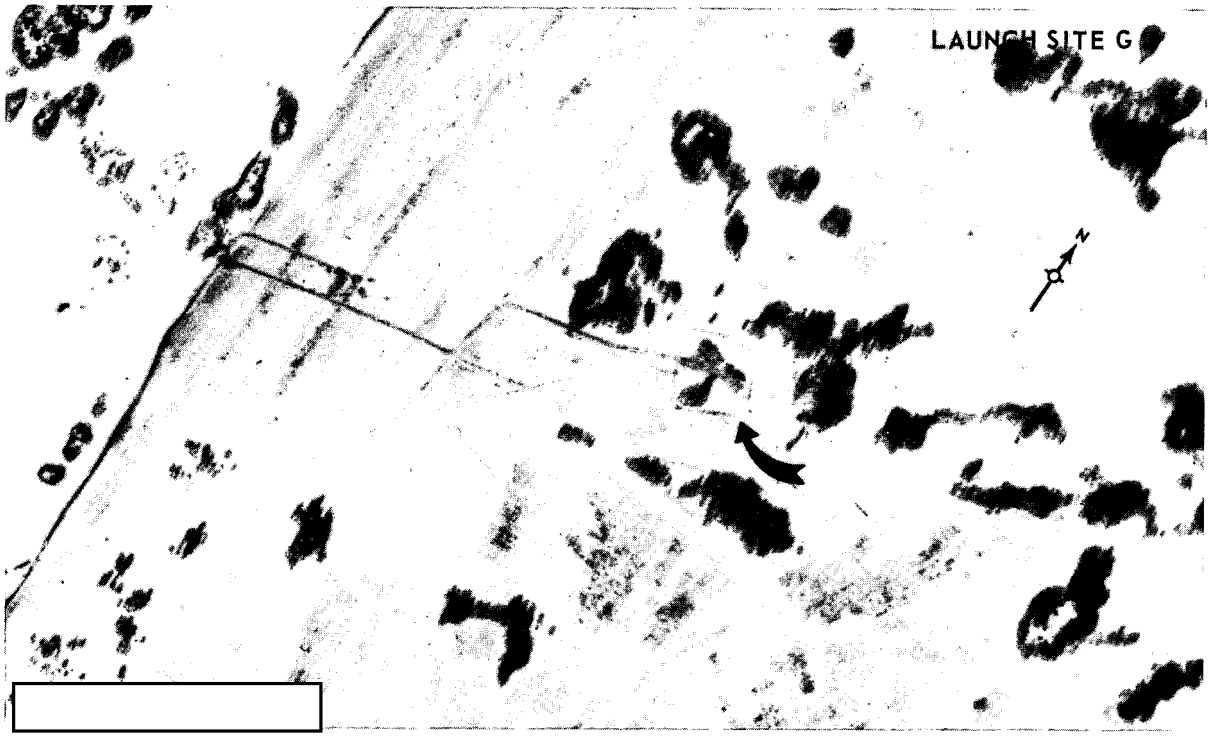

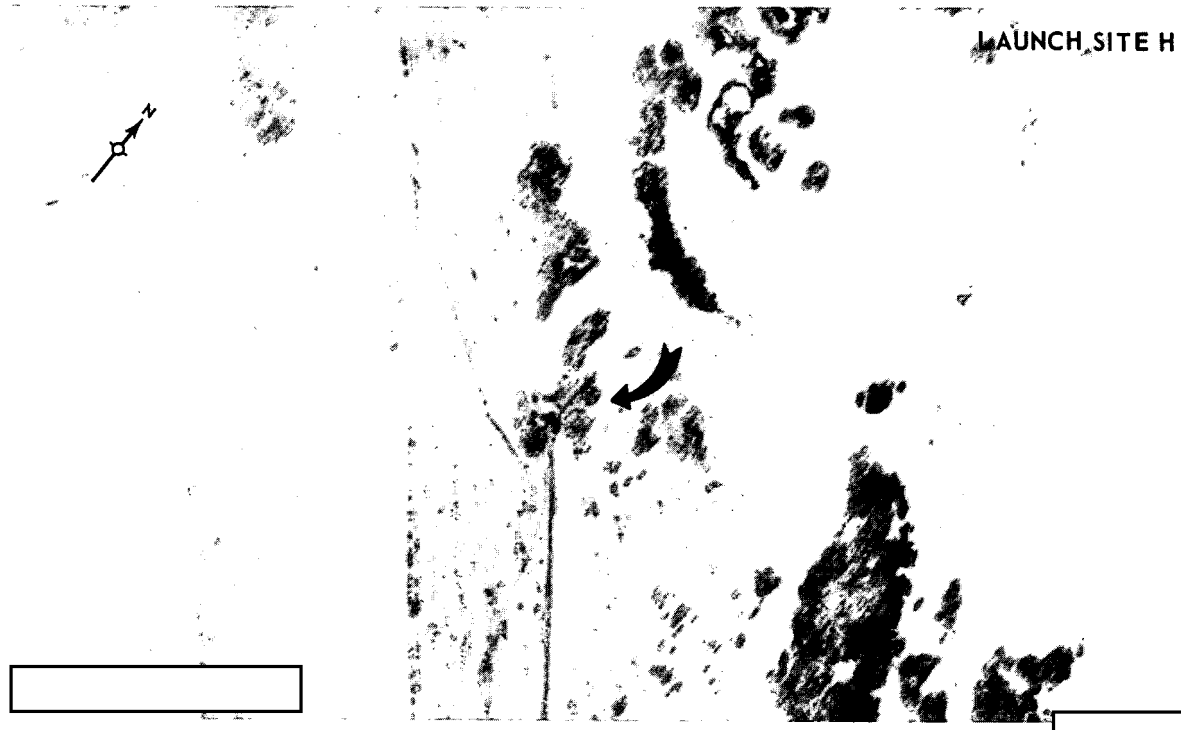

FIGURE 9. LAUNCH SITES G(7) AND H(8), KARTALY ICBM COMPLEX.

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TOP SECRET

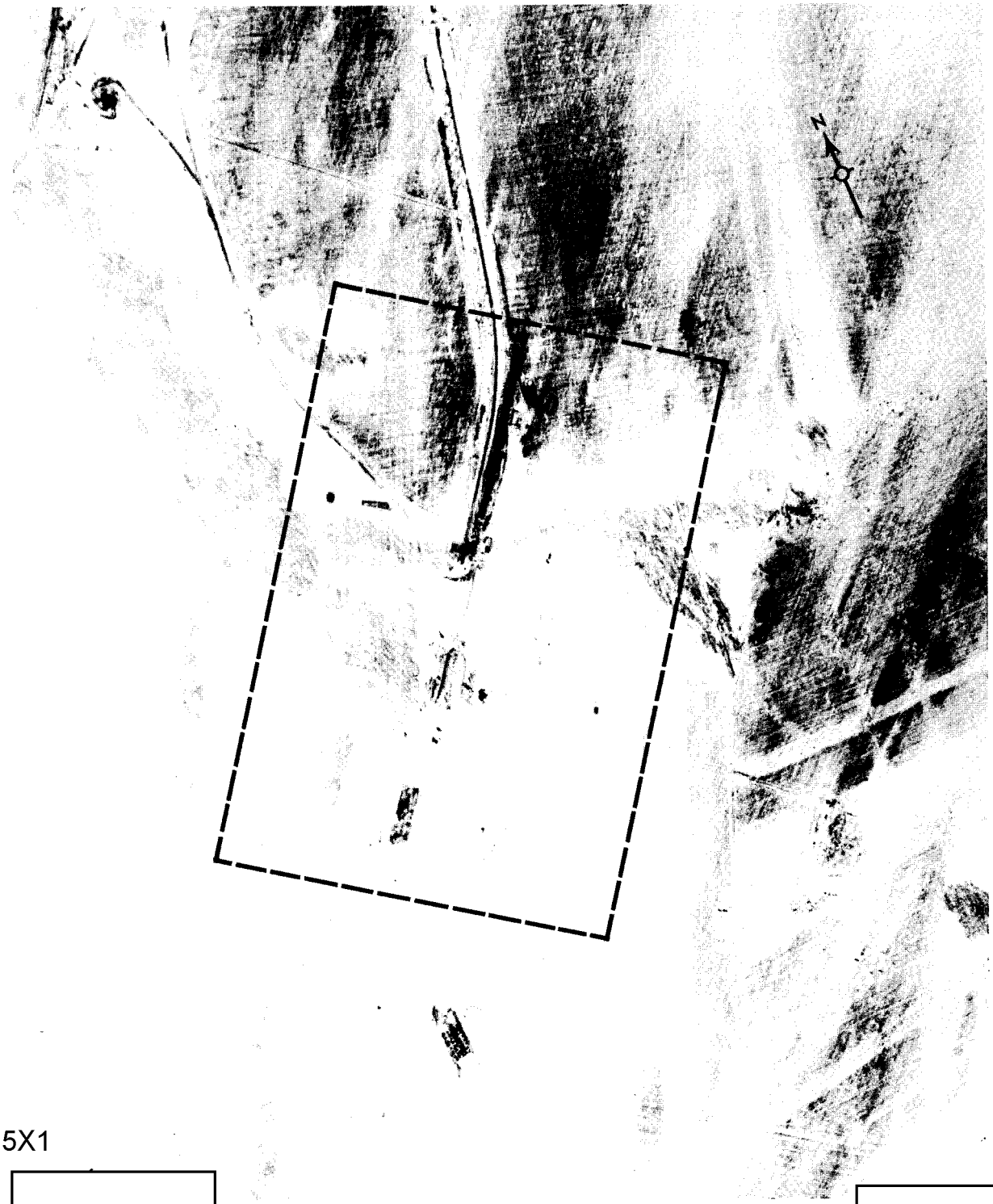
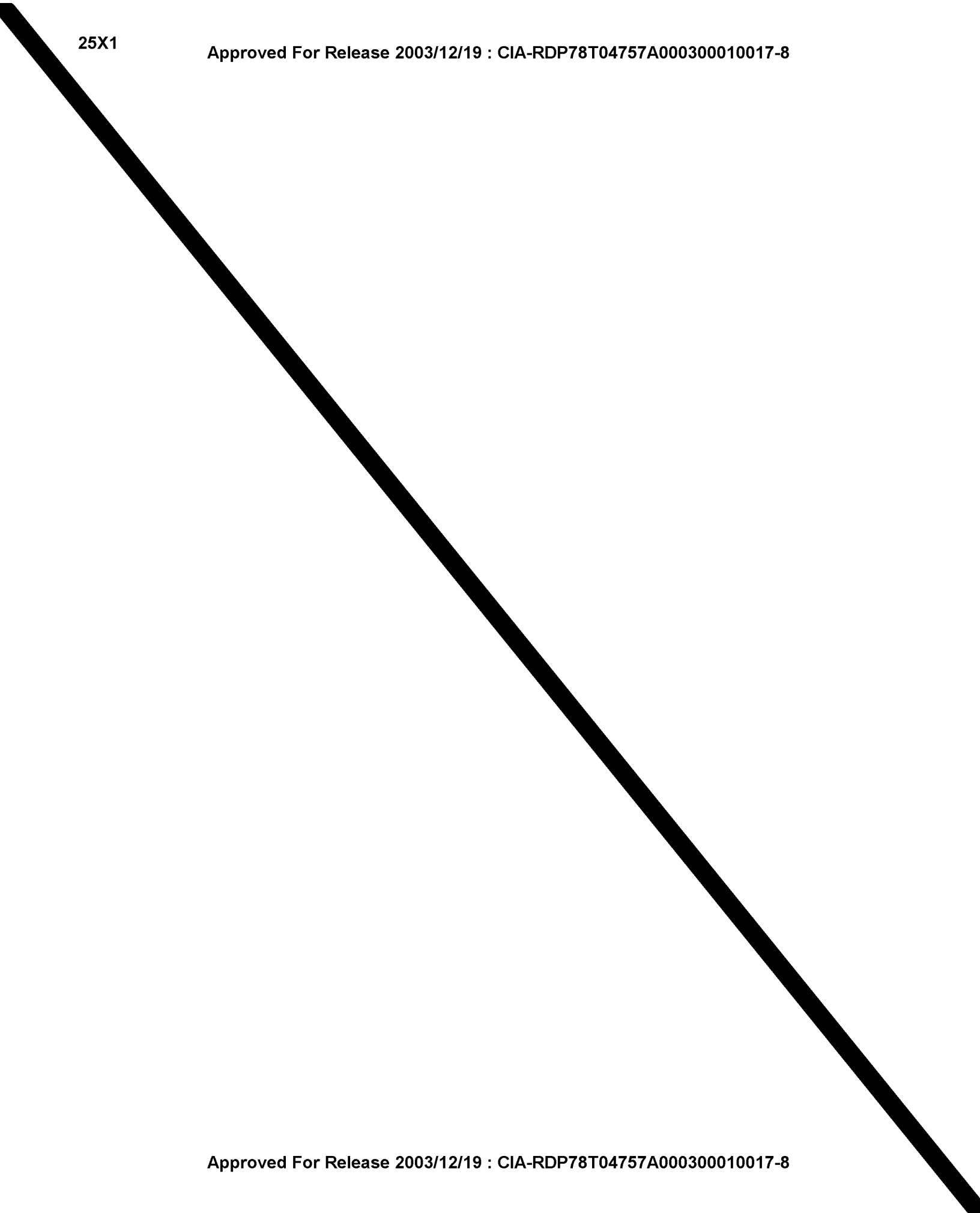


FIGURE 10. RAIL-TO-ROAD TRANSFER POINT, KARTALY ICBM COMPLEX.



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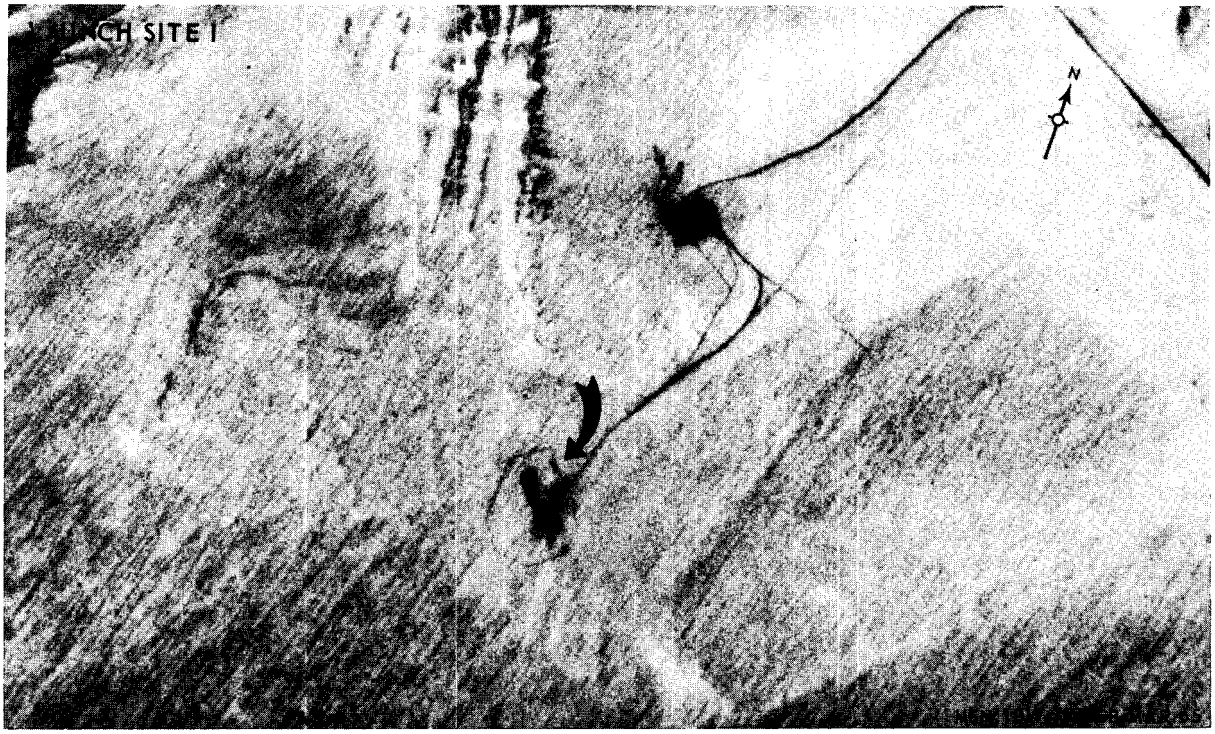

LAUNCH SITE J

25X1

FIGURE 12. LAUNCH SITES I(9) AND J(10), UZHUR ICBM COMPLEX.

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FIGURE 14. TYPE IIID LAUNCH SITES, DROVYANAYA ICBM COMPLEX.

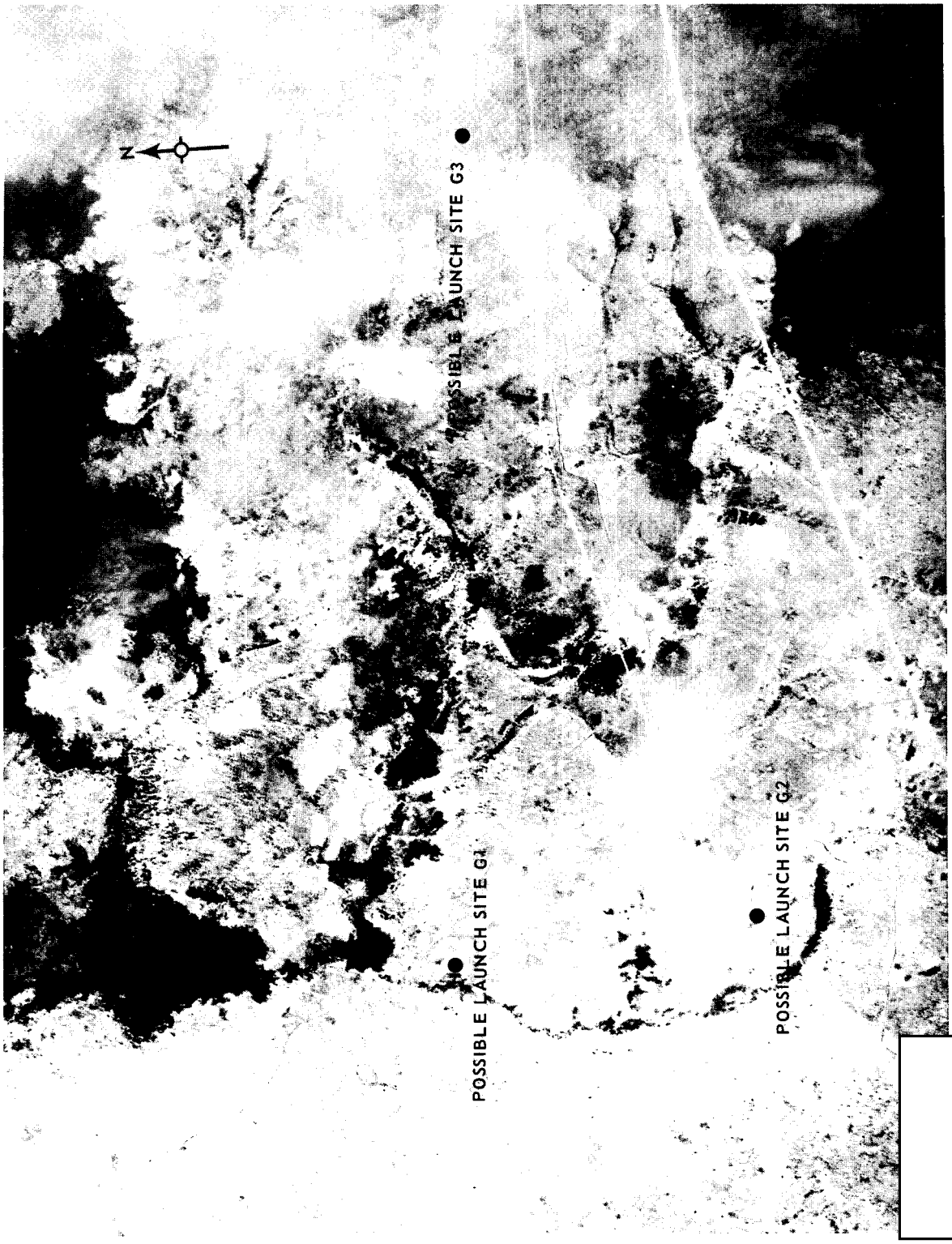


FIGURE 15. POSSIBLE LAUNCH SITES G1, G2, AND G3, POSSIBLE LAUNCH GROUP G, GLADKAYA ICBM COMPLEX.

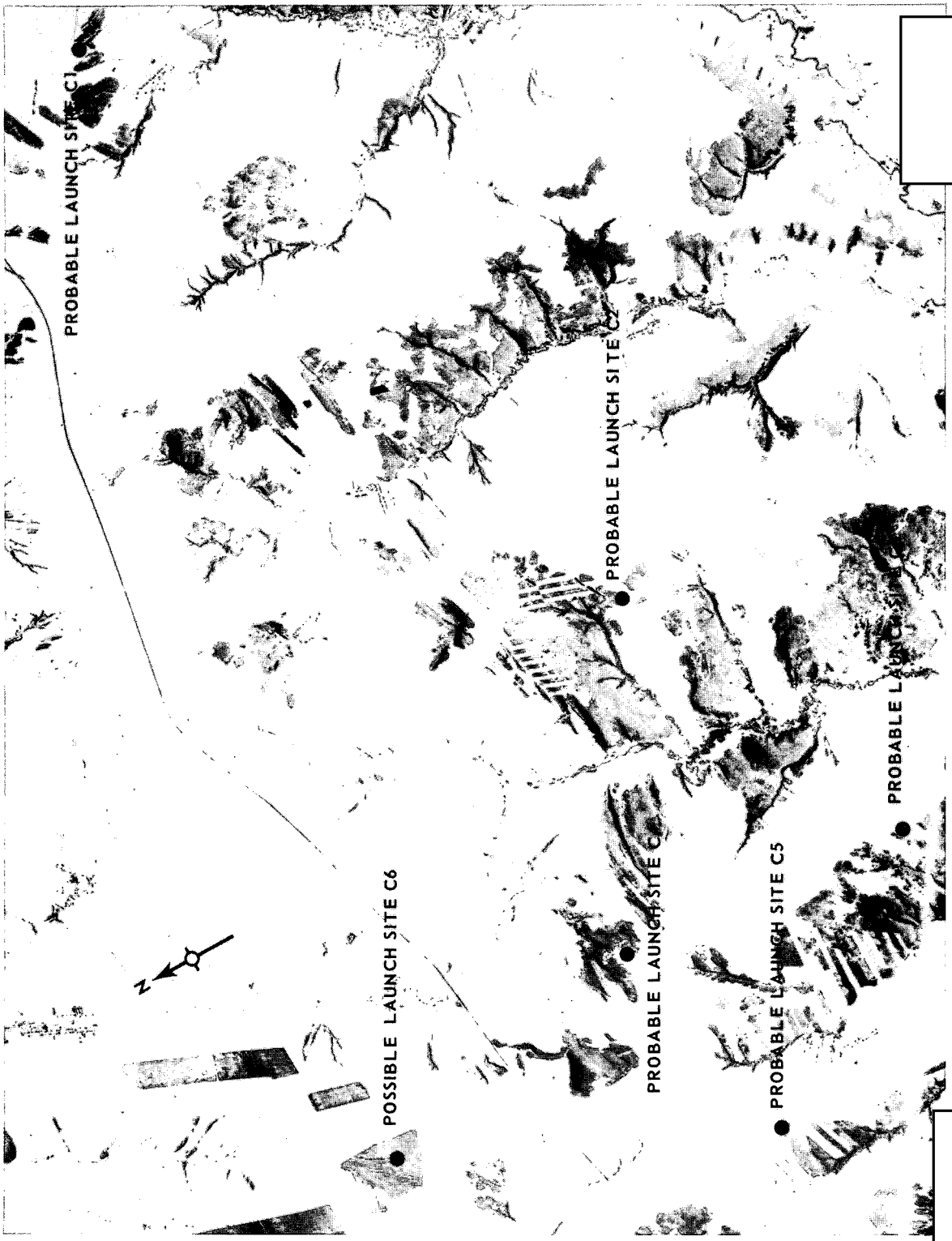
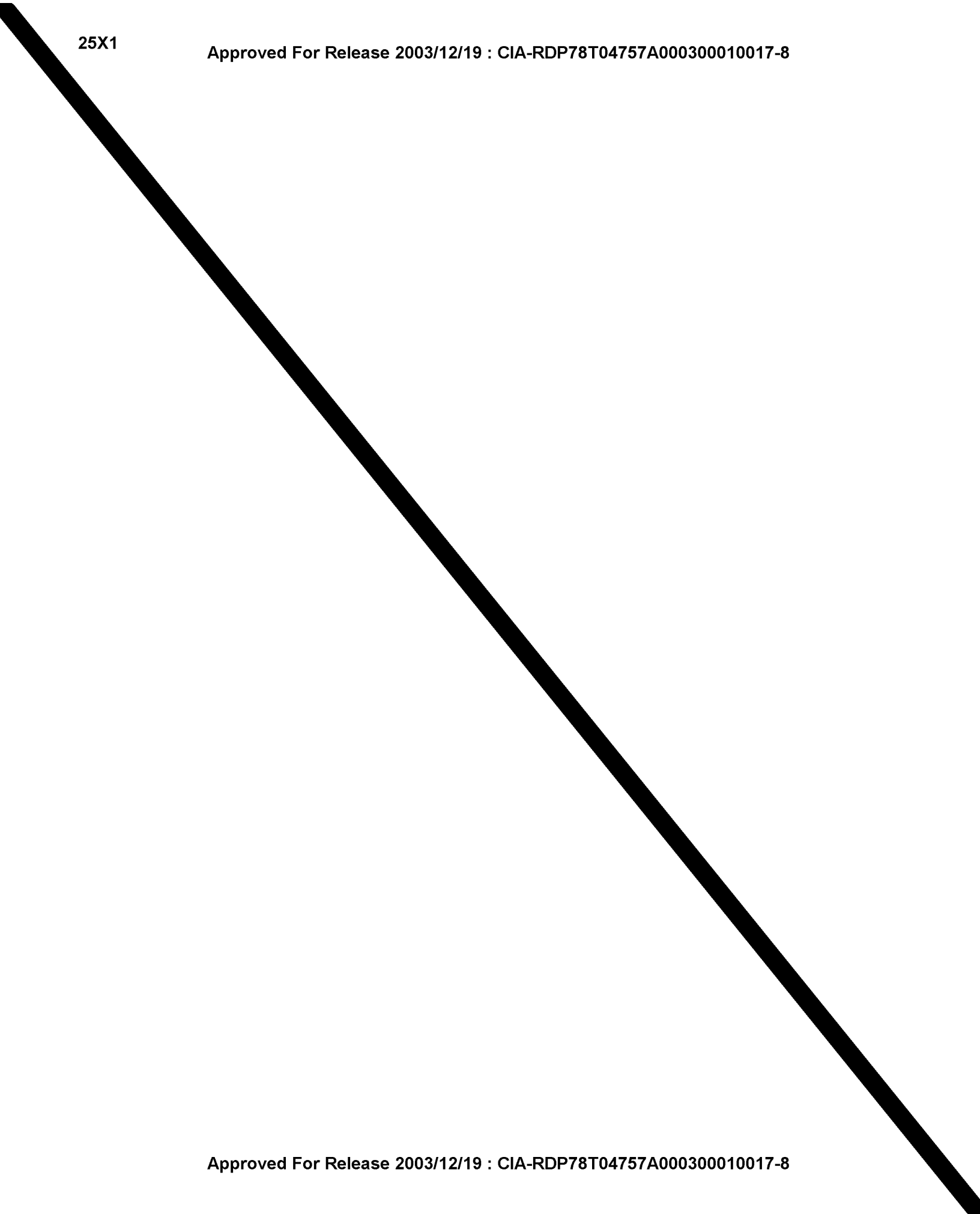


FIGURE 16. PROBABLE LAUNCH GROUP C(25-29), TATISHCHEVO ICBM COMPLEX.

25X1

25X1



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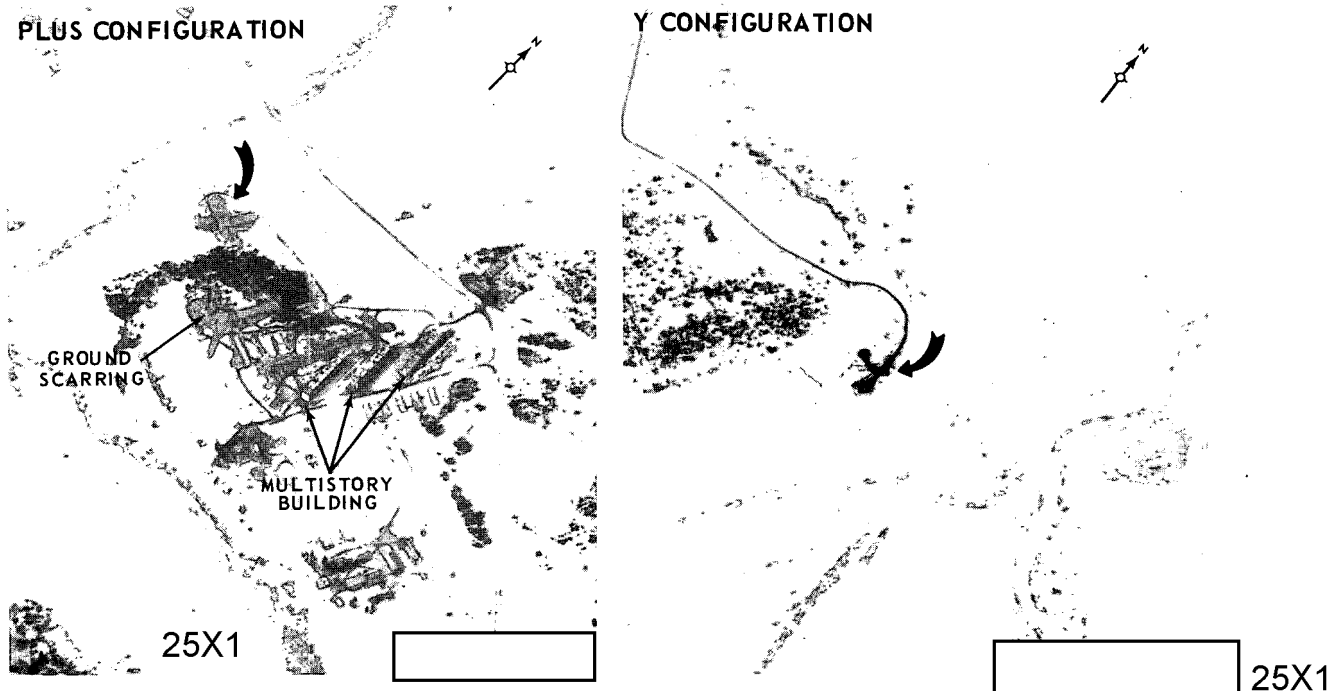

FIGURE 18. SUSPECT AREAS OF SSM ACTIVITY, KOZELSK ICBM COMPLEX.

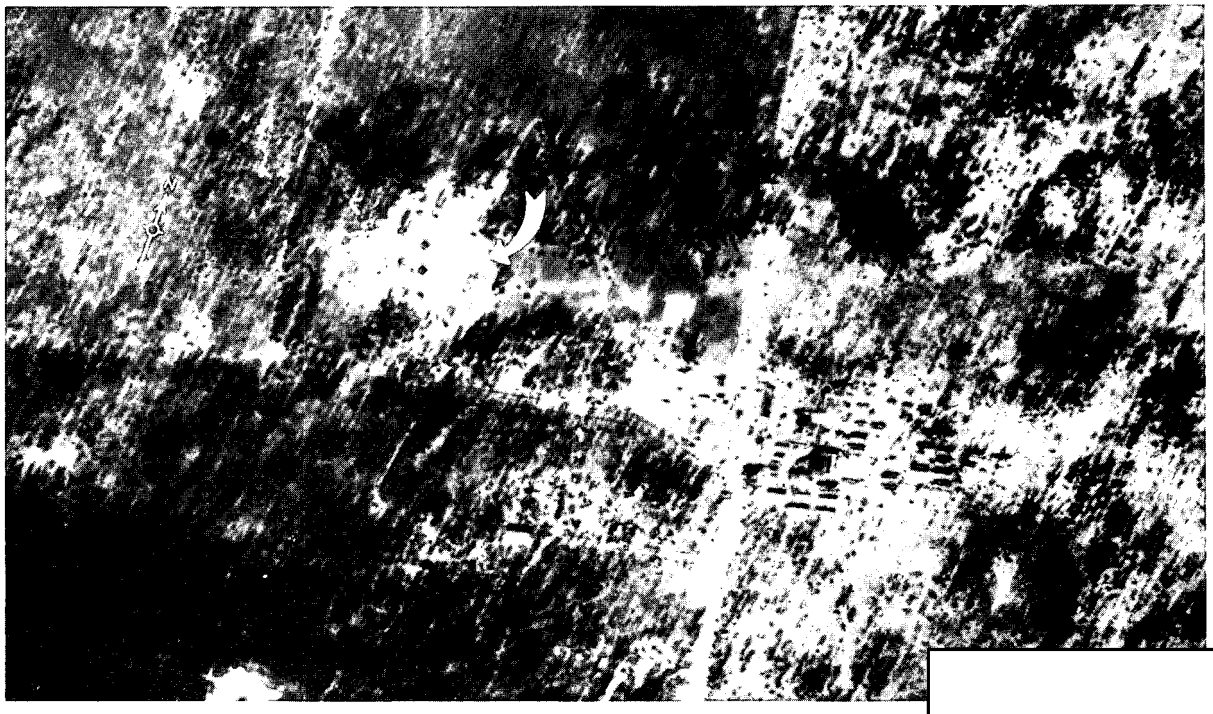

FIGURE 19. LAUNCH SITE C(3), NOVOSIBIRSK ICBM COMPLEX.

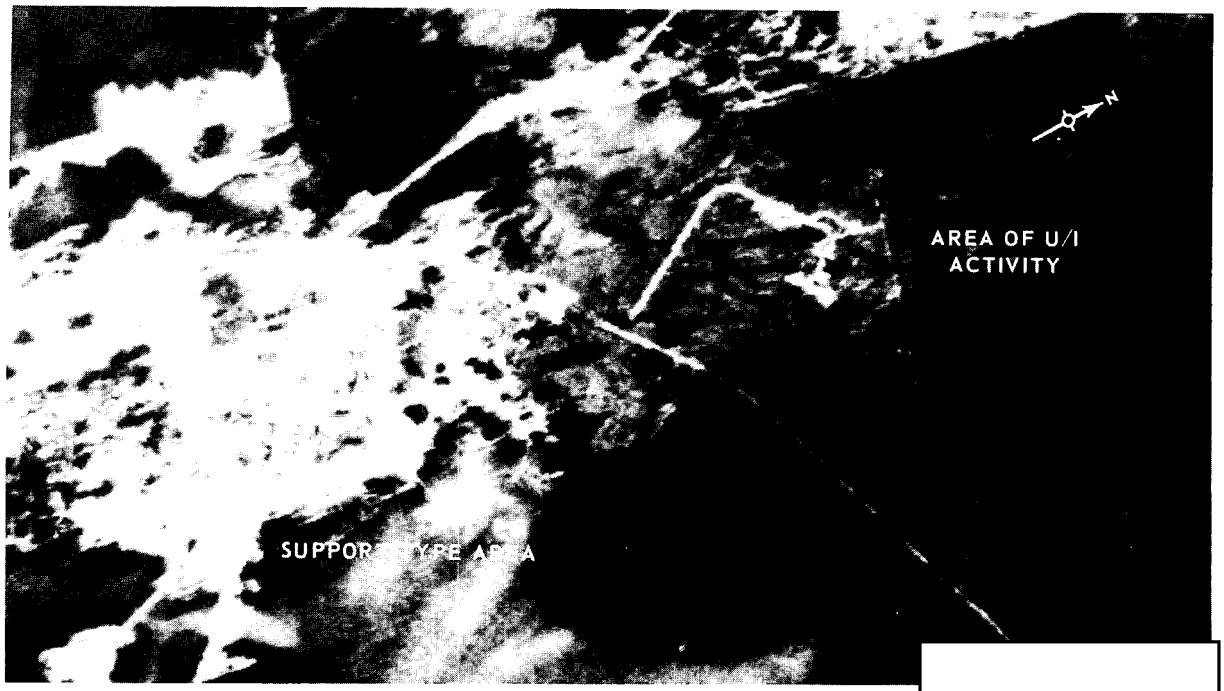

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FIGURE 20. SUSPECT NEW LAUNCH SITE, PLESETSK ICBM COMPLEX.

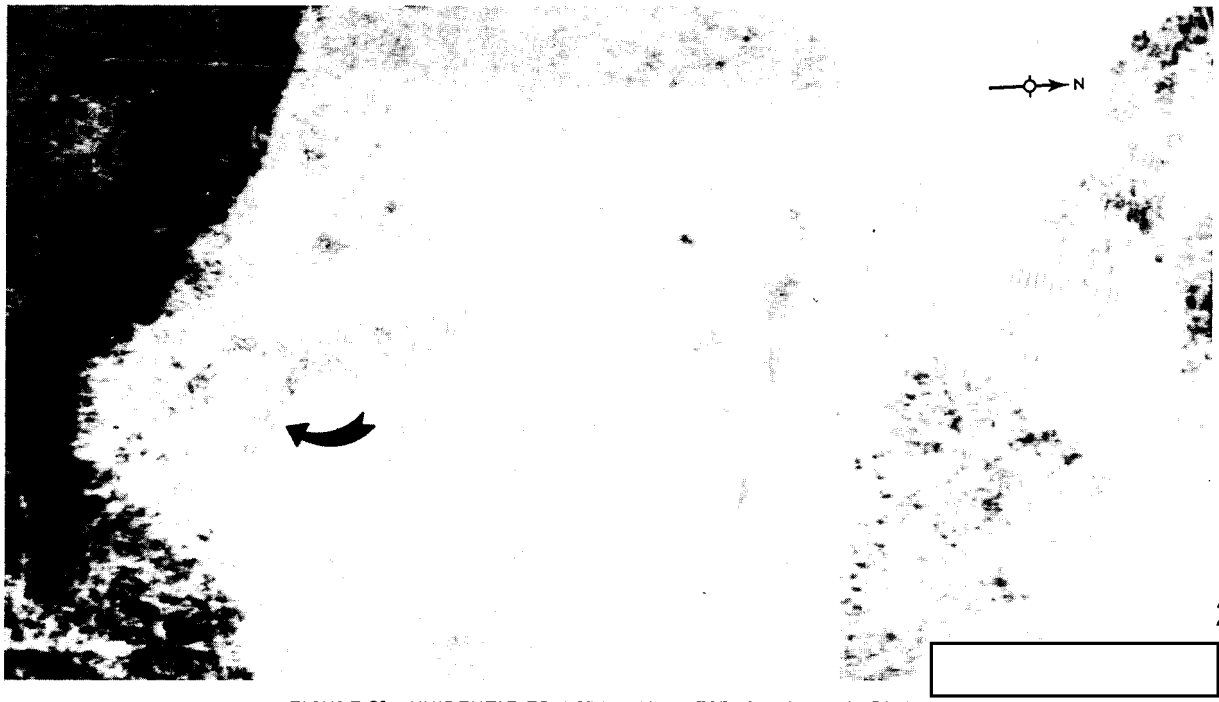

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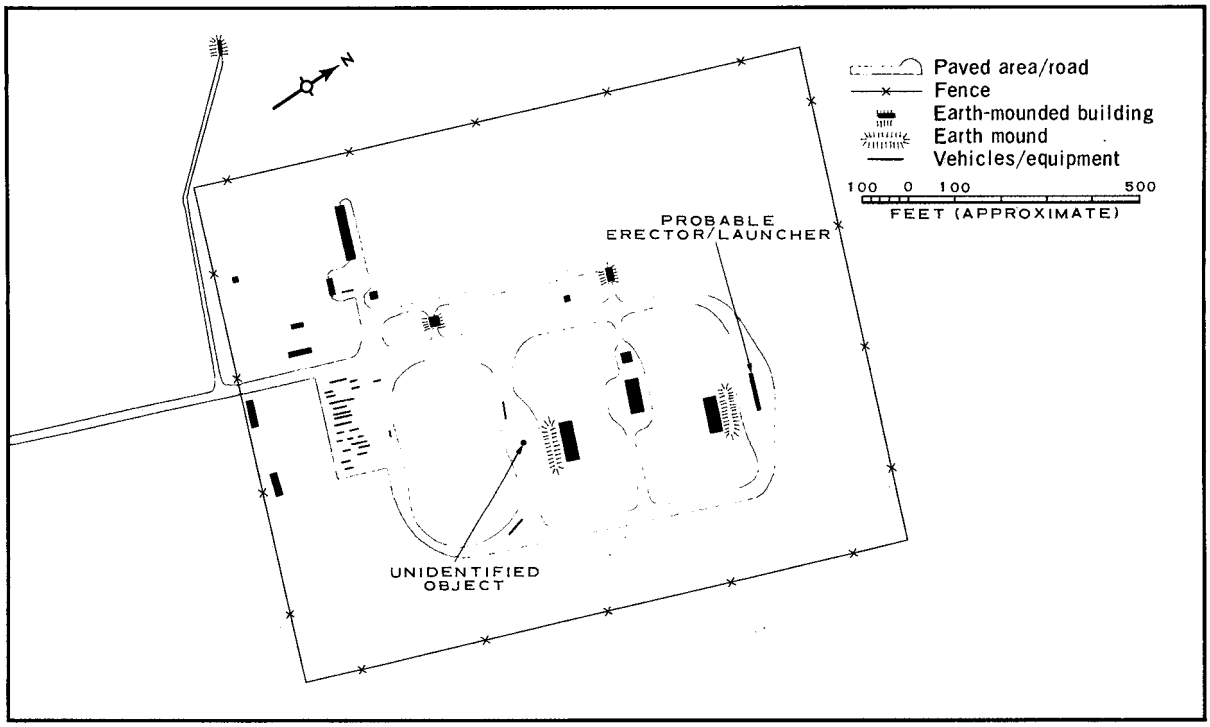
FIGURE 21. UNIDENTIFIED ACTIVITY, PLESETSK ICBM COMPLEX.

25X1



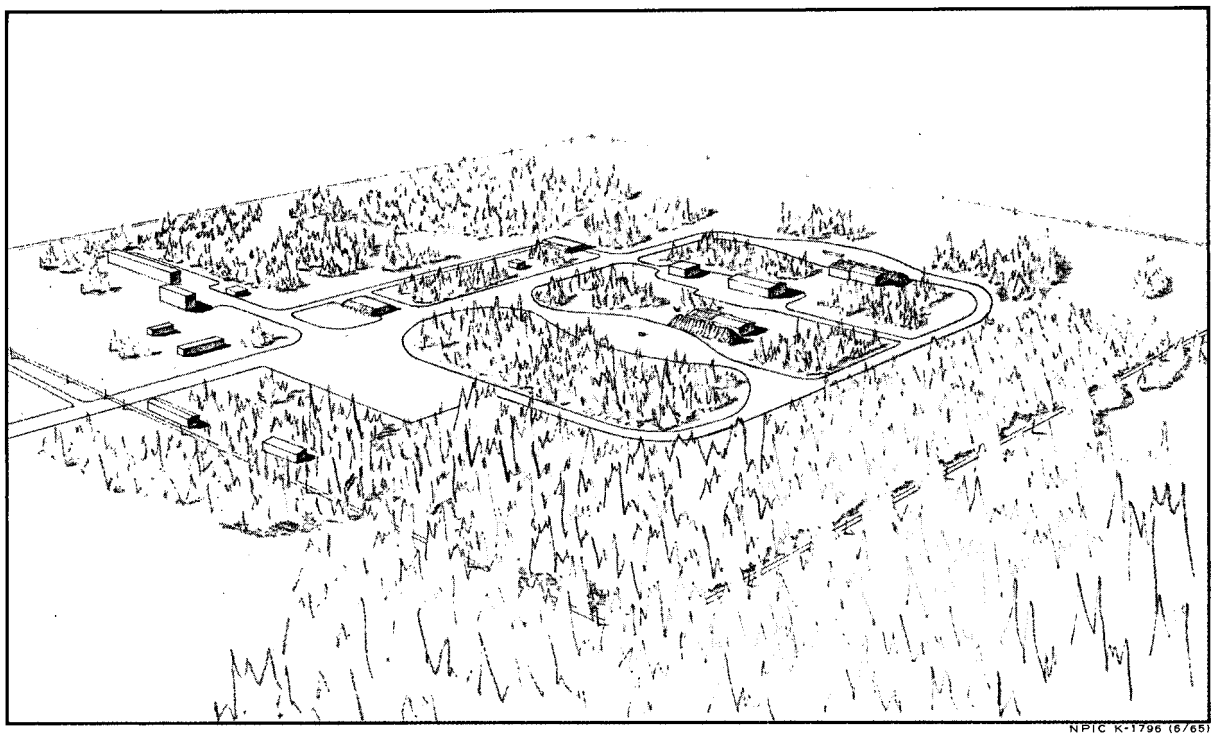


FIGURE 22. LAUNCH SITE F, PLESETSK ICBM COMPLEX.

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TOP SECRET

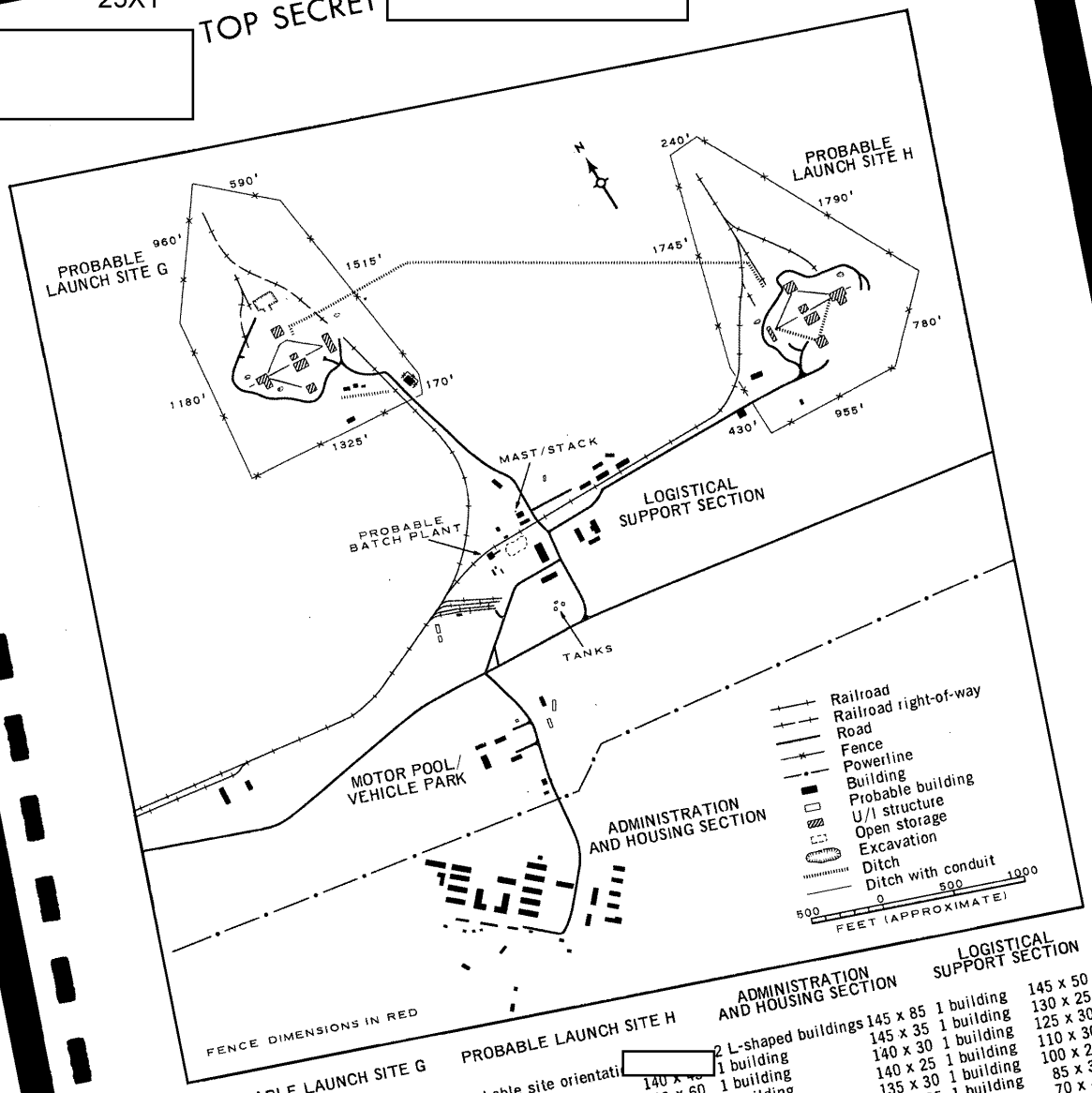
25X1

FIGURE 23. PROBABLE LAUNCH SITES G(9) AND H(10), PLESETSK ICBM COMPLEX.

25X1 25X1

25X1

TOP SECRET



PROBABLE LAUNCH SITE G		PROBABLE LAUNCH SITE H		ADMINISTRATION AND HOUSING SECTION		LOGISTICAL SUPPORT SECTION	
Probable site orientation		Probable site orientation		2 L-shaped buildings	145 x 85 1 building		145 x 50
1 U/I structure	140 x 50	1 U/I structure	140 x [redacted]	1 building	145 x 35 1 building		130 x 25
1 U/I structure	120 x 80	1 U/I structure	110 x 60	1 building	140 x 30 1 building		125 x 30
1 U/I structure	115 x 60	1 U/I structure	105 x 90	1 building	140 x 25 1 building		110 x 30
1 U/I structure	105 x 80	1 U/I structure	85 x 75	10 buildings	135 x 30 1 building		100 x 25
1 U/I structure	80 x 55	1 U/I structure	80 x 80	1 building	120 x 35 1 building		85 x 30
1 U/I structure	75 x 45	1 U/I structure	75 x 45	1 building	95 x 35 1 building		70 x 40
1 building	45 x 35			4 buildings	85 x 30 1 building		60 x 20

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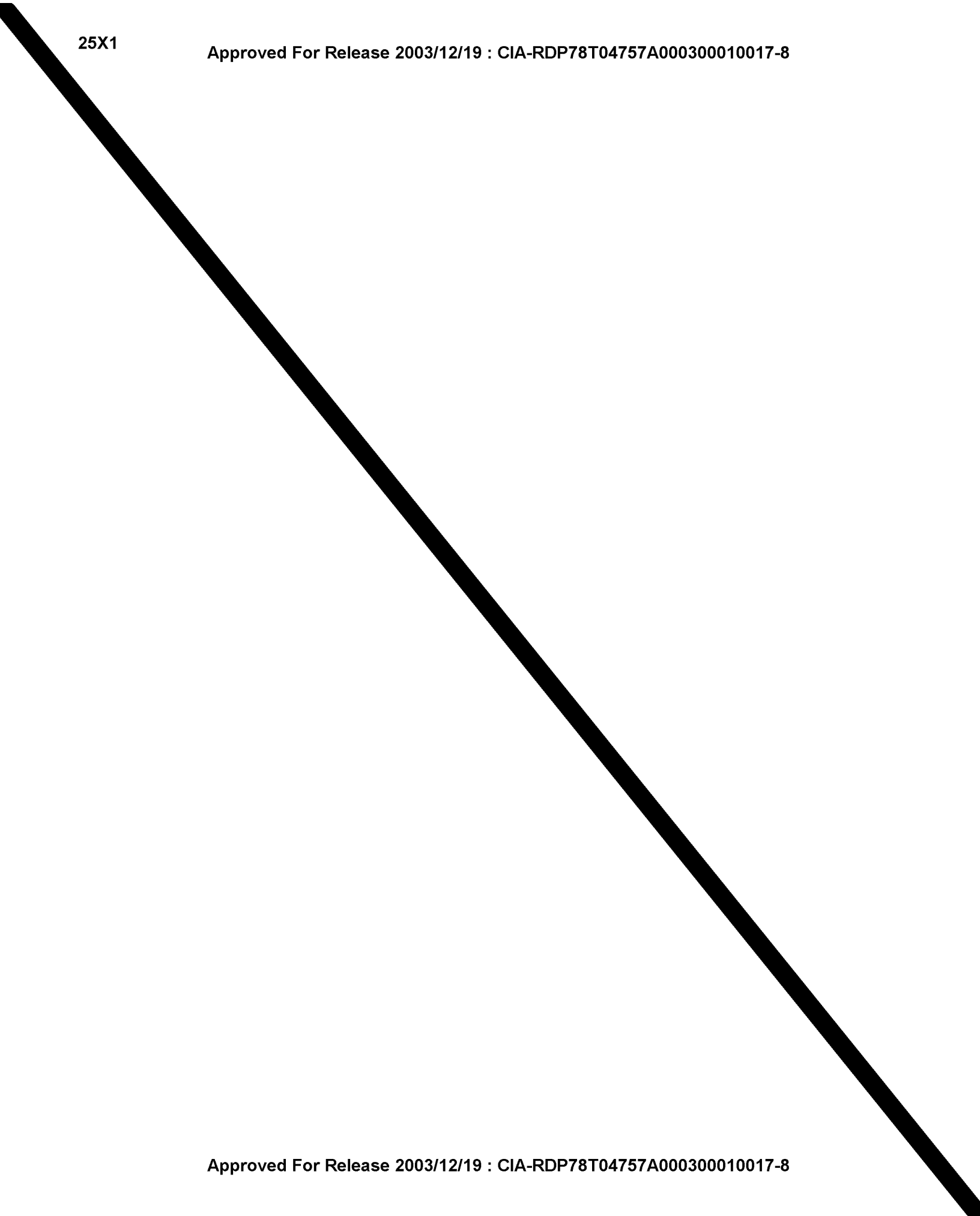
FIGURE 24. LAYOUT OF PROBABLE LAUNCH SITES G(9) AND H(10), PLESETSK ICBM COMPLEX.

25X1 25X1

25X1

TOP SECRET



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25X1

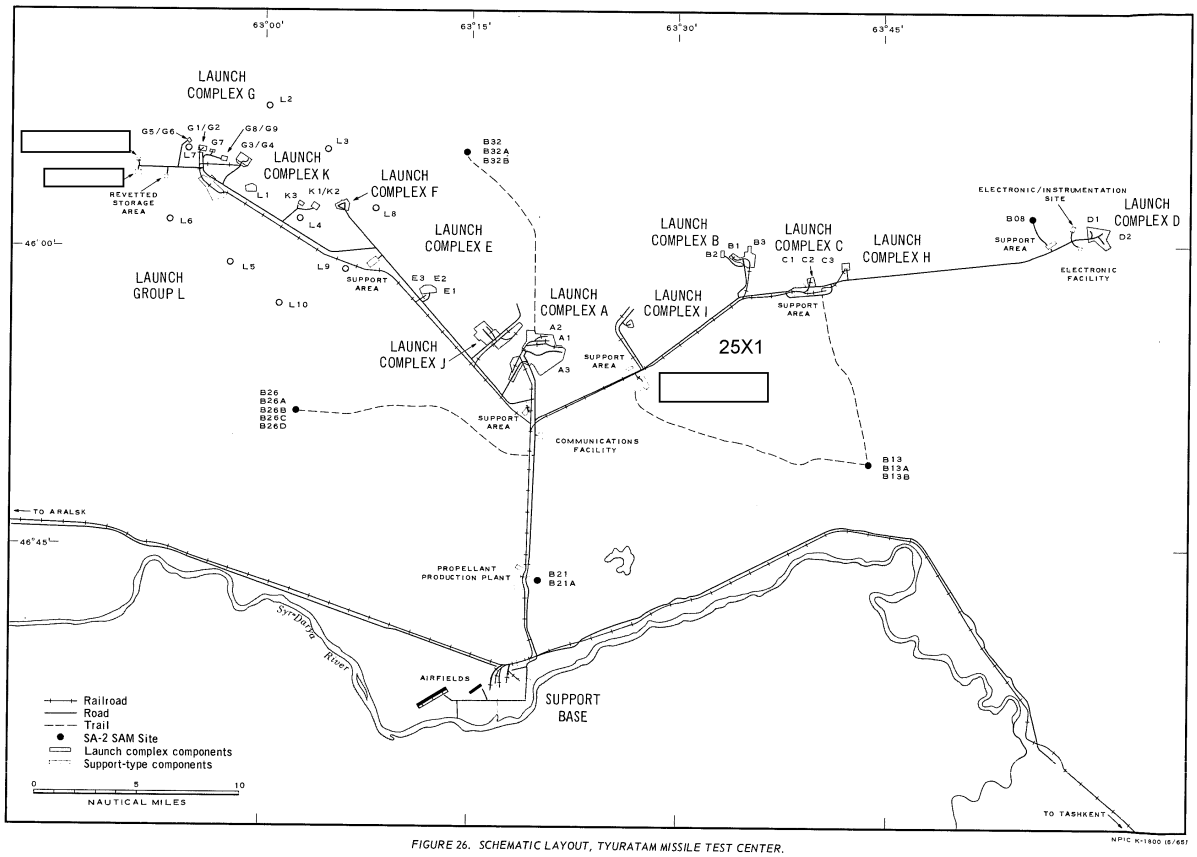

FIGURE 26. SCHEMATIC LAYOUT, TYURATAM MISSILE TEST CENTER.

25X1

25X1

[redacted]

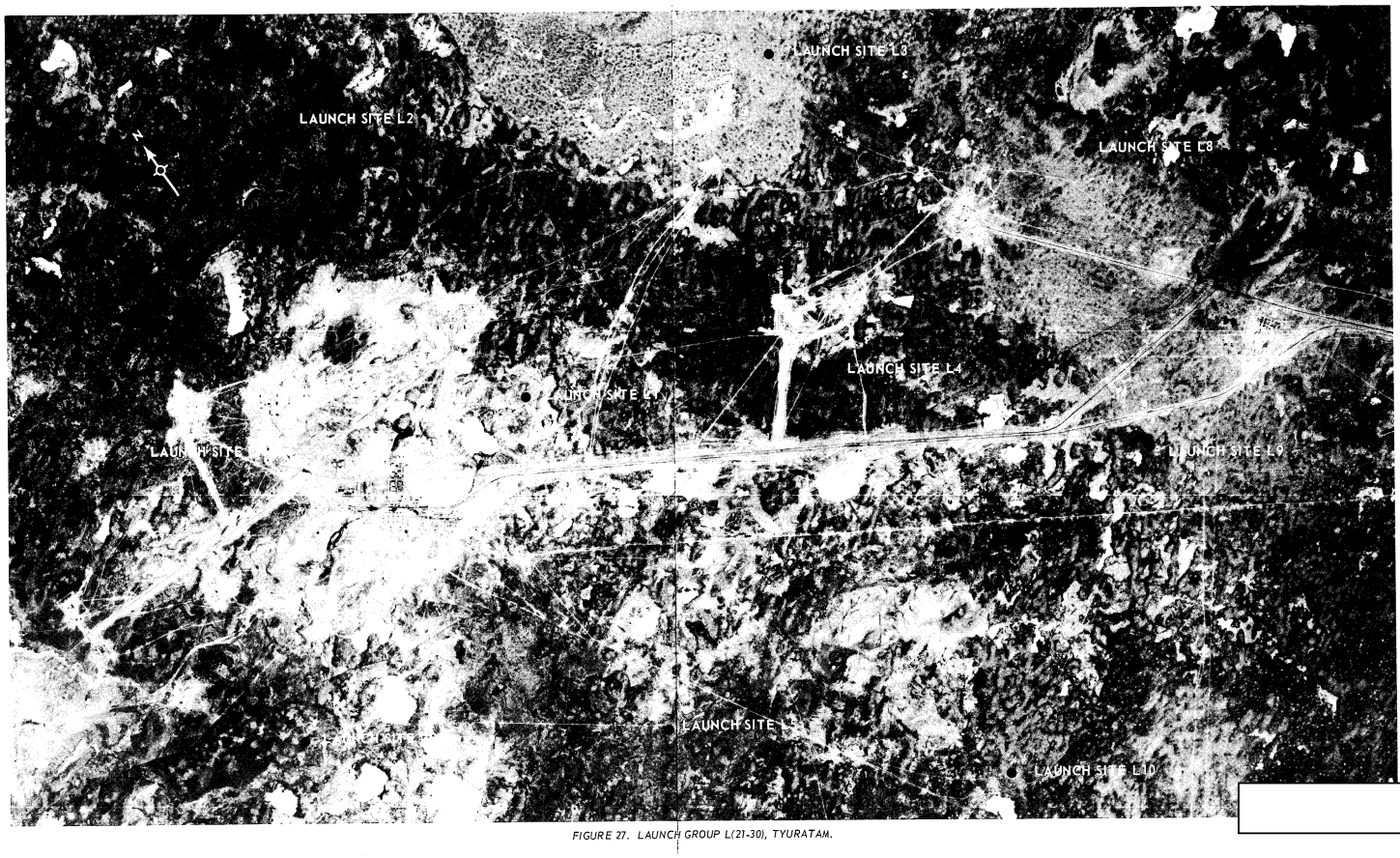

FIGURE 27. LAUNCH GROUP L(21-30), TYURATAM.

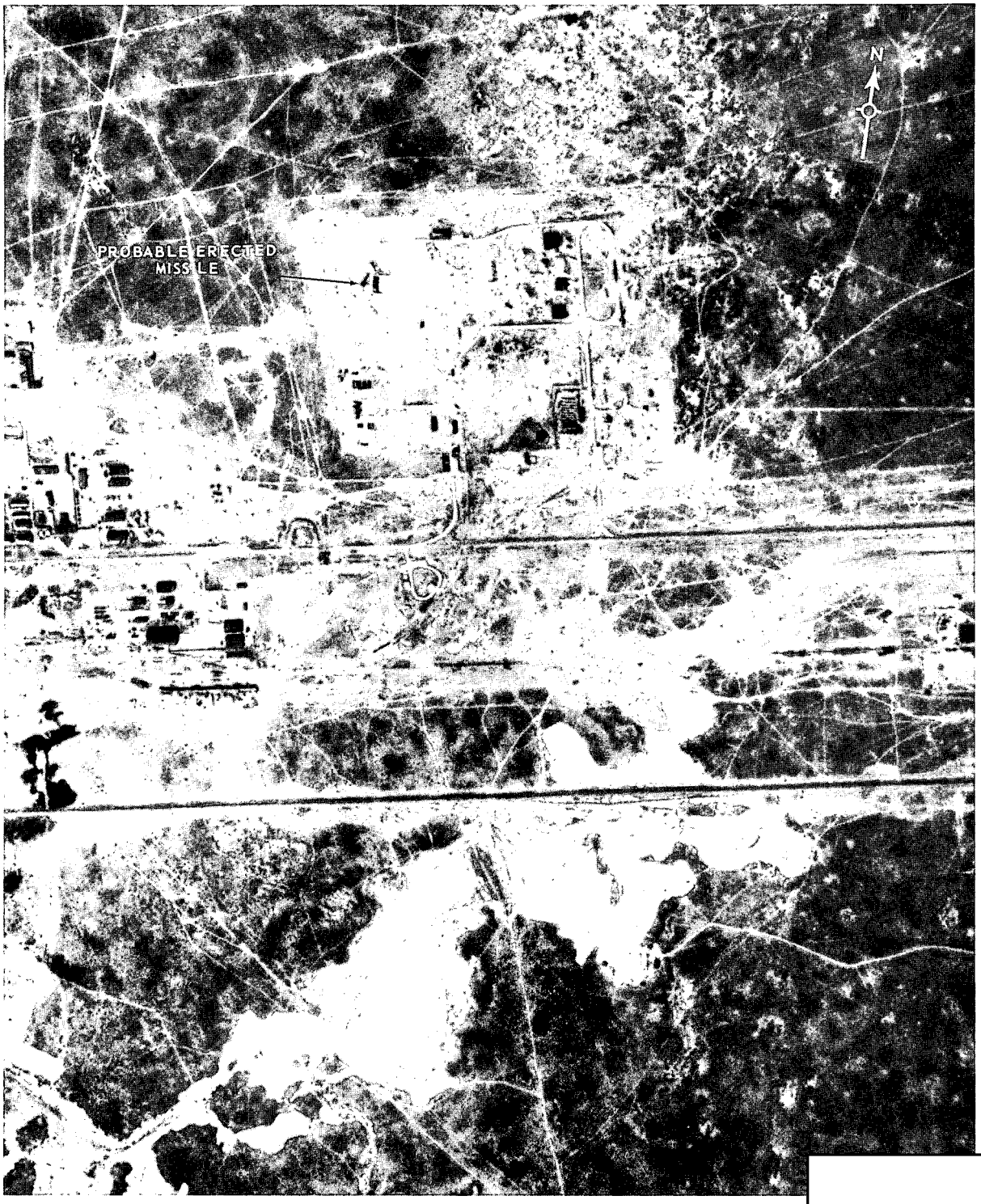

FIGURE 28. PROBABLE ERECTED MISSILE ON PAD C1, LAUNCH COMPLEX C(3), TYURATAM.

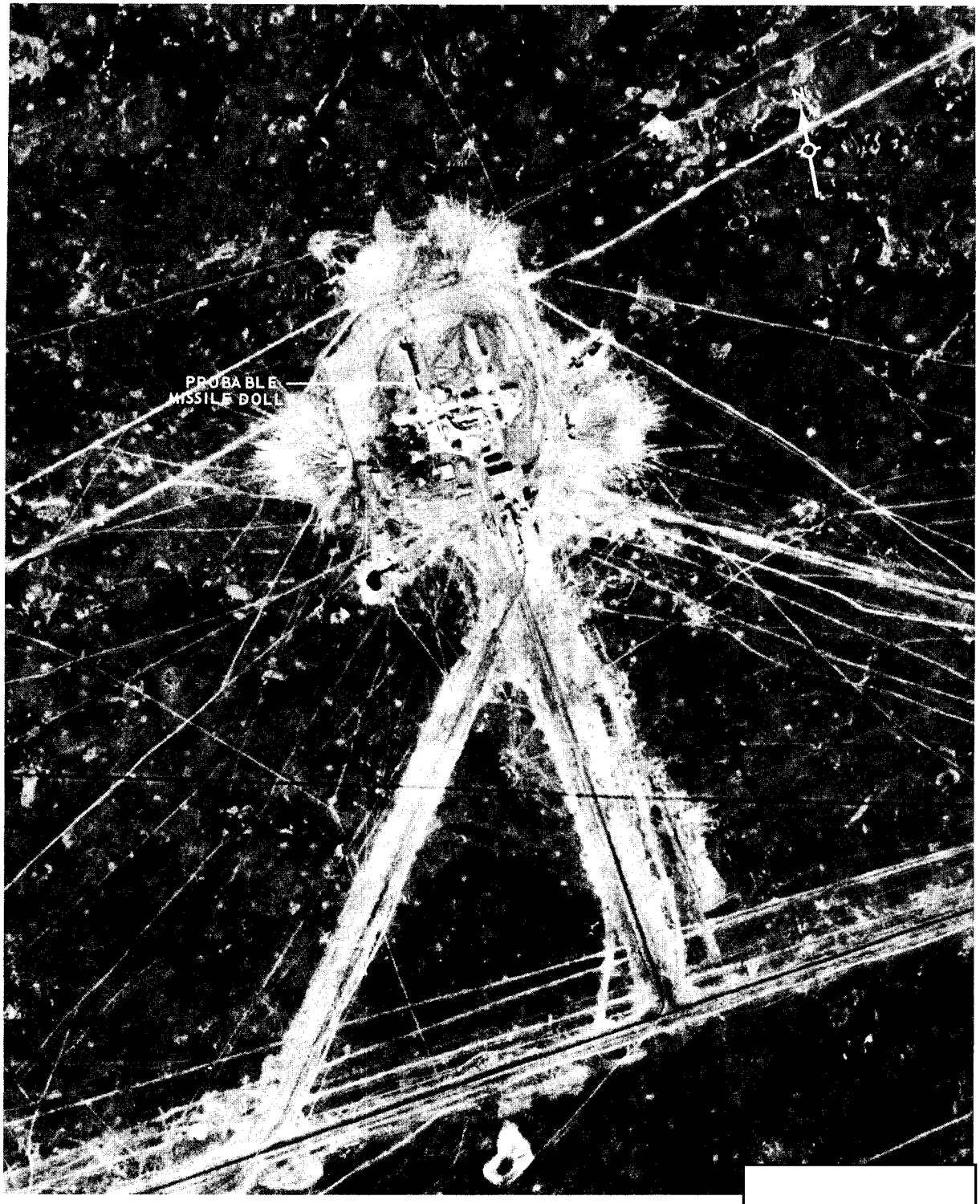

FIGURE 29. PROBABLE MISSILE DOLLY AT PAD H1, LAUNCH COMPLEX H(8), TYURATAM.

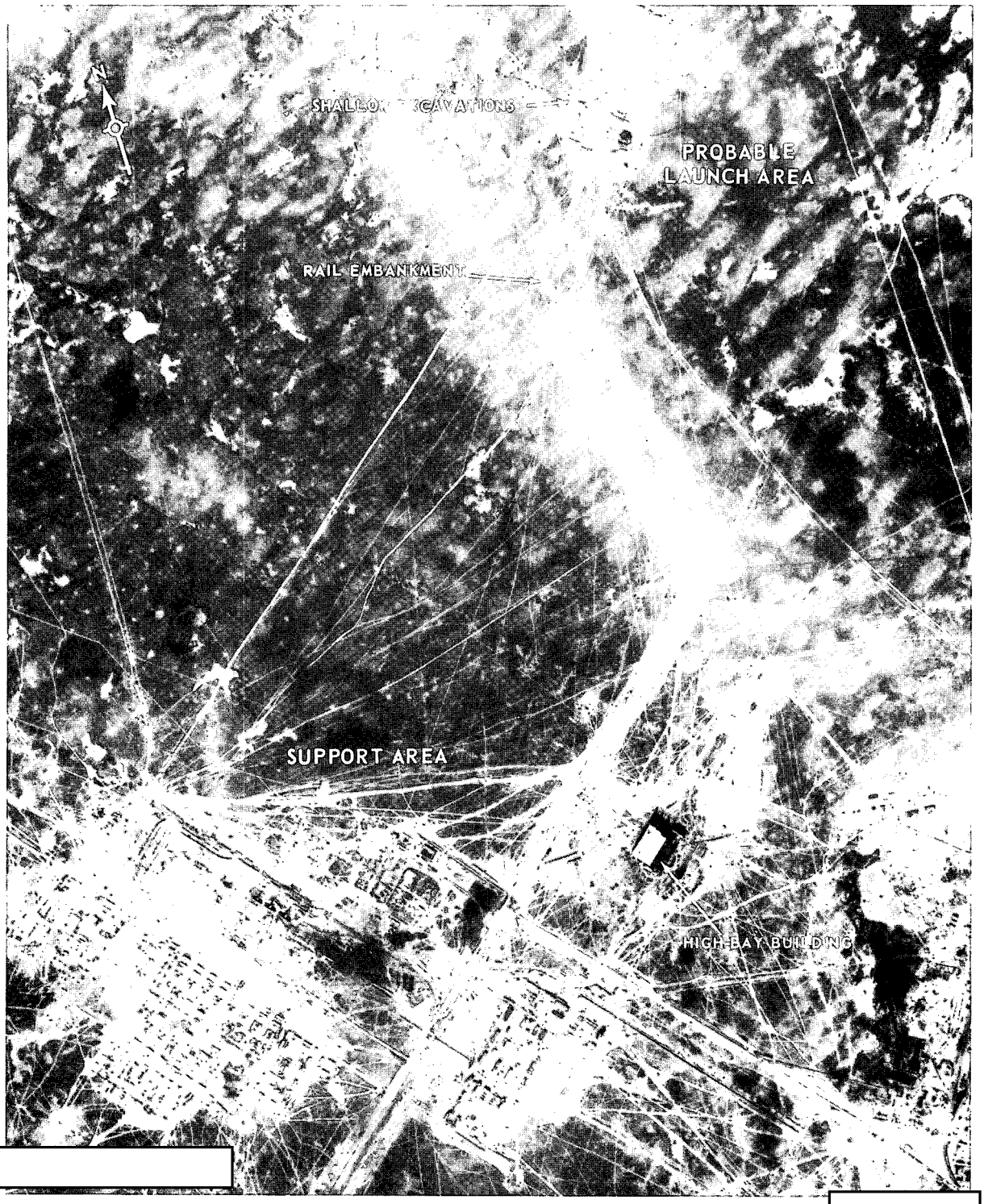

FIGURE 30. LAUNCH COMPLEX J, TYURATAM.

25X1

FIGURE 31. LAUNCH SITES K1/K2(13) AND K3(20), LAUNCH COMPLEX K, TYURATAM.

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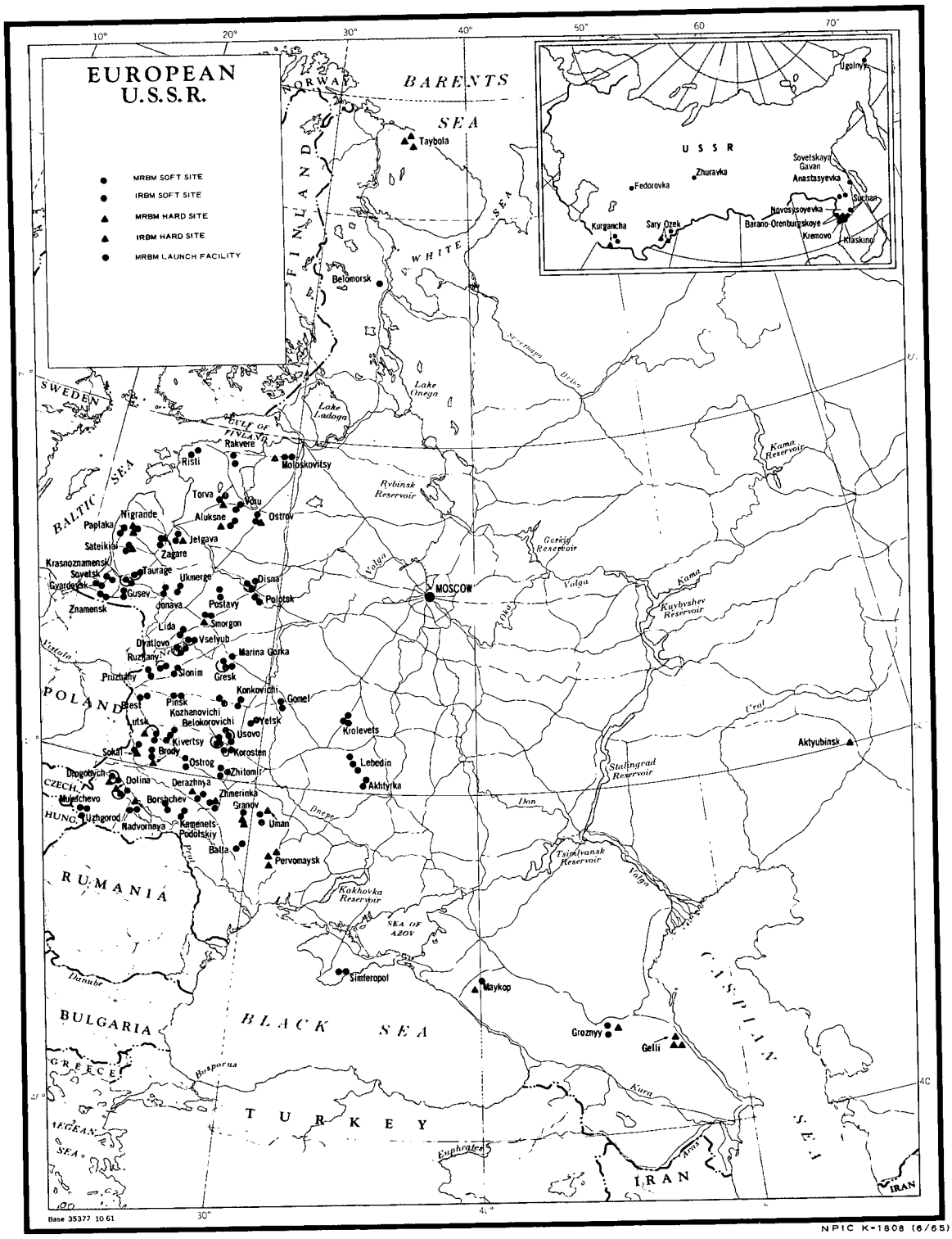


FIGURE 34. DEPLOYMENT OF SOVIET IRBM/MRBM COMPLEXES.

SOVIET IRBM/MRBM DEPLOYMENT

photography since our 17th Revision covers 12 of the 14 IRBM, and 62 of the 68 MRBM complexes. One MRBM soft site has been abandoned and 3 additional fixed field sites have been identified. These changes are reflected in Tables 1, 4, 5, 7, 8, and 9. Information on surface-to-surface launch sites at the Kapustin Yar Missile Test Center is given in Table 6. Locations of deployed IRBM/MRBM complexes are shown in Figure 34. Typical configuration of the launch sites and the weapons system associated with each are depicted in Figure 35. The composition of IRBM/MRBM complexes is given in Table 9.

IRBM DEPLOYMENT

Current Force Level

The IRBM element of the Soviet Strategic Rocket Forces remains at 33 sites containing a total of 112 launchers, including 54 in a hard configuration.* Of these launchers, 109, including 51 silos, are estimated to be operational. We are still unable to determine whether or not the Soviets have ceased construction activity at Taybola 3, the only IRBM site in the current inventory which has not reached an operational status. Pending further coverage, we continue to carry it in our tables.

Other Developments

In our 17th Revision we reported that the Bereza IRBM site contains only 2 launch pads rather than the 4 normally associated with IRBM/MRBM soft sites. As a result of this discovery, we are reviewing available photography of all IRBM/MRBM soft sites to determine if any other "half sites" exist. This review has been 40 percent completed with negative results.

MRBM DEPLOYMENT

Current Force Level

The Soviet MRBM force currently consists of 156 sites containing 624 launchers, including 84 in a hard configuration. All are operational. These figures represent an overall reduction of 4 launchers from those carried in our 17th Revision and reflect the inactivation of a soft site at Sledyuki.

*One member currently carries 35 sites; Novosysoyevka 3 and Karakhobda are not considered abandoned.

Fixed Field Sites

Three additional fixed field sites have been identified on photography since our 17th Revision, bringing the total identified to date to 75. A list of these sites is given in Table 7. 25X1

Two of the newly identified sites (Figure 36) are associated with the Borshchev MRBM Complex and are designated Skalapodolskaya 1 and 2. Each contains 4 launch positions. Skalapodolskaya 1 can be negated on 25X1

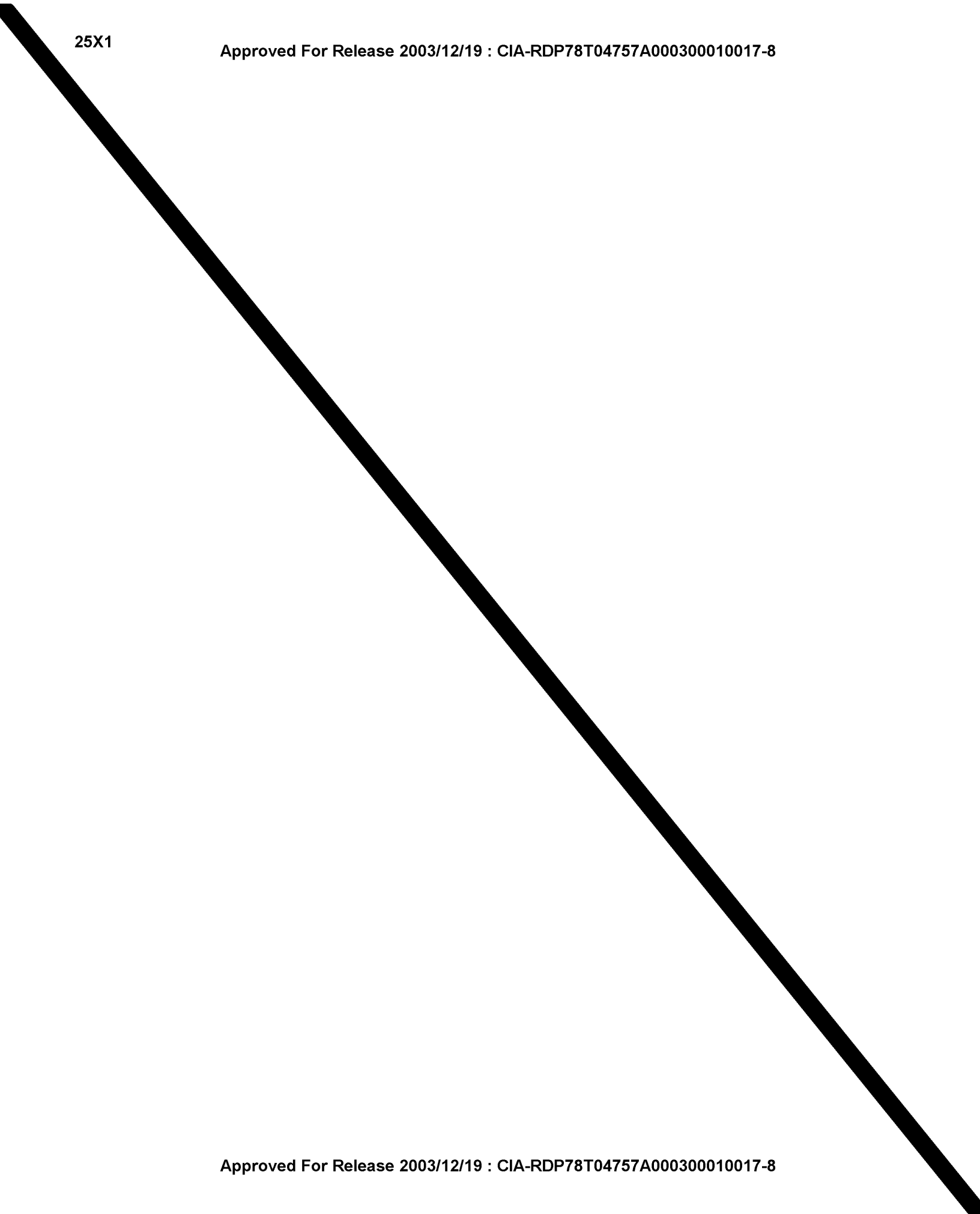
25X1

The third new fixed field site (Figure 37), designated the Vinkovtsy site, contains only 1 launch position. The second such site associated with the Kamenets-Podolskiy MRBM Complex, it can be negated on

SITES WITHOUT SUPPORT FACILITIES

revealed 25X1 that all structures within the Sledyuki MRBM Launch Site (Figure 38) have been removed since Poor image quality 25X1 on subsequent missions precludes determination of the dates and sequence of removal. The site is considered abandoned and is dropped from our tables.

The Sledyuki site was 1 of 9 singly deployed sites which were uniquely lacking the usual administration and housing facilities. Five of these sites (Kraskino, Marina Gorka, Rozhdestvenka, Sledyuki, and Uzhgorod) were MRBM launch



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facilities and the remaining 4 (Bayram-Ali, Ramoye, Traktovyy, and Zhuravka) were IRBM facilities. They differed from other IRBM/MRBM launch sites in that, instead of a specific associated support facility, they had only 2 barracks-type buildings. In addition, within each of the 9 launch sites, a receiving, inspection, and maintenance (RIM) building was positioned on an inner road inline with the missile-ready building. The RIM building, smaller than the associated ready building, was not earth mounded and had an open-framework extension at one end which may have been a support for an overhead crane. Eight

In previous revisions, we noted that 2 of the sites (in addition to Sledyuki) had been abandoned, the Bayram-Ali IRBM Launch Site and the Rozhdestvenka MRBM Launch Site. Evidence of dismantling is also apparent at 4 of the other IRBM sites (Kraskino, Ramoye, Traktovyy, and Zhuravka). Pending further coverage, we are continuing to carry these 4 sites and those at Marina Gorka and Uzhgorod as part of the operational force. We expect, however, that all will be phased out in the near future.

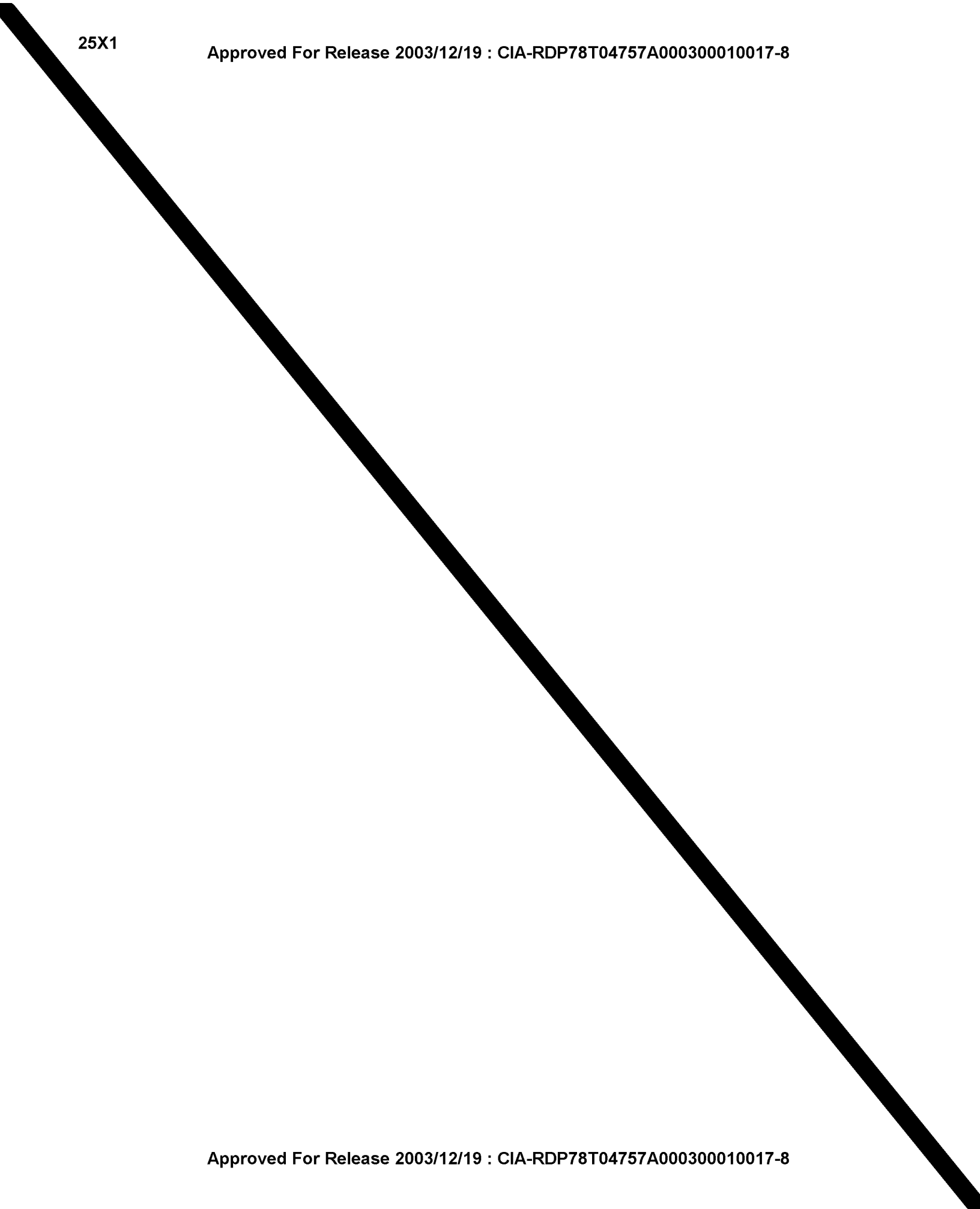
We have never been able to determine the role of these sites in the Strategic Rocket Forces. Numerous personnel and vehicular revetments have been observed in and around the Bayram-Ali and Rozhdestvenka Launch Sites on photography. Their presence, and the fact that military installations are located in the vicinity of both sites, suggests a training function. However, a missile exercise has never been observed at any of the 9 sites. In fact, activity and/or equipment has only been visible on 2 occasions: possible erectors and prime movers at Bayram-Ali in and vehicles on the access road to Rozhdestvenka in The time frame of deployment of these sites suggests a relationship with the Cuban missile crisis, but this can neither be confirmed nor denied.

We may never know the role played by these sites, but it appears that they are no longer a functional segment of the Soviet Strategic Rocket Forces. A summary of pertinent information concerning the launch sites is presented in Table 8.

25X1

Soft Launch Sites

Evidence of a probable attempt at camouflage or deception is discernible at 9 soft



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At Launch Area 1C (Figure 50), the rail-served Launch Sites 1C2 and 1C3 are now also road served. A rail-served probable missile erector/launcher can now be identified on each pad. Equipment/vehicles are also present on the pad at Launch Site 1C1.

At Launch Area 2C (Figure 51), an SS-4 or SS-5 missile exercise is underway at Launch site 2C2. A missile transporter and an erector are positioned on the launch pad, as are several probable support vehicles. The permanent facilities at this launch site remain unchanged since

25X1

At Launch Area 3C, a probable missile exercise is underway, with several vehicles/pieces of equipment present on the launch pad and on the southwestern dumbell area (Figure 51).

Modification or construction of Launch Site 4C1 is still continuing (Figure 52). The southwest silo is open; the excavation to the southwest has not been backfilled; and a tall structure is again positioned over the northwest silo. The former 4C support area is now completely razed. Launch Site 4C2 (Figure 52) remains unchanged.

At Launch Area 5C, the southern pad at Launch Site 5C1 is heavily scarred, indicating that this site is either being dismantled or undergoing extensive modification (Figure 52).

No significant activity or change can be identified at Launch Complexes A, E, G, and H.

Test Range SSM Activity

Strategic missile-firing activity during the period included 3 SS-4s and 1 SS-5. The SS-4 firings from Kapustin Yar occurred on 16 and 26 March; the third SS-4 missile was launched from the Makat site on The SS-5 firing from Kapustin Yar took place on

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25X1
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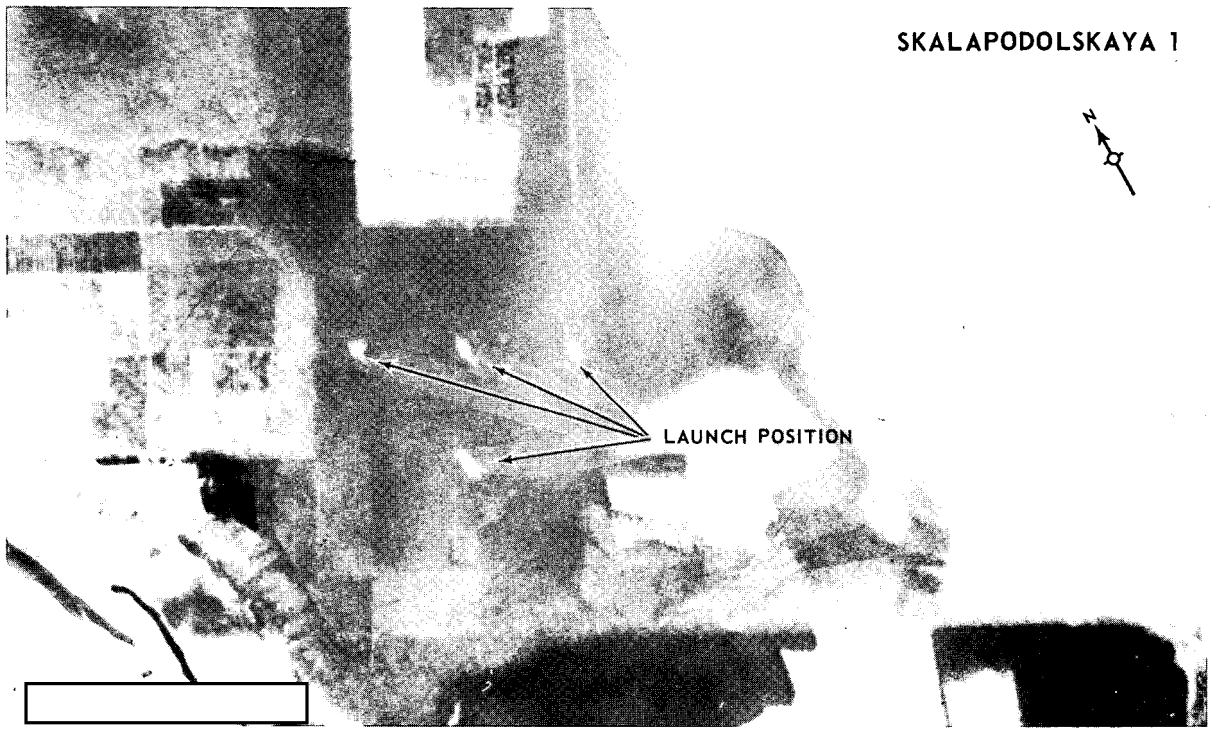

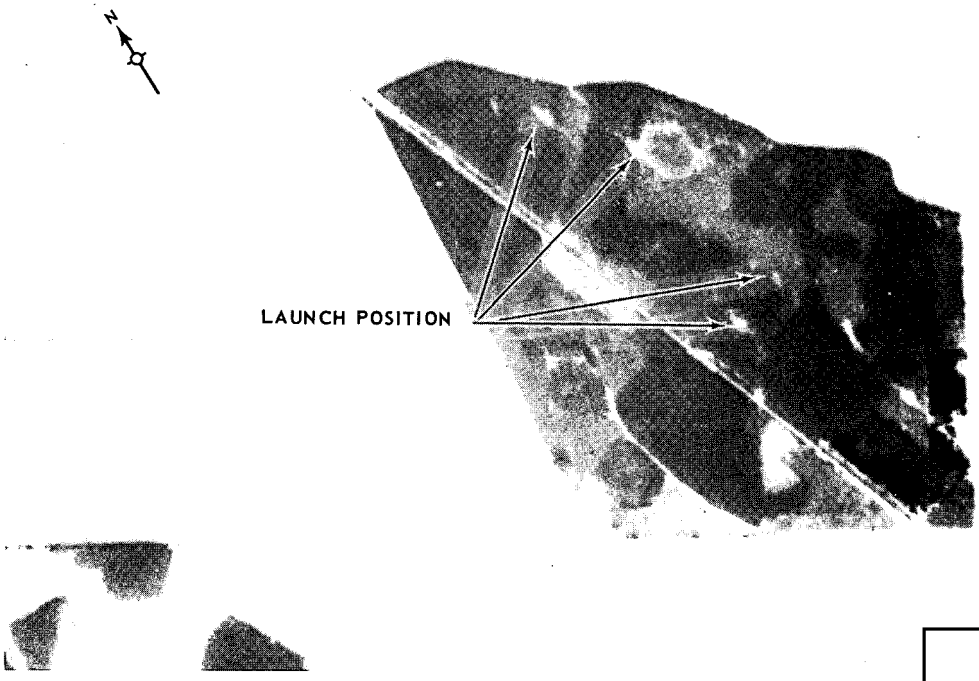

FIGURE 36. SKALAPODOLSKAYA 1 AND 2 FIXED FIELD SITES, BORSHCHEV MRBM COMPLEX.

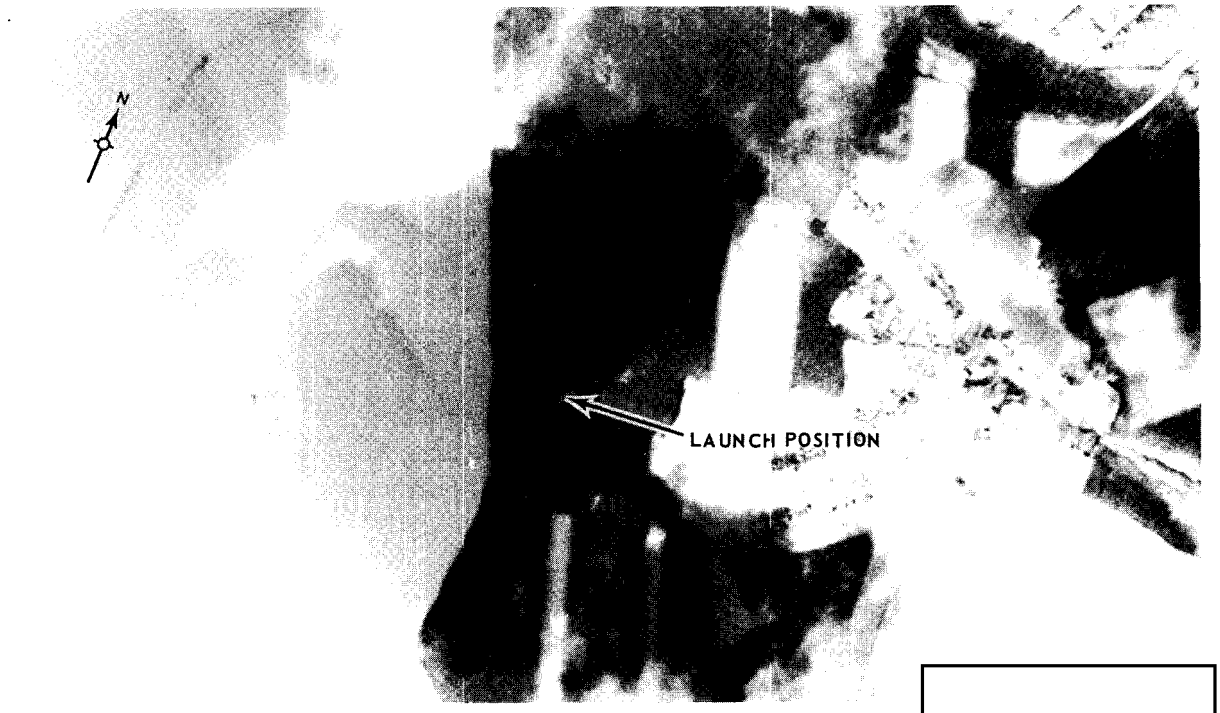

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FIGURE 37. VINKOVTSY FIXED FIELD SITE, KAMENETS-PODOLSKIY MRBM COMPLEX.

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FIGURE 38. ABANDONED SLEDYUKI LAUNCH SITE, BYKHOV MRBM COMPLEX.

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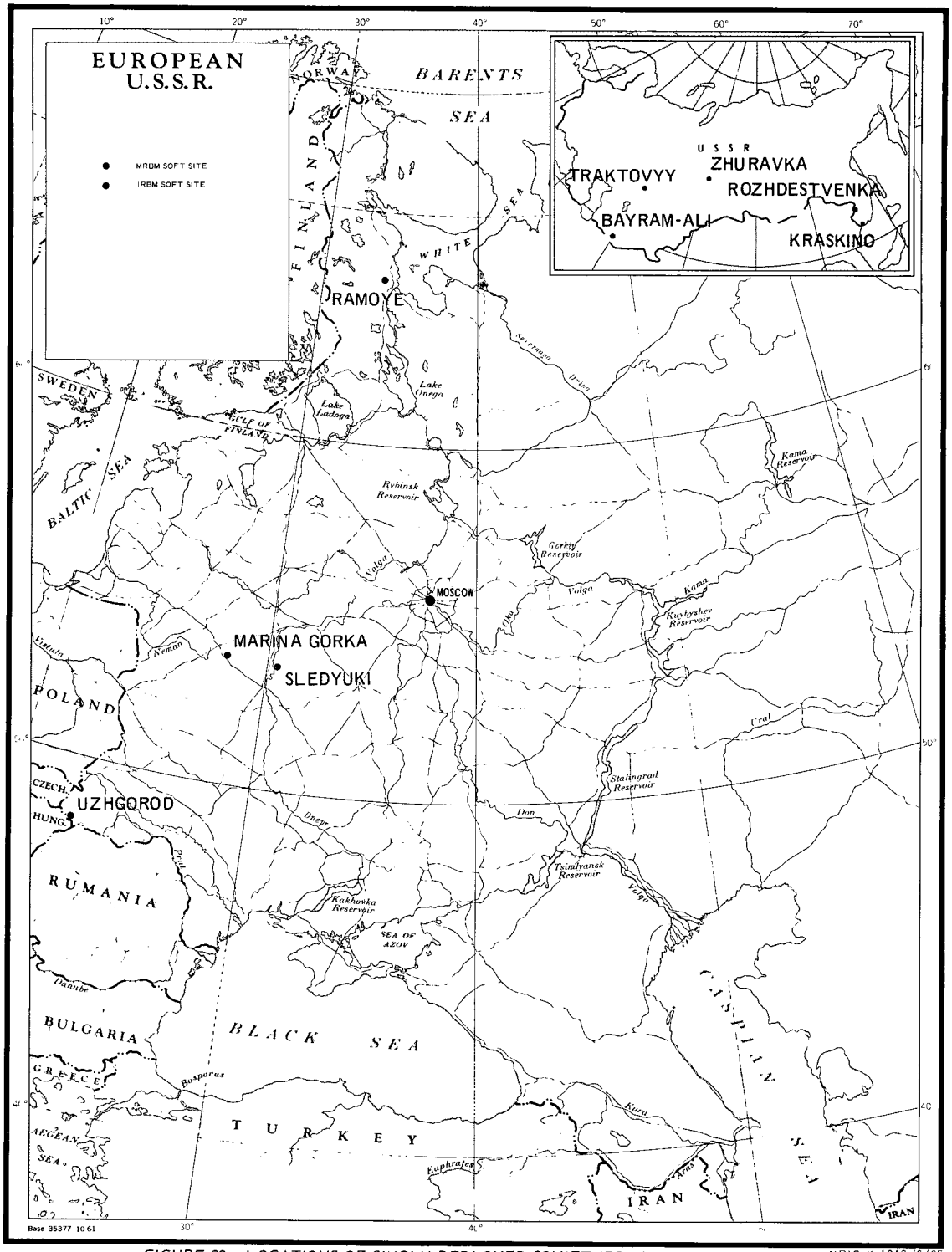

FIGURE 39. LOCATIONS OF SINGLY DEPLOYED SOVIET IRBM/MRBM LAUNCH SITES. NPIC K-1813 (6/65

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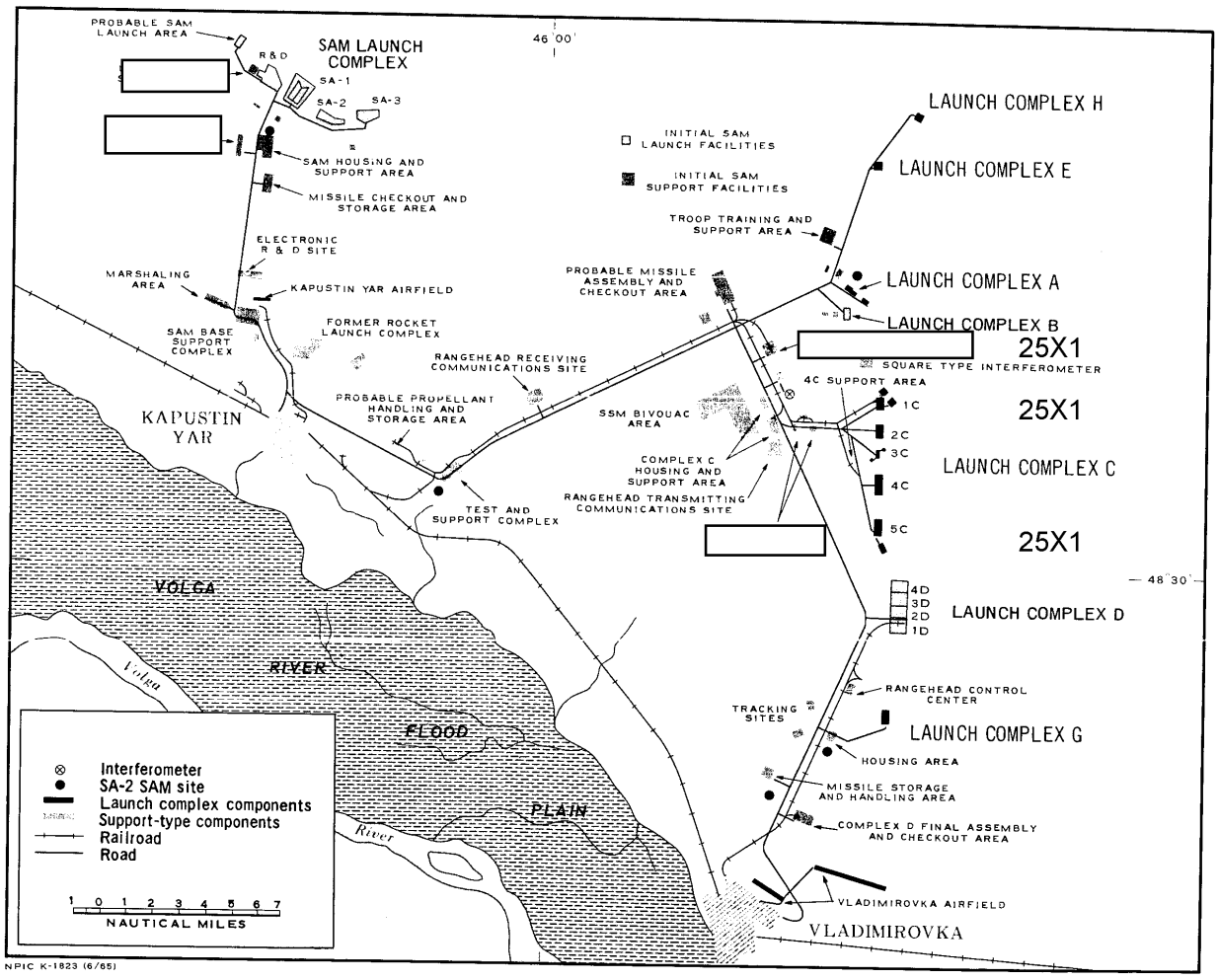

FIGURE 49. SCHEMATIC LAYOUT, KAPUSTIN YAR MISSILE TEST CENTER.

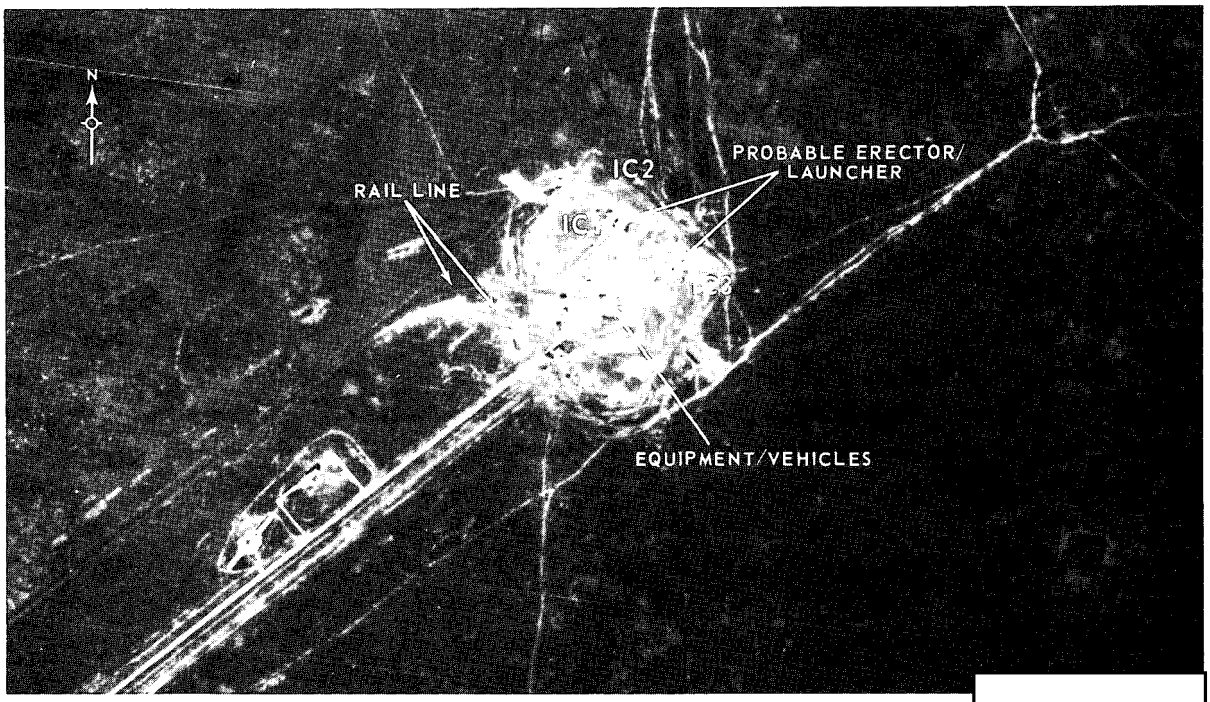

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FIGURE 50. LAUNCH AREA 1C, KAPUSTIN YAR.

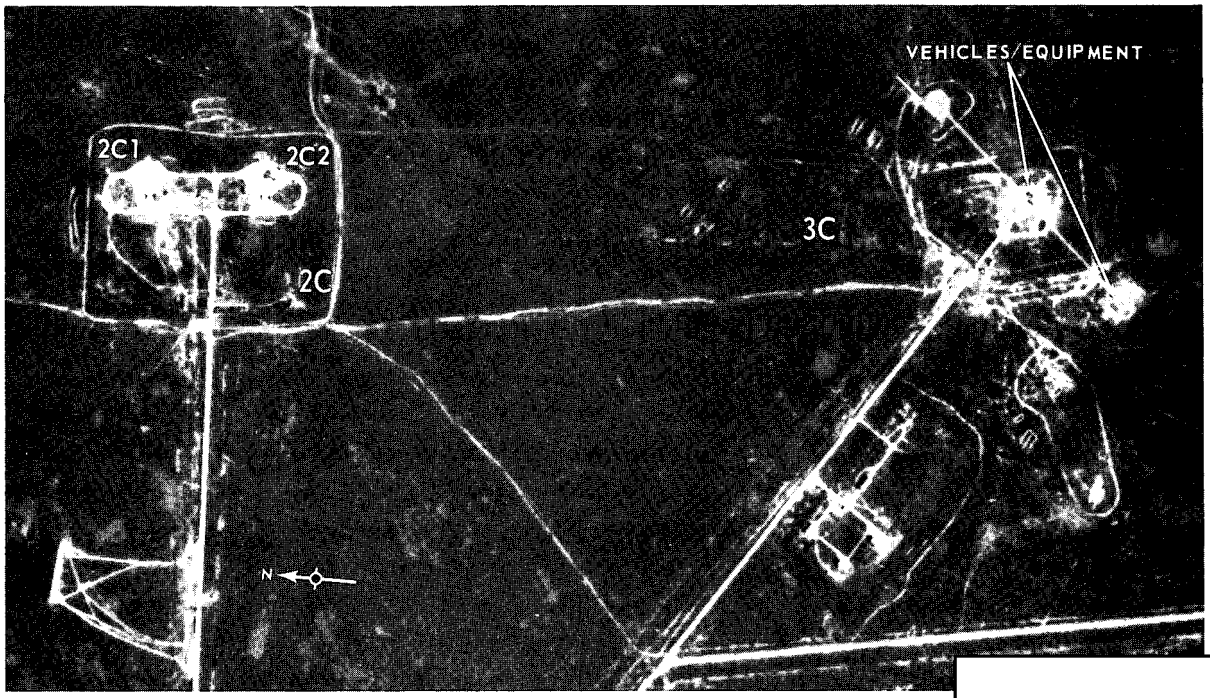

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FIGURE 51. LAUNCH AREAS 2C AND 3C, KAPUSTIN YAR.

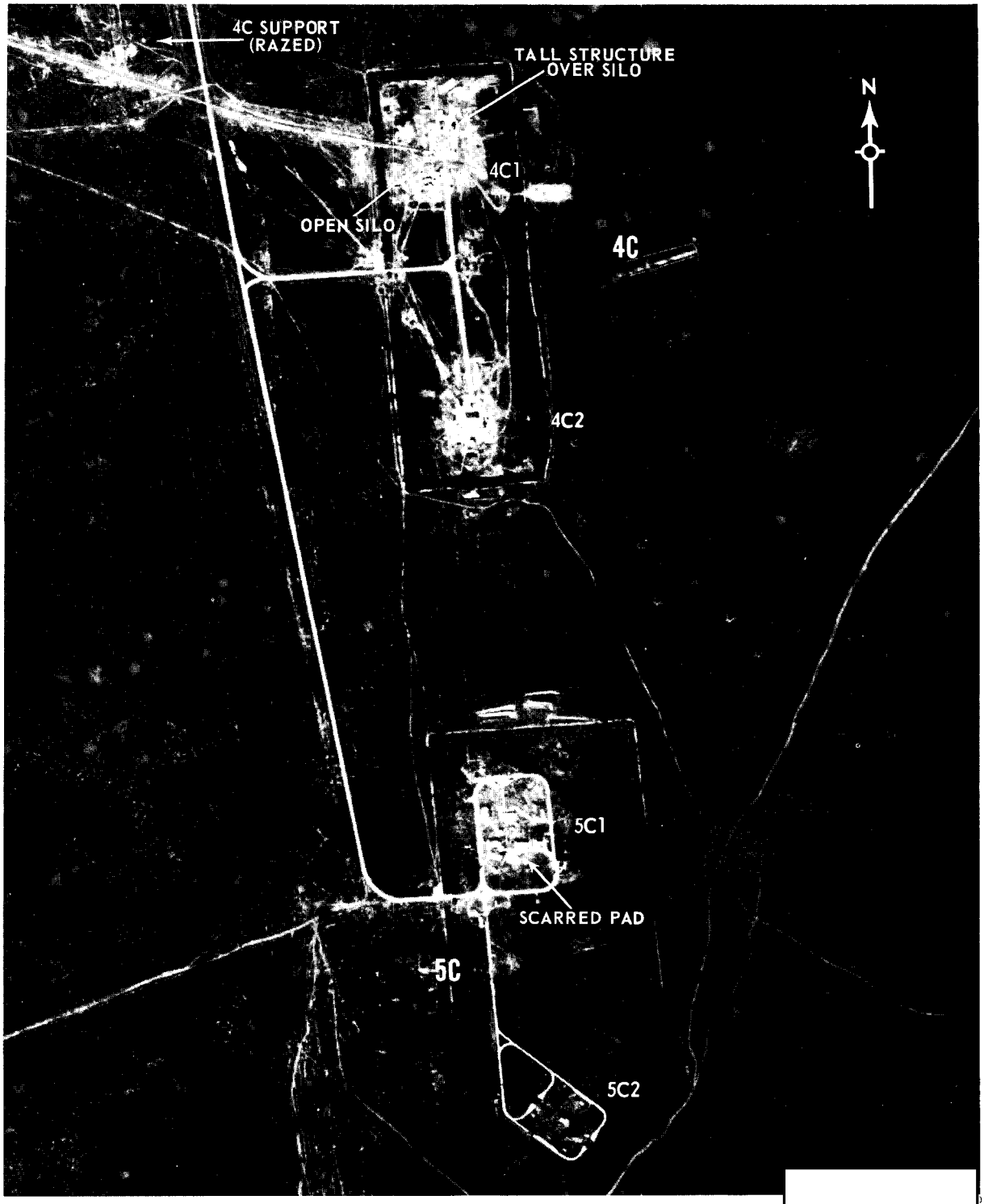

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FIGURE 52. LAUNCH AREAS 4C AND 5C, KAPUSTIN YAR.

25X1

TABLE 1. SUMMARY OF ESTIMATED STATUS OF IDENTIFIED ICBM, IRBM, AND MRBM LAUNCHERS AT DEPLOYED COMPLEXES,

Type	Sites	Launchers	Operational	U/C	Type	Sites	Launchers	Operational	U/C
		ICBM					IRBM		
IA	3	4	4	0	III	15	58	58	0
IB	2	4	0	4	IV	18	54	51	3
IIA	5	10	10	0	TOTAL	33	112	109	3
IIB	29	58	58	0					
IIC	7	14	14	0			MRBM		
IID	30	60	60	0	I	84	336	336	0
IIIA	23	69	69	0	II	51	204	204	0
IIIB	3	9	9	0	IV	21	84	84	0
IIIC**	41	41	0	41	TOTAL	156	624	624	0
IIID***	72	72	0	72					
TOTAL	215	341	224	117	GRAND TOTAL	189	736	733	3

*See Tables 2, 4, and 5 for details. Figures include 3 launch silos at Type IIIA and IIIB ICBM and Type IV IRBM sites, and 4 launch silos at Type IV MRBM sites. Type IIIC and IIID ICBM sites contain single silos.

**Figures do not include 2 sites carried in the possible category.

***Figures do not include 12 sites carried in the possible category.

25X1

TABLE 2. SUMMARY EVALUATION OF SOVIET ICBM DEPLOYMENT

Location*	BE Number	Coordinates	Type of Site	Number of Launchers		Site Negated		First Coverage		Latest Coverage		Stage of Const on Last Usable Coverage			Estimated Quarter Site Operational				Estimated Status
				Soft	Hard	Date	Msn	Date	Msn	Date	Msn	Date	Msn	Const	1st	2nd	3rd	4th	
ALEYSK																			
Site A(1)		52-27N 82-35E	IIIC		1													65	U/C
Site B(2)		52-29N 82-40E	IIIC		1													65	U/C
Site C(3)		52-33N 82-42E	IIIC		1													65	U/C
Site D(4)		52-32N 82-34E	IIIC		1										66				U/C
Site E(5)		52-35N 82-30E	IIIC		1										66				U/C
Site F(6)		52-36N 82-36E	IIIC		1										66				U/C
DOMBAROVSKIY																			
Site A(4)		51-11N 59-37E	IIIC		1										66				U/C
Site B(3)		51-06N 59-38E	IIIC		1										66				U/C
Site C(2)		51-01N 59-41E	IIIC		1										66				U/C
Site D(1)		50-58N 59-32E	IIIC		1											66			U/C
Site E(6)		51-04N 59-28E	IIIC		1											66			U/C
DROVYANAYA																			
Site A(1)		51-25N 113-00E	IIB	2											63				Operational
Site B(2)		51-25N 113-04E	IIIA		3										64				Operational
Site C(4)		51-28N 113-04E	IID	2														63	Operational
Site D(3)		51-20N 113-01E	IID	2											64				Operational
Site F(5)		51-23N 112-50E	IIIA		3													64	Operational
Site F(6)		51-20N 112-55E	IIIA		3													64	Operational
Group G (7-14)		51-31N 113-04E	IIID		8										66				U/C
Group H(16-21)		51-23N 112-57E	IIID		6										66				U/C
GLADKAYA																			
Site A(3)		56-20N 92-18E	IID	2														63	Operational
Site B(2)		56-25N 92-27E	IID	2															Operational
Site D(5)		56-20N 92-13E	IIIA		3										64				Operational
Group F (7-13)		56-13N 92-13E	IIID		5													64	Operational
Group G Possible		56-15N 91-45E	IIID															65	U/C
IMENI GASTELLO																			U/C
Site A(1)		51-03N 66-06E	IIIC		1										66				U/C
Site B(2)		51-06N 66-02E	IIIC		1											66			U/C
Site C(3)		51-10N 66-06E	IIIC		1											66			U/C
Site D(4)		51-07N 66-13E	IIIC		1										66				U/C
Site E(5)		51-13N 66-13E	IIIC		1										66				U/C
Site F(6)		51-13N 66-05E	IIIC		1											66			U/C
Site G(7)		50-57N 66-09E	IIIC		1													66	U/C
ITATKA																			
Site A(1)		56-59N 85-32E	IIB	2													62		Operational
Site B(2)		57-01N 85-39E	IIB	2											63				Operational
Site C(3)		56-54N 85-39E	IID	2														63	Operational
KARTALY																			
Site A(1)		53-01N 60-26E	IIIC		1										66				U/C
Site B(2)		52-56N 60-31E	IIIC		1										66				U/C
Site C(3)		52-55N 60-24E	IIIC		1										66				U/C
Site D(4)		52-51N 60-27E	IIIC		1										66				U/C
Site E(5)		53-00N 60-16E	IIIC		1										66				U/C
Site F(6)		53-04N 60-18E	IIIC		1										66				U/C
Site G(7)		53-09N 60-42E	IIIC		1													66	U/C
Site H(8)		53-08N 60-34E	IIIC		1													66	U/C
KOSTROMA																			
Site A(1)		58-02N 41-22E	IIB	2												62			Operational
Site B(2)		58-02N 41-07E	IIB	2												62			Operational
Site C(3)		57-59N 41-09E	IIB	2													62		Operational
Site D(4)		58-05N 41-40E	IIB	2											63				Operational
Site E(5)		57-58N 41-14E	IIIA		3													63	Operational
Site F(6)		57-55N 41-10E	IID	2													63		Operational
Site G(7)		58-06N 41-32E	IID	2											64				Operational

TABLE 2. (Continued)

Location*	BE Number	Coordinates	Type of Site	Number of Launchers		Site Negated		First Coverage		Latest Coverage		Stage of Const on Last Usable Coverage			Estimated Quarter Site Operational				Estimated Status
				Soft	Hard	Date	Msn	Date	Msn	Date	Msn	Date	Msn	Const	1st	2nd	3rd	4th	
KOZELSK																			
Site A(3)		53-54N 35-45E	IIC	2													63		Operational
Site B(2)		53-48N 35-47E	IIC	2														63	Operational
Site D(4)		53-54N 35-51E	IIC	2														63	Operational
Site E(5)		53-51N 35-41E	IIIB		3											64			Operational
Site F(6)		53-41N 35-39E	IIIB		3													64	Operational
NOVOSIBIRSK																			
Site A(2)		55-19N 83-10E	IIB	2											63				Operational
Site B(1)		55-19N 83-02E	IIIA		3											63			Operational
Site C(3)		55-23N 82-54E	IIIA		3												64		Operational
Site D(4)		55-22N 83-14E	IID	2														63	Operational
Site E(5)		55-20N 82-56E	IID	2											64				Operational
OLOVYANNAYA																			
Site A(1)		50-54N 115-48E	IIIA		3										64				Operational
Site B(2)		50-55N 115-45E	IIIA		3													64	U/C
Site C(3)		51-01N 115-58E	IIIA		3													64	U/C
Group D (4-13)		51-04N 116-06E	IIID		10													65	U/C
Group E (14-23)		50-56N 115-58E	IIID		10											66			U/C
OMSK																			
Site A(1)		55-09N 73-38E	IIIB		3										64				Operational
PERM																			
Site A(1)		57-41N 56-11E	IIB	2												62			Operational
Site B(2)		57-44N 55-55E	IIB	2														62	Operational
Site C(3)		57-38N 56-07E	IIB	2													63		Operational
Site D(6)		57-42N 55-47E	IID	2														63	Operational
Site E(5)		57-45N 56-00E	IID	2											64				Operational
Site F(4)		57-41N 56-04E	IIIA		3													64	Operational
Group G(7-17)		57-43N 56-07E	IIID		8													65	U/C
PLESETSK																			
Site 1(1)		62-56N 40-27E	IA	2											60				Operational
Site 2(2)		62-56N 40-32E	IA	1											60				Operational
Site 3(3)		62-58N 40-41E	IA	1												60			Operational
Site A(4)		62-59N 40-47E	IIA	2													61		Operational
Site B(5)		63-03N 40-57E	IIB	2												62			Operational
Site C(6)		63-01N 40-53E	IIIA		3										63				Operational
Site D(8)		62-54N 40-47E	IIC	2													63		Operational
Site E(7)		62-51N 40-35E	IIC	2													63		Operational
Site F 1/		62-52N 40-44E																	
Site G(9) Probable		62-53N 40-51E	IB	2														65	U/C
Site H(10) Probable		62-53N 40-52E	IB	2														65	U/C
SHADRINSK																			
Site A(1)		56-09N 63-51E	IIIA		3												63		Operational
Site B(2)		56-10N 64-02E	IIIA		3										64				Operational
Site C(3)		56-07N 63-57E	IIIA		3													64	Operational
SVOBODNYY																			
Site A(3)		51-55N 128-10E	IIB	2													62		Operational
Site B(1)		51-49N 128-19E	IIB	2														62	Operational
Site C(2)		51-53N 128-23E	IIB	2														62	Operational
Site D(4)		51-58N 128-07E	IID	2											64				Operational
Site E(6)		51-43N 128-00E	IID	2														63	Operational
Site F(5)		51-52N 128-13E	IID	2														63	Operational
Site G(7)		51-38N 127-58E	IIIA		3													64	Operational
Site H(8)		52-03N 128-06E	IID	2											64				Operational

TABLE 2. (Continued)

Location*	BE Number	Coordinates	Type of Site	Number of Launchers		Site Negated		First Coverage		Latest Coverage		Stage of Const on Last Usable Coverage			Estimated Quarter Site Operational				Estimated Status
				Soft	Hard	Date	Msn	Date	Msn	Date	Msn	Date	Msn	Const	1st	2nd	3rd	4th	
TATISHCHEVO																			
Group A(1-11)		51-48N 45-39E	IIID		10													65	U/C
Group B(12-21)		51-33N 45-29E	IIID		10											66			U/C
Group C(25-29) Probable		51-30N 45-15E	IIID		5											66			U/C
TEYKOVO																			
Site A(1)		56-55N 40-27E	IIB	2												62			Operational
Site B(2)		56-56N 40-33E	IIB	2												62			Operational
Site C(3)		56-55N 40-17E	IIB	2											63				Operational
Site D(4)		56-59N 40-40E	IID	2														63	Operational
Site E(5)		56-49N 40-10E	IID	2														63	Operational
Site F(6)		56-55N 40-22E	IID	2												64			Operational
TYUMEN																			
Site A(3)		56-52N 65-34E	IIC	2														63	Operational
Site C(2)		56-51N 65-27E	IIC	2														63	Operational
UZHUR																			
Site A(1)		55-20N 88-43E	IIIC		1													65	U/C
Site B(2)		55-18N 89-38E	IIIC		1													65	U/C
Site C(3)		55-20N 89-33E	IIIC		1													65	U/C
Site D(4)		55-17N 89-26E	IIIC		1													65	U/C
Site E(5)		55-13N 89-33E	IIIC		1													65	U/C
Site F(6)		55-25N 89-39E	IIIC		1													65	U/C
Site G(7)		55-22N 89-27E	IIIC															66	U/C
Site H(8) Possible		55-19N 89-20E	IIIC																U/C
Site I (9)		55-13N 89-21E	IIIC		1													66	U/C
Site J(10)		55-12N 89-09E	IIIC		1													66	U/C
Site K(11) Possible		55-16N 89-10E	IIIC																U/C
VERKHNYAYA SALD																			
Site A(2)		58-09N 60-16E	IIB	2											62				Operational
Site B(1)		58-06N 60-21E	IIA	2														61	Operational
Site C(3)		58-10N 60-28E	IIA	2														61	Operational
Site D(4)		58-12N 60-34E	IIB	2												62			Operational
Site E(5)		58-14N 60-55E	IIB	2														62	Operational
Site F(7)		58-14N 60-41E	IIIA		3											63			Operational
Site G(8)		58-13N 60-49E	IIIA		3												63		Operational
Site H(9)		58-05N 60-13E	IID	2														63	Operational
Site I(10)		58-09N 60-32E	IID	2														63	Operational
YEDROVO																			
Site A(2)		57-48N 33-36E	IIB	2													62		Operational
Site B(1)		57-48N 33-14E	IIB	2														62	Operational
Site C(5)		57-49N 33-08E	IID	2											64				Operational
Site D(4)		57-48N 33-28E	IID	2													63		Operational
Site E(8)		57-52N 33-18E	IIIA		3											63			Operational
Site F(6)		57-44N 33-06E	IID	2													63		Operational
Site G(7)		57-47N 33-02E	IID	2											64				Operational
Site I(3)		57-52N 33-27E	IIIA		3													63	Operational
YOSHKAR-OLA																			
Site A(1)		56-35N 48-09E	IIB	2												62			Operational
Site B(2)		56-35N 48-18E	IIB	2													62		Operational
Site C(3)		56-32N 48-27E	IIB	2											63				Operational
Site D(4)		56-31N 48-20E	IID	2													63		Operational
Site E(5)		56-34N 48-13E	IID	2														63	Operational
Site F(6)		56-36N 48-28E	IID	2											64				Operational

TABLE 2. (Continued)

Location*	BE Number	Coordinates	Type of Site	Number of Launchers		Site Negated		First Coverage		Latest Coverage		Stage of Const on Last Usable Coverage			Estimated Quarter Site Operational				Estimated Status
				Soft	Hard	Date	Msn	Date	Msn	Date	Msn	Date	Msn	Const	1st	2nd	3rd	4th	
YURYA																			
Site A(2)		59-10N 49-32E	IIA	2														61	Operational
Site B(1)		59-09N 49-40E	IIA	2														61	Operational
Site C(3)		59-13N 49-25E	IIB	2											62				Operational
Site D(4)		59-16N 49-22E	IIB	2												62			Operational
Site E(5)		59-23N 49-17E	IIIA		3													62	Operational
Site F(7)		59-21N 49-14E	IIB	2											63				Operational
Site G(6)		59-04N 49-51E	IIIA		3										64				Operational
Site H(8)		59-11N 49-47E	IID	2														63	Operational
Site I(11)		59-21N 49-25E	IID	2															Operational
Site J(9)		59-06N 49-45E	IID	2											64				Operational
Site K(10)		59-13N 49-18E	IIIA		3													64	Operational
ZHANGIZ-TOBE																			
Site A(1)		49-12N 81-00E	IIIC		1													65	U/C
Site B(2)		49-16N 80-59E	IIIC		1													65	U/C
Site C(3)		49-11N 80-54E	IIIC		1													65	U/C
Site D(4)		49-10N 81-04E	IIIC		1											66			U/C
Site E(5)		49-06N 81-03E	IIIC		1											66			U/C
Site F(6) Probable		49-08N 80-58E	IIIC		1											66			U/C
	Totals			215	150	191													

*TDI site designators are indicated in parentheses.

1/ Not considered an operational ICBM site (see 16th Revision).

TABLE 3. SUMMARY EVALUATION OF LAUNCH FACILITIES, TYURATAM MISSILE TEST CENTER

Location*	BE Number	Coordinates	Type of Site	Number of Launchers		Site Negated		First Coverage		Latest Coverage		Stage of Const on Last Usable Coverage			Estimated Quarter Site Operational				Estimated Status
				Soft	Hard	Date	Msn	Date	Msn	Date	Msn	Date	Msn	Const	1st	2nd	3rd	4th	
Complex A1(1)		45-55N 63-21E	I	1															Operational
A2		45-55N 63-21E	I	1															Operational
A3(15)		45-54N 63-20E	IIIC p		1														U/C
Complex B1(2)		46-00N 63-34E	IA p	1															Operational
B2(16)		45-59N 63-33E	IIIC		1														U/C
B3(17)		46-00N 63-34E	II	1															U/C
Complex C1(3)		45-48N 63-39E	II p	1															Operational
C2		45-48N 63-39E	II	1															Operational
C3		45-48N 63-39E	II	1															Operational
Complex D1(4)		45-59N 63-57E	IIIA p		3														Operational
D2(9)		45-59N 63-57E	IIIA		3														Operational
Complex E1(6)		45-48N 63-12E	IIC p	1															Operational
E2		45-48N 63-12E	IIC	1															Operational
E3		45-48N 63-12E	IIC	1															Operational
Complex F(5)		46-02N 63-06E	IIIB p		3														Operational
Complex G1/G2(7)		46-03N 62-56E	I	2															Operational
G3/G4(11)		46-03N 62-56E	I	2															Operational
G5/G6(12)		46-05N 62-54E	II	2															Operational
G7(18)		46-04N 62-56E	IIIC p		1														Operational
G8/G9(19)		46-04N 62-57E	III		2														U/C
Complex H(8)		45-59N 63-42E	I	2															U/C
Complex I(14)		45-56N 63-26E	IIIC p		1														Operational
Complex J		45-54N 63-64E	Undet																U/C
Complex K/1K2(13)		46-02N 63-03E	IIIC p		2														U/C
K3(20)		46-02N 63-02E	IIID p		1														U/C
Launch Group L (21-30,		46-03N 62-59E	III		10														U/C
Total				18	28														

*TDI site designators are indicated in parentheses.

p Prototype.

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TOP SECRET

TOP SECRET

TABLE 4. SUMMARY EVALUATION OF SOVIET IRBM DEPLOYMENT

LOCATION*	BE NUMBER	COORDINATES		TYPE	NO OF PADS/ LAUNCHERS	DATE OF LATEST PHOTOGRAPHY	ESTIMATED CONSTR STATUS
AKTYUBINSK Launch Complex							
PETROVSKIY		50-00-30N	56-58-00E	IV	3		Complete
BELOMORSK Launch Complex							
RAMOYE		64-25-45N	34-18-15E	III	4		Complete
FEDOROVKA Launch Complex							
TRAKTOVYY		53-25-15N	62-23-00E	III	4		Complete
GELLI Launch Complex							
KAKASHURA		42-38-45N	47-27-00E	IV	3		Complete
GELLI		42-26-30N	47-28-30E	IV	3		Complete
PARAUL		42-47-30N	47-23-00E	IV	3		Complete
GRANOV Launch Complex							
GRANOV 1		48-56-15N	29-30-15E	III	4		Complete
GRANOV 2		48-50-00N	29-28-45E	IV	3		Complete
KALNIK		48-59-30N	29-21-45E	IV	3		Complete
KROLEVETS Launch Complex							
KROLEVETS 1		51-36-45N	33-29-30E	III	4		Complete
KROLEVETS 2		51-40-45N	33-31-15E	III	4		Complete
BEREZA		51-43-45N	33-43-45E	III	2		Complete
LEBEDIN Launch Complex							
LEBEDIN 1		50-33-00N	34-25-45E	III	4		Complete
LEBEDIN 2		50-35-45N	34-24-30E	III	4		Complete
LEBEDIN 3		50-38-00N	34-27-30E	III	4		Complete
NIGRANDE Launch Complex							
NIGRANDE		56-31-00N	22-02-15E	III	4		Complete
SKRUNDA		56-35-30N	21-49-15E	IV	3		Complete
VAINODE		56-28-30N	21-50-15E	IV	3		Complete
NOVOSYSOYEVKA Launch Complex							
NOVOSYSOYEVKA 1		44-11-45N	133-26-15E	III	4		Complete
NOVOSYSOYEVKA 2		44-07-15N	133-28-30E	IV	3		Complete
PERVOMAYSK Launch Complex							
KAMENNYY MOST		47-58-00N	30-53-15E	IV	3		Complete
SEMENOVKA 1		47-58-45N	30-59-00E	IV	3		Complete
SEMENOVKA 2		47-53-30N	30-58-45E	IV	3		Complete

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TABLE 4. (Continued)

LOCATION*	BE NUMBER	COORDINATES		TYPE	NO OF PADS/ LAUNCHERS	DATE OF LATEST PHOTOGRAPHY	ESTIMATED CONSTR STATUS
SARY OZEK Launch Complex							
KARA BABAU 1		44-32-00N	77-46-15E	III	4		Complete
KARA BABAU 2		44-31-00N	77-58-45E	IV	3		Complete
KARA BABAU 3		44-30-15N	77-41-15E	IV	3		Complete
SMORGON Launch Complex							
SMORGON 1		54-31-45N	26-17-30E	III	4		Complete
SMORGON 2		54-26-00N	26-18-30E	IV	3		Complete
SMORGON 3		54-36-15N	26-22-30E	III	4		Complete
TAYBOLA Launch Complex							
TAYBOLA 1		68-28-00N	33-15-30E	IV	3		Complete
TAYBOLA 2		68-30-30N	33-23-15E	IV	3		Complete
TAYBOLA 3		68-26-00N	33-29-15E	IV	3		Undetermined
ZHURAVKA Launch Complex							
ZHURAVKA		54-36-30N	76-39-45E	III	4		Complete

*TDI site designators have been adopted for IRBM launch sites.

25X1

25X1

TOP SECRET

25X1

25X1

TOP SECRET

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TABLE 5. SUMMARY EVALUATION OF SOVIET MRBM DEPLOYMENT

LOCATION*	BE NUMBER	COORDINATES	TYPE	NO OF PADS/ LAUNCHERS	DATE OF LATEST PHOTOGRAPHY	ESTIMATED CONSTR STATU
AKHTYRKA Launch Complex						
AKHTYRKA 1		50-16-00N 34-50-15E	II	4		Complete
AKHTYRKA 2		50-22-00N 34-57-00E	II	4		Complete
ALUKSNE Launch Complex						
LEJASCIEMS 1		57-21-00N 26-44-45E	II	4		Complete
RUSKI		57-25-15N 26-50-00E	II	4		Complete
LEJASCIEMS 2		57-13-00N 26-33-30E	IV	4		Complete
ANASTASYEVKA Launch Complex						
ANASTASYEVKA 1		48-34-15N 135-37-45E	II	4		Complete
ANASTASYEVKA 2		48-35-45N 135-41-00E	II	4		Complete
BALTA Launch Complex						
BALTA 1		48-01-45N 29-34-00E	II	4		Complete
BALTA 2		48-07-00N 29-34-30E	II	4		Complete
BARANO-ORENBURGSKOYE Launch Complex						
SOFIYE ALEKSEYEVSKOYE		44-16-15N 131-22-30E	I	4		Complete
BARANO-ORENBURGSKOYE		44-19-45N 131-30-45E	I	4		Complete
BELOKOROVICHI Launch Complex						
OLEVSK 1		51-08-45N 28-03-15E	I	4		Complete
OLEVSK 2		51-10-30N 27-59-30E	I	4		Complete
RUDNYA ZLOTINSKAYA		51-03-30N 28-07-30E	IV	4		Complete
BORSHCHEV Launch Complex						
SKALA PODOLSKAYA 1		48-51-00N 26-08-30E	I	4		Complete
SKALA PODOLSKAYA 2		48-52-45N 26-03-30E	I	4		Complete
BREST Launch Complex						
BREST 1		51-48-45N 24-00-45E	II	4		Complete
BREST 2		51-51-45N 24-01-45E	II	4		Complete
BRODY Launch Complex						
BRODY 1		50-06-00N 25-12-15E	IV	4		Complete
BRODY 2		50-12-46N 25-05-00E	I	4		Complete
BERESTECHKO		50-20-00N 25-05-30E	I	4		Complete
DERAZHNYA Launch Complex						
DERAZHNYA 1		49-21-00N 27-26-30E	II	4		Complete
DERAZHNYA 2		49-26-15N 27-29-00E	II	4		Complete
KHMELNITSKIY		49-24-45N 27-08-45E	IV	4		Complete

TABLE 5. (Continued)

LOCATION*	BE NUMBER	COORDINATES	TYPE	NO OF PADS/ LAUNCHERS	DATE OF LATEST PHOTOGRAPHY	ESTIMATED CONSTR STATUS
DISNA Launch Complex						
DISNA		55-35-15N 28-16-00E	I	4		Complete
ZELKI		55-35-45N 28-24-30E	I	4		Complete
BORKOVICHI		55-41-45N 28-27-00E	II	4		Complete
DOLINA Launch Complex						
DOLINA 1		49-03-30N 24-03-30E	I	4		Complete
DOLINA 2		49-06-15N 24-08-30E	I	4		Complete
BOLEKHOV		49-06-45N 23-51-15E	IV	4		Complete
DROGOBYCH Launch Complex						
MEDENITSA		49-22-15N 23-45-30E	I	4		Complete
DROGOBYCH		49-25-30N 23-34-45E	I	4		Complete
STRYY		49-16-45N 23-43-00E	IV	4		Complete
DYATLOVO Launch Complex						
DYATLOVO		53-32-45N 25-16-45E	I	4		Complete
BEREZOVKA		53-35-30N 25-17-30E	I	4		Complete
ZBLYANY		53-35-45N 25-27-30E	II	4		Complete
GOMEL Launch Complex						
BORKHOV 1		52-18-30N 30-42-45E	II	4		Complete
BORKHOV 2		52-24-45N 30-39-00E	II	4		Complete
GRESK Launch Complex						
GRESK 1		53-14-15N 27-42-30E	I	4		Complete
GRESK 2		53-17-00N 27-40-45E	I	4		Complete
URECHYE		53-11-00N 27-58-30E	II	4		Complete
GROZNYY Launch Complex						
SUNZHENSKOYE		43-08-15N 44-54-15E	I	4		Complete
NESTEROVSKAYA		43-11-30N 44-57-00E	I	4		Complete
ACHKHOY-MARTAN		43-10-30N 45-10-30E	IV	4		Complete
GUSEV Launch Complex						
GUSEV 1		54-41-30N 22-05-00E	I	4		Complete
GUSEV 2		54-44-00N 22-03-30E	I	4		Complete
GVARDEYSK Launch Complex						
GVARDEYSK 1		54-40-30N 21-07-30E	I	4		Complete
GVARDEYSK 2		54-45-15N 21-09-15E	I	4		Complete
JELGAVA Launch Complex						
IECAVA 1		56-35-30N 24-04-00E	II	4		Complete
IECAVA 2		56-39-45N 24-07-30E	II	4		Complete
IECAVA 3		56-33-00N 24-20-30E	IV	4		Complete

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TABLE 5. (Continued)

LOCATION*	BE NUMBER	COORDINATES	TYPE	NO OF PADS/ LAUNCHERS	DATE OF LATEST PHOTOGRAPHY	ESTIMATED CONSTR STATUS
JONAVA Launch Complex						
KARMELAVA		54-57-15N 24-05-45E	II	4		Complete
JONAVA		55-01-00N 24-14-15E	II	4		Complete
KAMENETS-PODOLSKIY Launch Complex						
KAMENETS-PODOLSKIY		48-51-15N 26-42-30E	II	4		Complete
DUNAYEVTSY		48-55-15N 26-59-00E	II	4		Complete
KIVERTSY Launch Complex						
KIVERTSY 1		50-53-15N 25-31-00E	I	4		Complete
KIVERTSY 2		50-56-00N 25-36-15E	I	4		Complete
TROSTYANETS		50-58-30N 25-39-30E	II	4		Complete
KONKOVICHI Launch Complex						
PETRIKOV		52-10-30N 28-34-45E	I	4		Complete
KONKOVICHI		52-15-30N 28-37-45E	I	4		Complete
KOROSTEN Launch Complex						
KOROSTEN 1		50-51-45N 28-18-15E	II	4		Complete
KOROSTEN 2		50-52-15N 28-31-00E	II	4		Complete
KOZHANOVICHI Launch Complex						
KOZHANOVICHI 1		52-10-15N 27-51-30E	I	4		Complete
KOZHANOVICHI 2		52-11-30N 27-48-00E	I	4		Complete
KRASKINO Launch Complex						
KRASKINO		42-44-00N 130-40-15E	II	4		Complete
KRASNOZNAMENSK Launch Complex						
VIESVILLE		55-01-30N 22-23-00E	I	4		Complete
RAGNIT		55-01-15N 22-11-15E	I	4		Complete
KREMOVO Launch Complex						
KREMOVO		44-01-24N 132-20-39E	I	4		Complete
LYALICHI		44-02-30N 132-26-26E	I	4		Complete
KURGANCHA Launch Complex						
KURGANCHA 1		39-37-45N 65-57-30E	I	4		Complete
KURGANCHA 2		39-37-30N 65-57-00E	I	4		Complete
TYM		39-35-15N 65-42-45E	IV	4		Complete
LIDA Launch Complex						
LIDA 1		53-47-30N 25-20-30E	I	4		Complete
LIDA 2		53-57-15N 25-27-45E	I	4		Complete

TABLE 5. (Continued)

LOCATION*	BE NUMBER	COORDINATES	TYPE	NO OF PADS/ LAUNCHERS	DATE OF LATEST PHOTOGRAPHY	ESTIMATED CONSTR STATUS
LUTSK Launch Complex						
LUTSK 1		50-46-45N 25-03-00E	I	4		Complete
LUTSK 2		50-50-30N 25-04-15E	I	4		Complete
VLADIMIR-VOLYNSKIY		50-48-30N 24-42-30E	IV	4		Complete
MARINA GORKA Launch Complex						
MARINA GORKA		53-26-30N 27-45-30E	II	4		Complete
MAYKOP Launch Complex						
KURDZHIPSKAYA		44-31-45N 40-00-45E	II	4		Complete
SHIRVANSKAYA		44-25-30N 39-54-00E	IV	4		Complete
MOLOSKOVITSY Launch Complex						
MOLOSKOVITSY 1		59-28-45N 29-06-00E	II	4		Complete
MOLOSKOVITSY 2		59-29-30N 29-12-15E	II	4		Complete
GURLEVO		59-25-00N 28-53-15E	IV	4		Complete
MUKACHEVO Launch Complex						
MUKACHEVO 1		48-18-45N 22-30-45E	I	4		Complete
MUKACHEVO 2		48-19-30N 22-37-15E	I	4		Complete
NADVORNAYA Launch Complex						
PARYSHCHE		48-37-45N 24-42-00E	I	4		Complete
NOVA VES		48-39-30N 24-48-15E	I	4		Complete
OTYNYA		48-47-30N 24-50-30E	IV	4		Complete
OSTROG Launch Complex						
OSTROG 1		50-14-00N 26-43-15E	I	4		Complete
OSTROG 2		50-17-15N 26 11 00E	I	4		Complete
OSTROV Launch Complex						
ASANOVSHCHINA		57-31-45N 28-12-15E	I	4		Complete
SHEVELEVO		57-37-00N 28-12-15E	I	4		Complete
REDKINO		57-24-30N 28-26-00E	IV	4		Complete
PAPLAKA Launch Complex						
PAPLAKA 1		56-24-00N 21-17-30E	I	4		Complete
PAPLAKA 2		56-25-00N 21-16-45E	I	4		Complete
PINSK Launch Complex						
IVANOVO		52-10-45N 25-41-15E	I	4		Complete
MOTOL		52-12-30N 25-44-30E	I	4		Complete

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TABLE 5. (Continued)

LOCATION*	BE NUMBER	COORDINATES		TYPE	NO OF PADS/ LAUNCHERS	DATE OF LATEST PHOTOGRAPHY	ESTIMATED CONSTR STATUS
POLOTSK Launch Complex							
POLOTSK 1		55-22-30N	28-44-30E	II	4		Complete
POLOTSK 2		55-24-15N	28-33-45E	II	4		Complete
POSTAVY Launch Complex							
POSTAVY 1		55-09-45N	26-53-45E	II	4		Complete
KOZYANY		55-20-30N	26-51-30E	II	4		Complete
POSTAVY 2		55-06-15N	27-00-15E	IV	4		Complete
PRUZHANY Launch Complex							
PRUZHANY 1		52-30-30N	24-08-45E	II	4		Complete
PRUZHANY 2		52-33-30N	24-06-15E	II	4		Complete
RAKVERE Launch Complex							
SIMUNA		59-08-45N	26-26-45E	II	4		Complete
VAIKE MAARJA		59-11-15N	26-20-45E	II	4		Complete
RISTI Launch Complex							
RISTI 1		59-04-00N	24-04-30E	I	4		Complete
RISTI 2		59-07-45N	24-06-45E	I	4		Complete
RUZHANY Launch Complex							
KRUPA 1		52-47-45N	24-42-30E	II	4		Complete
KRUPA 2		52-49-15N	24-45-30E	II	4		Complete
SATEIKIAI Launch Complex							
SALANTAI 1		55-59-45N	21-38-15E	I	4		Complete
SALANTAI 2		56-02-15N	21-41-30E	I	4		Complete
ZEMAICIU KALVARIJA		56-01-45N	21-54-30E	IV	4		Complete
SIMFEROPOL Launch Complex							
MAZANKA		44-53-45N	34-20-00E	I	4		Complete
VALKI		44-57-00N	34-26-00E	I	4		Complete
SLONIM Launch Complex							
BYTEN 1		52-52-30N	25-21-30E	I	4		Complete
BYTEN 2		52-55-45N	25-22-15E	I	4		Complete
SOKAL Launch Complex							
SOKAL 1		50-22-45N	24-18-15E	I	4		Complete
SOKAL 2		50-27-15N	24-20-00E	I	4		Complete
SOKAL 3		50-20-15N	24-26-15E	IV	4		Complete

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TABLE 5. (Continued)

LOCATION*	BE NUMBER	COORDINATES	TYPE	NO OF PADS/ LAUNCHERS	DATE OF LATEST PHOTOGRAPHY	ESTIMATED CONSTR STATUS
SOVETSK Launch Complex						
SLAVSK 1		54-59-15N 21-36-30E	I	4		Complete
SLAVSK 2		54-59-45N 21-28-30E	I	4		Complete
SUCHAN Launch Complex						
NOVITSKOYE		43-01-45N 133-17-00E	I	4		Complete
SEVERNYY SUCHAN		43-10-00N 133-20-05E	I	4		Complete
TAURAGE Launch Complex						
TAURAGE 1		55-10-15N 22-20-30E	I	4		Complete
TAURAGE 3		55-05-00N 22-20-00E	I	4		Complete
TORVA Launch Complex						
TORVA 1		57-56-00N 26-04-00E	I	4		Complete
TORVA 2		57-59-15N 26-05-00E	I	4		Complete
TSIRGULINA		57-49-45N 26-12-30E	IV	4		Complete
UGOLNYY Launch Complex						
UGOLNYY		64-47-32N 177-56-15E	II	4		Complete
UKMERGE Launch Complex						
VEPRIAI		55-07-45N 24-38-30E	I	4		Complete
UKMERGE		55-11-00N 24-42-30E	I	4		Complete
UMAN Launch Complex						
MOLODETSKOYE		48-53-45N 30-27-45E	I	4		Complete
MANKOVKA		48-57-45N 30-23-45E	I	4		Complete
KISHENTSY		49-00-15N 30-13-45E	IV	4		Complete
USOVO Launch Complex						
OVRUCH 1		51-17-15N 28-16-15E	I	4		Complete
OVRUCH 2		51-18-30N 28-10-30E	I	4		Complete
LIPNIKI		51-12-15N 28-26-30E	II	4		Complete
UZHGOROD Launch Complex						
UZHGOROD		48-33-30N 22-13-15E	II	4		Complete
VORU Launch Complex						
VORU 1		57-46-00N 26-47-15E	II	4		Complete
VORU 2		57-49-00N 26-50-30E	II	4		Complete
VSELYUB Launch Complex						
VSELYUB 1		53-45-45N 25-43-00E	I	4		Complete
VSELYUB 2		53-48-00N 25-46-45E	I	4		Complete

TABLE 5. (Continued)

LOCATION*	BE NUMBER	COORDINATES	TYPE	NO OF PADS/ LAUNCHERS	DATE OF LATEST PHOTOGRAPHY	ESTIMATED CONSTR STATUS
YELSK Launch Complex						
YELSK 1		51-42-30N 29-12-30E	I	4		Complete
YELSK 2		51-47-15N 29-18-15E	I	4		Complete
ZAGARE Launch Complex						
ZAGARE 1		56-23-15N 23-19-15E	I	4		Complete
ZAGARE 2		56-29-00N 23-20-45E	I	4		Complete
LIELELEJA		56-24-30N 23-36-45E	IV	4		Complete
ZHITOMIR Launch Complex						
ZHITOMIR 1		50-04-45N 28-15-45E	II	4		Complete
ZHITOMIR 2		50-10-00N 28-16-15E	II	4		Complete
BERDICHEV		50-05-30N 28-22-00E	II	4		Complete
ZHMERINKA Launch Complex						
GNIVAN		49-09-00N 28-11-45E	II	4		Complete
ZHMERINKA		49-10-15N 28-05-00E	II	4		Complete
VINNITSA		49-17-30N 28-20-15E	IV	4		Complete
ZNAMENSK Launch Complex						
ZNAMENSK 1		54-32-45N 21-11-15E	I	4		Complete
ZNAMENSK 2		54-35-15N 21-07-30E	I	4		Complete

*TDI site designators have been adopted for MRBM launch sites.

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Table 6. Summary Evaluation of Selected Launch Facilities, Kapustin Yar Missile Test Center

Complex/Area/Site	BE Number	Coordinates	Type of Site	Number of Positions		Site Negated		First Coverage		Latest Coverage		Stage of Construction on Last Usable Coverage			Estimated Status
				Soft	Hard	Date	Msn	Date	Msn	Date	Msn	Date	Msn	Const	
Complex A															
Launch Site 1A1		48-42N 46-15E	R&D	1	--										Operational
Launch Site 1A2			R&D/Trng	1	--										Operational
Launch Site 2A1			R&D	--	1										Operational
Launch Site 2A2			R&D	--	1										Inactive
Complex C															
Launch Site 1C1		48-36N 46-17E	Space R&D*	1	--										Operational
Launch Site 1C2			Undet	1	--										Operational
Launch Site 1C3			Undet	1	--										Operational
Launch Area 2C		48-35N 46-17E	R&D/Trng	2	--										Operational
Launch Area 3C		48-34N 46-17E	R&D/Trng	1	--										Operational
Launch Site 4C1		48-34N 46-17E	Type IV MRBM $_p$	--	4										Undetermined
Launch Site 4C2		48-33N 46-17E	Type IV IRBM $_p$	--	3										Operational
Launch Site 5C1		48-32N 46-17E	Undet	2	--										Undetermined
Launch Site 5C2		48-32N 46-17E	--	2	--										Abandoned
Complex E		48-46N 46-18E	Undet	1	--										Operational
Complex G		48-24N 46-17E	Trng	2	--										Operational
Complex H		48-48N 46-20E	Undet	2	--										U/C

*R&D/Trng site on first coverage,
$_p$ Prototype.

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TABLE 7. SUMMARY EVALUATION OF SOVIET FIXED FIELD SITES (SSM FIXED FIELD POSITIONS)

LOCATION*	BE NUMBER	COORDINATES	NEGATION DATE	FIRST OBSERVED	NO OF LAUNCH POSITIONS
AKHTYRKA					
Akhtyrka		50-19-30N 34-51-30E			4
ALUKSNE					
Lejasciems		57-15-15N 26-41-15E			4
ANASTASYEVKA					
Anastasyevka		48-32-15N 135-31-45E			4
BELOKOROVICHI					
Rudnya Zlotinskaya		51-08-30N 27-59-45E			4
BORSCHEV					
Skalapodolskaya 1		48-53-30N 026-13-30E			4
Skalapodolskaya 2		48-52-30N 026-16-00E			4
BREST					
Pishcha		51-35-15N 23-46-45E			4
Zamshany		51-50-05N 24-02-05E			4
BRODY					
Yazlovchik		50-05-45N 25-02-00E			4
Stanislavchik		50-07-00N 24-56-30E			4
DERAZHNYA					
Khmelnitskiy		49-25-00N 27-06-30E			2
Letichev 1		49-22-45N 27-43-45E			4
Letichev 2		49-25-15N 27-45-00E			2
DISNA					
Dernovichi		55-47-45N 28-20-00E			4
DOLINA					
Berezhnitsa		49-12-45N 23-57-30E			4
Rukuv		48-58-21N 24-05-35E			4
DYATLOVO					
Ruda Yavorskaya 1		53-23-15N 25-10-30E			4
Ruda Yavorskaya 2		53-23-15N 25-12-45E			5
Ruda Yavorskaya 3		53-23-15N 25-13-30E			4
GOMEL					
Gomel		52-20-45N 30-51-30E			4
GUSEV					
Tolmingkemsk		54-22-15N 22-20-15E			4

TABLE 7. (Continued)

LOCATION*	BE NUMBER	COORDINATES	NEGATION DATE	FIRST OBSERVED	NO OF LAUNCH POSITIONS
GVARDEYSK					
Geroyskoye		54-45-45N 21-25-15E			2
Vysokoye		54-44-30N 21-33-45E			4
JELGAVA					
Jelgava 1		56-38-45N 23-52-45E			2
Jelgava 2		56-44-15N 23-55-15E			4
JONAVA					
Kaisiadorys		54-59-30N 24-29-00E			4
KAMENETS-PODOLSKIY					
Yarmolintsy		49-12-00N 26-46-45E			4
Vinkovtsy		48-58-20N 27-12-05E			1
KIVERTSY					
Kivertsy		50-50-00N 25-25-00E			4
KONKOVICHI					
Novoselki 1		52-23-00N 28-42-45E			4
Novoselki 2		52-25-45N 28-41-00E			4
KOROSTEN					
Litki 1		51-01-30N 28-27-45E			4
Yemilchino 1		50-52-30N 27-53-00E			4
Yemilchino 2		50-52-00N 27-53-00E			4
Litki 2		51-01-15N 28-24-15E			2
KRASNOZNAMENSK					
Krasnoznamensk		54-57-30N 22-35-00E			4
Sudargas		55-00-30N 22-35-00E			4
KREMOVO					
Manzovka		44-12-00N 132-34-00E			4
LIDA					
Vasilishki		53-44-00N 24-56-15E			4
LUTSK					
Gorokhov		50-35-45N 24-48-45E			4
MARINA GORKA					
Shotsk		53-27-45N 27-48-00E			4
MAYKOP					
Tulskaya		49-31-15N 40-14-15E			4
Maykop		44-32-30N 39-57-45E			4

TABLE 7. (Continued)

LOCATION*	BE NUMBER	COORDINATES	NEGATION DATE	FIRST OBSERVED	NO OF LAUNCH POSITIONS
NADVORNAYA					
Ivanovtsy		48-38-00N 24-54-15E			4
OSTROG					
Slavuta		50-16-45N 26-57-45E			2
Shepetovka		50-12-30N 26-59-00E			4
OSTROV					
Shabany		57-23-45N 28-13-15E			4
PINSK					
Lychkovtsy		52-15-00N 25-21-45E			4
POLOTSK					
Plissa 1		55-12-30N 28-01-45E			3
Plissa 2		55-11-30N 27-54-45E			4
POSTAVY					
Sivtsy		55-09-30N 26-53-45E			1
Bogatoye		54-57-15N 26-28-45E			4
Kobylnik		54-56-30N 26-37-15E			4
PRUZHANY					
Strigovo		53-23-15N 24-14-30E			4
Shcherby		52-23-00N 24-10-00E			4
RUZHANY					
Shchitno 1		52-43-15N 24-58-15E			4
Shchitno 2		52-41-00N 24-57-30E			4
SATEIKIAI					
Telsiai		55-56-45N 22-07-00E			4
Alsedziai		56-00-15N 22-06-00E			4
SLONIM					
Byten		52-54-30N 25-22-00E			2
SMORGON					
Smorgon		54-34-45N 26-21-30E			2
TAURAGE					
Skaudvile		55-23-00N 22-31-00E			4
Taurage		55-10-00N 22-14-30E			2

TABLE 7. *(Continued)*

LOCATION*	BE NUMBER	COORDINATES	NEGATION DATE	FIRST OBSERVED	NO OF LAUNCH POSITIONS
TORVA					
Valga		57-50-15N 25-54-15E			4
UKMERGE					
Gelvonai		55-07-15N 24-43-45E			4
Balninkai		55-13-00N 25-02-00E			4
USOVO					
Luginy		51-08-00N 28-23-00E			4
YELSK					
Yelsk		51-50-45N 29-05-15E			4
ZAGARE					
Dobele 1		56-40-00N 23-11-45E			4
Dobele 2		56-40-45N 23-06-45E			4
ZHITOMIR					
Berdichev		49-51-30N 28-25-30E			2
ZHMERINKA					
Vinnitsa		49-13-15N 28-18-45E			4
Bar		49-05-30N 27-43-00E			4
ZNAMENSK					
Pravdinsk		54-23-00N 20-59-45E			3
Domnovo		54-25-30N 20-53-00E			4
				TOTAL	273

*TDI site designators have been adopted for the fixed field sites, which are listed under the nearest permanent IRBM/MRBM complex.

[redacted]Appr[redacted]d Fo[redacted]leas[redacted]003/[redacted]9 : C[redacted]RDP[redacted]047[redacted]003[redacted]001[redacted]

Table 8. Summary Evaluation of Soviet IRBM/MRBM Sites Without Support Facilities

Complex Site	BE Number	Coordinates	Type	Site Negated		First Seen/Const Status			Last Msn Site Intact		Dismantling First Observed		Remarks
				Date	Msn	Date	Msn	Status	Date	Msn	Date	Msn	
Bayram-Ali Bayram-Ali		37-46-00N 62-12-00E	III IRBM										barracks-type bldgs, RIM bldg removed; ready bldg bulldozed [redacted] destruction confirmed on [redacted]
Belomorsk Ramoye		64-25-45N 34-18-15E	III IRBM										barracks-type bldgs & RIM bldg removed on [redacted]
Bykhov Sledyuki		53-41-30N 30-20-30E	II MRBM										bunkers between never completed [redacted] bandoned on [redacted] all structures removed; [redacted]
Fedorovka Traktovyy		53-25-15N 62-23-00E	III IRBM										barracks-type bldgs removed [redacted]
Kraskino Kraskino		42-44-00N 130-40-15E	II MRBM										barracks-type bldgs, 1 small bldg, & a RIM bldg removed [redacted]
Marina Gorka Marina Gorka		53-26-30N 27-45-30E	II MRBM										[redacted]
Rozhdestvenka Rozhdestvenka		45-47-15N 133-43-30E	II MRBM										trances to some bldgs appear sealed; bldgs partially destroyed
Uzhgorod Uzhgorod		48-33-30N 22-13-15E	II MRBM										No barracks-type bldgs seen associated with launch area
Zhuravka Zhuravka		54-36-30N 76-39-45E	III IRBM										1 barracks-type bldg & RIM bldg removed on [redacted]

TABLE 9. COMPOSITION OF IRBM/MRBM COMPLEXES

No of Complexes		Containing Soft Sites Only				Containing Hard Sites Only			Containing Hard and Soft Sites		
		One Site, No Housing or Support Facility	One Site	Two Sites	Three Sites	One Site	Two Sites	Three Sites	Two Soft, One Hard Site	One Soft, One Hard Site	One Soft, Two Hard Sites
IRBM											
	3	3									
	2				2						
	5								1	1	3
	4					1		3			
MRBM	3	3									
	43		1	36	6						
	21								20	1	
TOTALS	81	6	1	36	8	1	0	3	21	2	3

Table 10. Soviet ICBM, IRBM, and MRBM Systems, Estimated Technical Characteristics and Performance

	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10 1/
Initial operational capability (IOC)	[redacted]						
Nominal maximum range 2/ (NRE, non-rotating earth)	1,020 nm	2,200 nm	6,000 nm	6,000 nm	6,000 nm	6,000 nm	6,000 nm
Guidance	Inertial	Inertial	Radio inertial	Inertial	Radio inertial	Radio inertial 3/	Radio inertial
Circular error probability (CEP)							
Initial	1.25 nm	1.0 nm	2.0 nm	1-2 nm	1.0 nm	0.5-1.0 nm	Undetermined
Improved/year	--	--	--	1.0/1966	0.8/1967	0.5/1968-1970	Undetermined
Re-entry vehicle weight (lbs)	3,200, ± 500	2,500-4,000	8,000, ± 1,000	3,000-4,000 4/	2,500-4,000	10,000, ± 1,000	Undetermined
Warhead weight (lbs)	2,000, ± 300	2,000-3,200	6,000, ± 1,000	2,400-3,200	2,000-3,200	8,000, ± 1,000	Undetermined
Gross lift-off weight (lbs)	88,000 (approx)	200,000 (approx)	500,000 (approx)	300,000 (approx)	165,000 (approx)	400,000 (approx)	Undetermined
Configuration	Single-stage	Single-stage	Parallel	Tandem 2-stage	Tandem 2-stage	Tandem 2-stage	Tandem 2-stage
Propellant	Storable liquid	Storable liquid	Non-storable liquid	Storable liquid	Non-storable liquid	Storable liquid	Liquid
Reliability rates: 5/							
Ready-missile	80%	80%	80%	80%	80%	80%	Undetermined
Countdown							
Initial	90%	85%	85%	85%	85%	80%	Undetermined
Improved/year	--	--	--	--	--	85%/1967	Undetermined
Inflight							
Initial	85%	90%	85%	90%	90%	85%	Undetermined
Improved/year	--	--	--	--	--	90%/1967	Undetermined
Overall							
Initial	60% (soft) 65% (hard)	60% (soft) 65% (hard)	60%	60%	60%	55%	Undetermined
Improved/year	--	--	--	--	--	60%/1967	Undetermined

Table 10. (Continued)

	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10 1/
Reaction time from ready condition: 6/							
Condition 3	1-3 hrs	1-3 hrs	12 hrs (minimum)	1-3 hrs	1-3 hrs	1-3 hrs	Undetermined
Condition 2	15-30 min	15-30 min	1-2 hrs	15-30 min	30-45 min	15-30 min	Undetermined
Condition 1	5-15 min	5-15 min	5-15 min	5-15 min	5-15 min	5-15 min	Undetermined
Hold time in ready condition 1 7/	hrs-days	hrs-days	1 hr	hrs (soft) - days (hard)	1 hr (approx)	hrs (soft) - days (hard)	Undetermined
Refire time 8/	2-4 hrs	2-4 hrs	12 hrs (minimum)	2-4 hrs	2-4 hrs	2-4 hrs	Undetermined

1/ The evidence is insufficient to enable us to make a complete estimate of SS-10 characteristics and performance.

2/ Operational range is dependent on weight class of payload used.

3/ It is believed that the SS-9 has an additional all-inertial guidance capability with a CEP of 1-1.5 nm.

4/ More than one re-entry vehicle exists within these limits. Another, weighing as much as approx. 5,000 lbs (warhead 4,000 lbs) has been tested to a reduced range (4,700 nm).

5/ These reliability rates may be too high since they may not sufficiently take into account the effect of Soviet operational methods and troop training, which are at least as important as technical characteristics in determining system reliability. We have little basis for estimating these effects.

6/ Readiness Condition 3 is believed to be the normal readiness condition for missiles deployed at soft sites, and Condition 2 for hard sites.

7/ An unfavorable environment could seriously degrade these hold times. Because of the protection afforded a missile in a hardened site, it is given a longer hold time than its soft counterpart. We believe the cryogenic properties of non-storable propellants probably limit these missiles to a hold time of about 1 hour.

8/ Refire capabilities are applicable to soft sites only. Estimated refire times are based on the assumption that the launch sites were designed specifically for an efficient refire capability and that no major refurbishment of ground support equipment or launch stand is necessary.