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NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

THE YEARS OF PROJECT HTAUTOMAT, 1956 - 1958

VOLUME V . 2

*by*



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THE YEARS OF PROJECT HTAUTOMAT, 1956 - 1958

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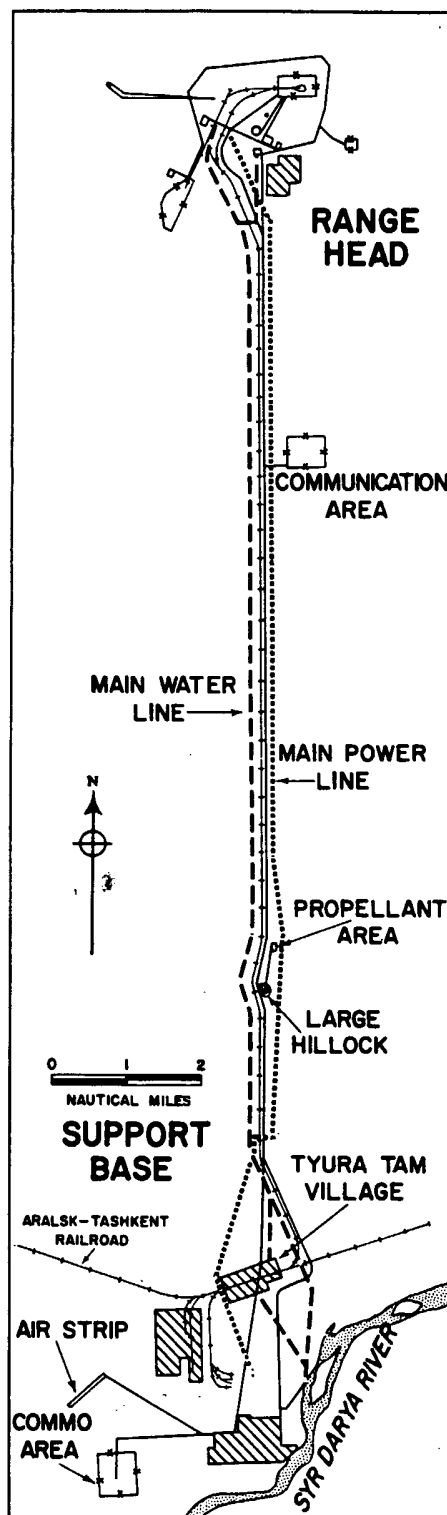
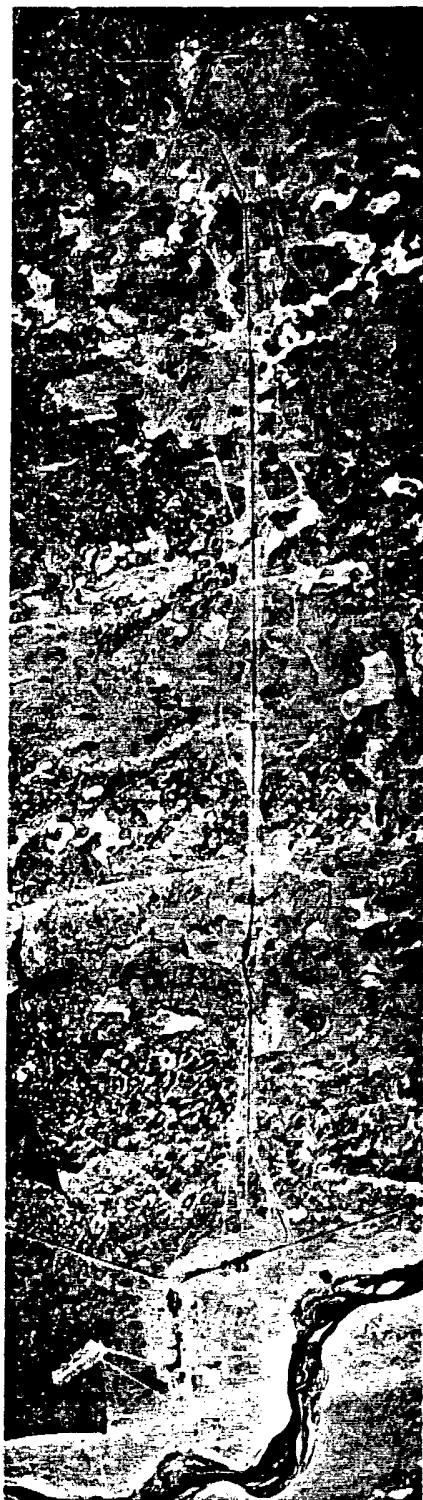
**Chief components of the Tyura Tam Missile Test Center,  
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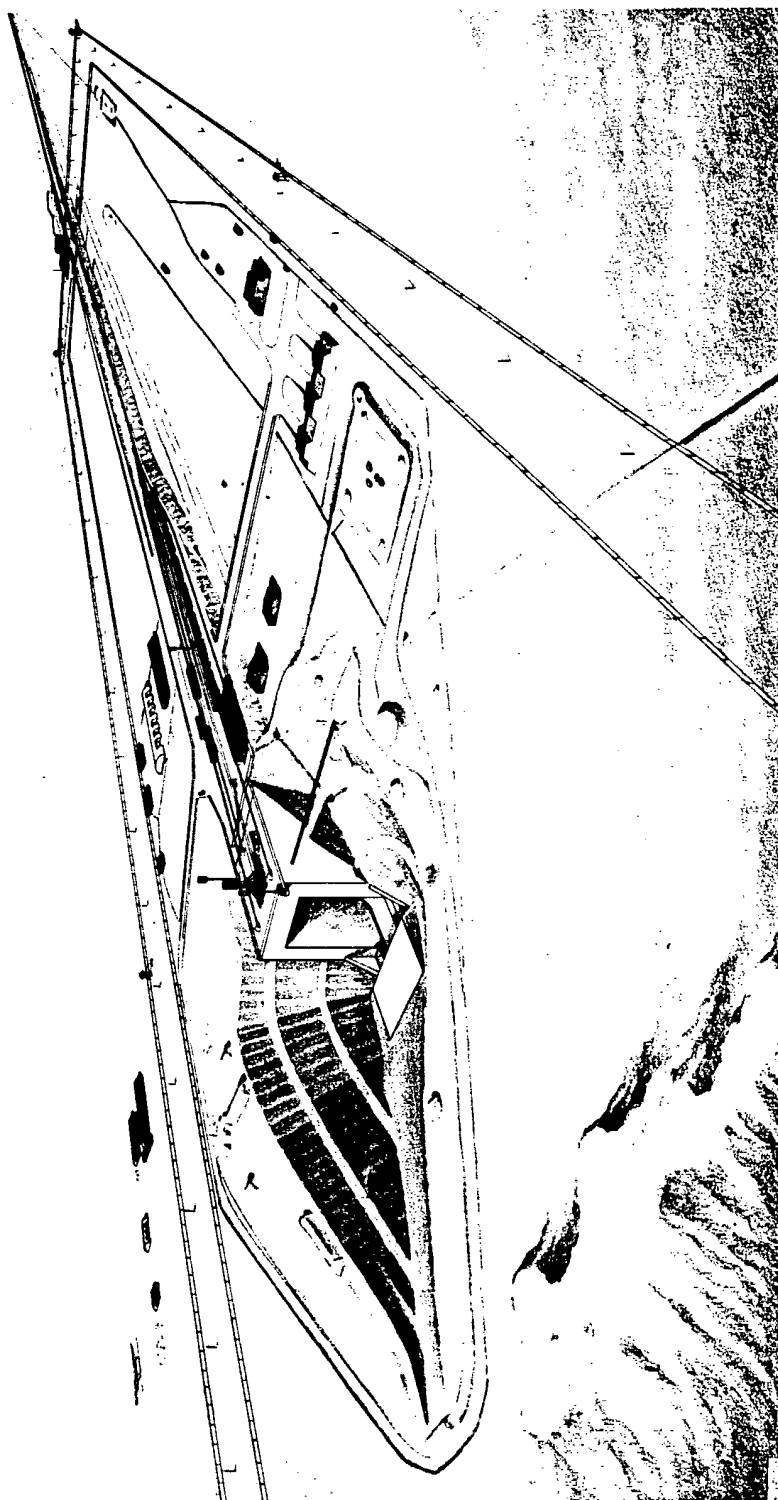
**FIGURE 41**

**Launch Area A, Tyura Tam Missile Test Center, August 1957.**

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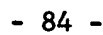
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FIGURE 42

Details and dimensions of the launching platform and associated pit, Launch Area A, Tyura Tam Missile Test Center, August 1957.

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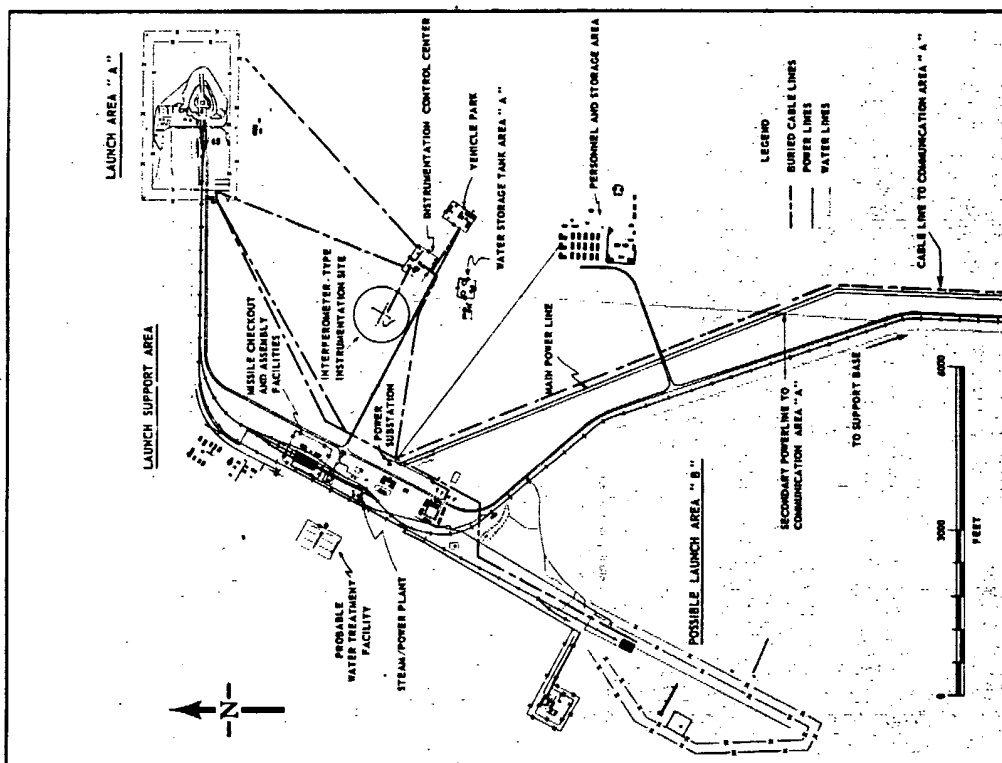
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FIGURE 43

Range head facilities, Tyura Tam Missile Test Center, August, 1957. A comparison of the line drawing with Figure 42 and 44 will confirm the fact that much more technical detail was extracted from the photography of the key components than is represented in this generalized representation of the entire range head.

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FIGURE 44

Details of the launch support facilities, Launch Area A, Tyura Tam Missile Test Center, August 1957. Note especially the water lines and pumphouse and the parked rail cars.

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FIGURE 45

Support Base, Tyura Tam Missile Test Center, August 1957.

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**SECRET****FIGURE 46**

Communications Area B, a receiving station activated in the Support Base, Tyura Tam Missile Test Center. See Figure 47 for orientation and dimensions of the antennas and for sketches of rhombic and fishbone arrays. Data displayed in the graphics and in tables (Figure 47) exemplify the detailed technical analysis on Soviet communications systems done during JAM SESSION using U-2 photography, electronic intercepts, and the open literature.

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**FIGURE 47**

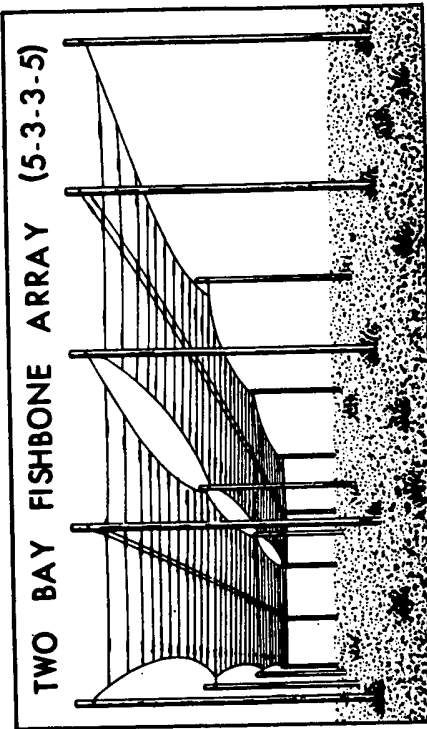
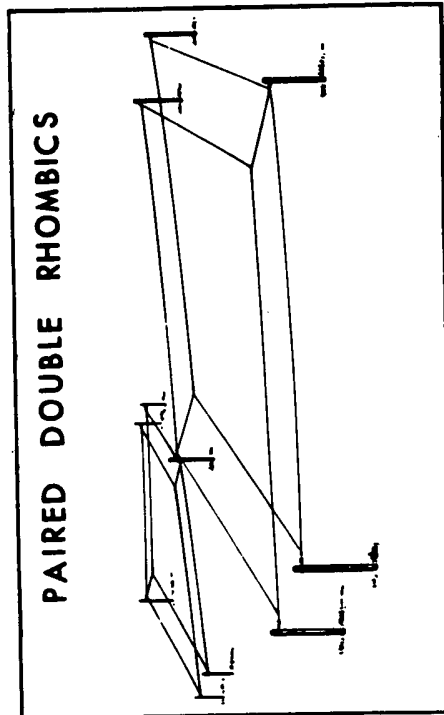
**Rhombic and fishbone antenna arrays and the orientation and dimensions of those in Communications Area B, Tyura Tam Missile Test Center, August 1957.**

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ORIENTATIONS AND DIMENSIONS OF ANTENNA ARRAYS, COMMUNICATION AREA 'B'



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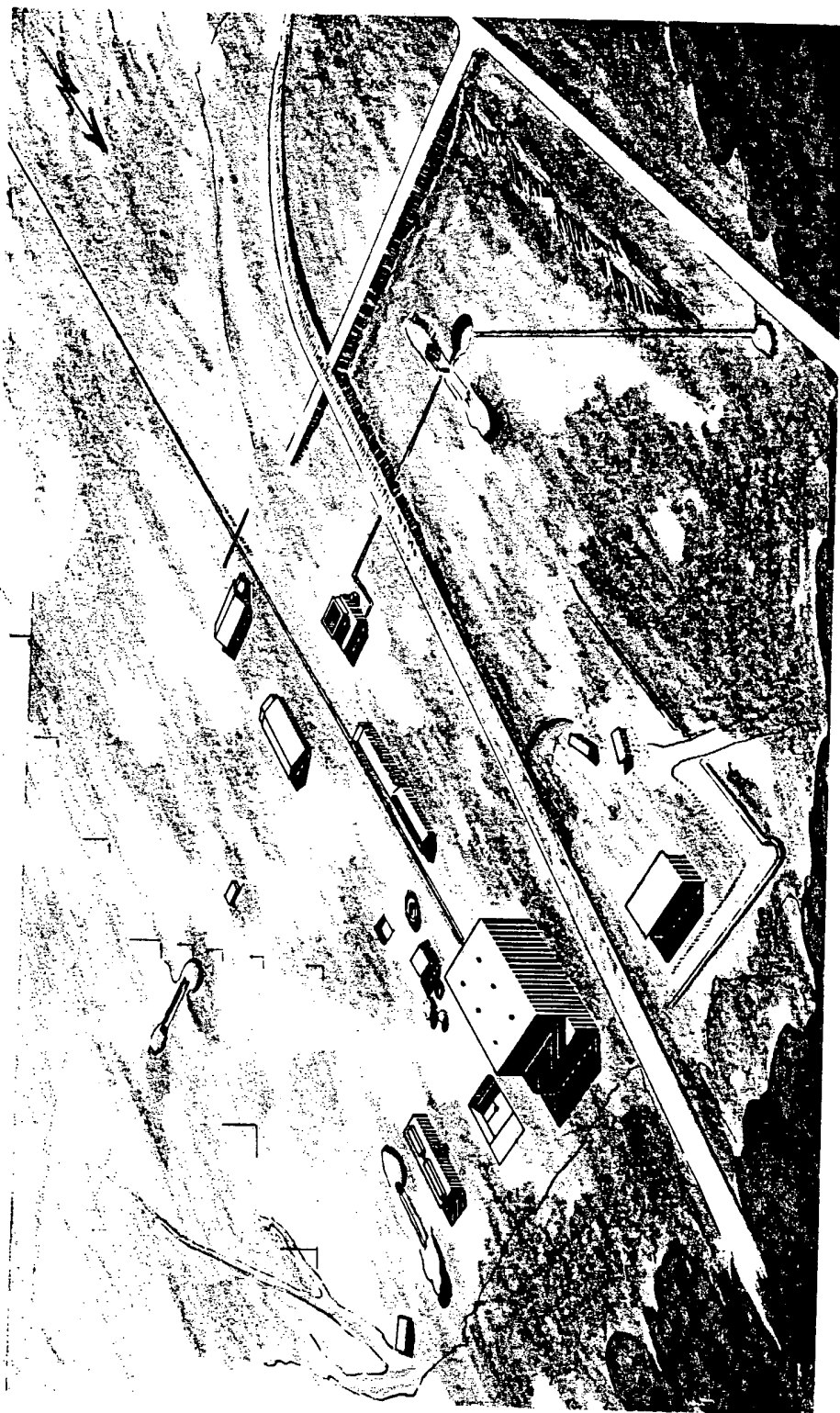
**FIGURE 48**

**Probable propellant production plant under construction,  
Tyura Tam Missile Test Center, August 1957.**

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**FIGURE 49**

Probable primary direction of fire from Launch Area A,  
Tyura Tam Missile Test Center.

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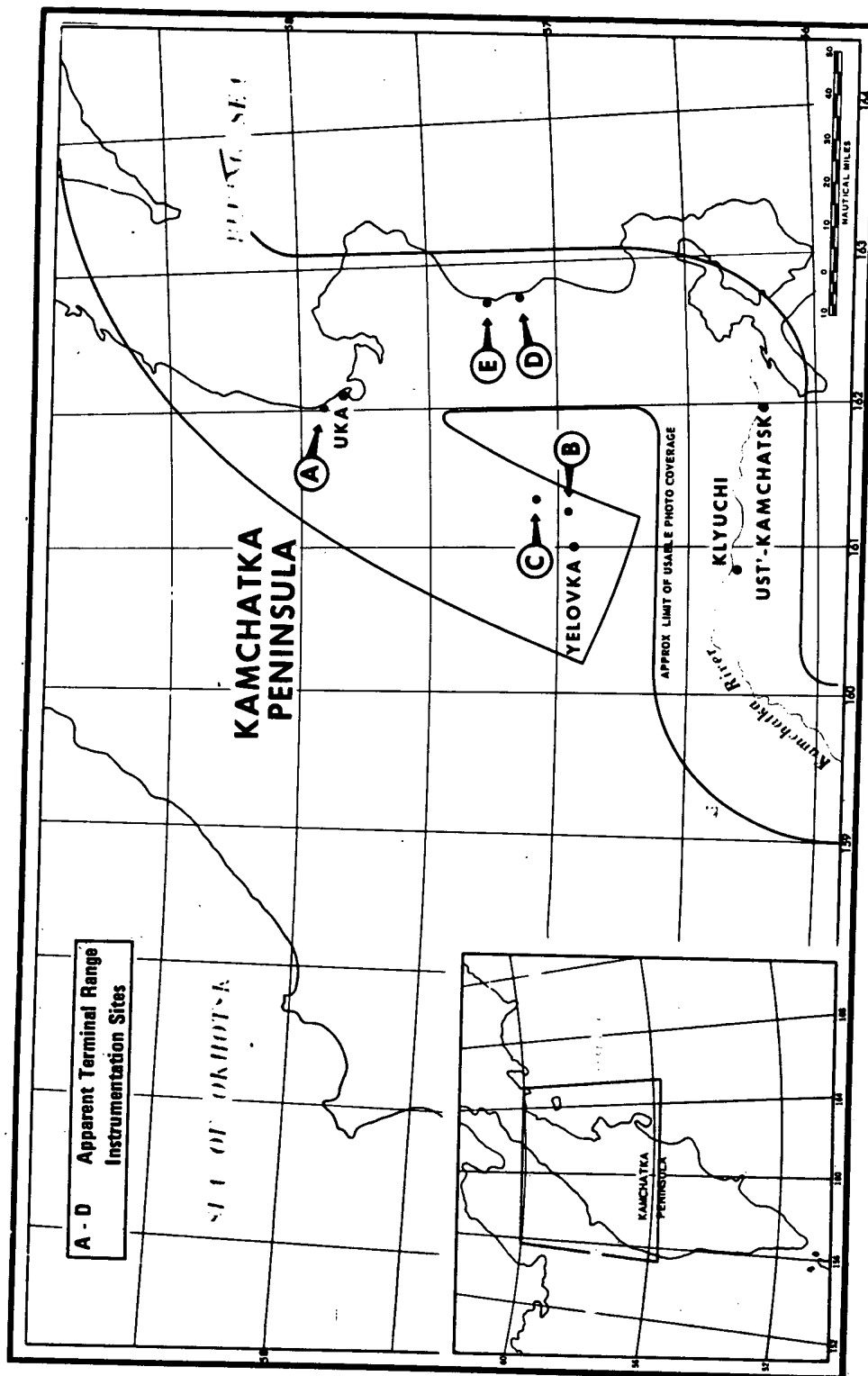
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**FIGURE 50**

Probable terminal range instrumentation in the Kamchatka Peninsula for the Tyura Tam Missile Test Range, June and September 1957.

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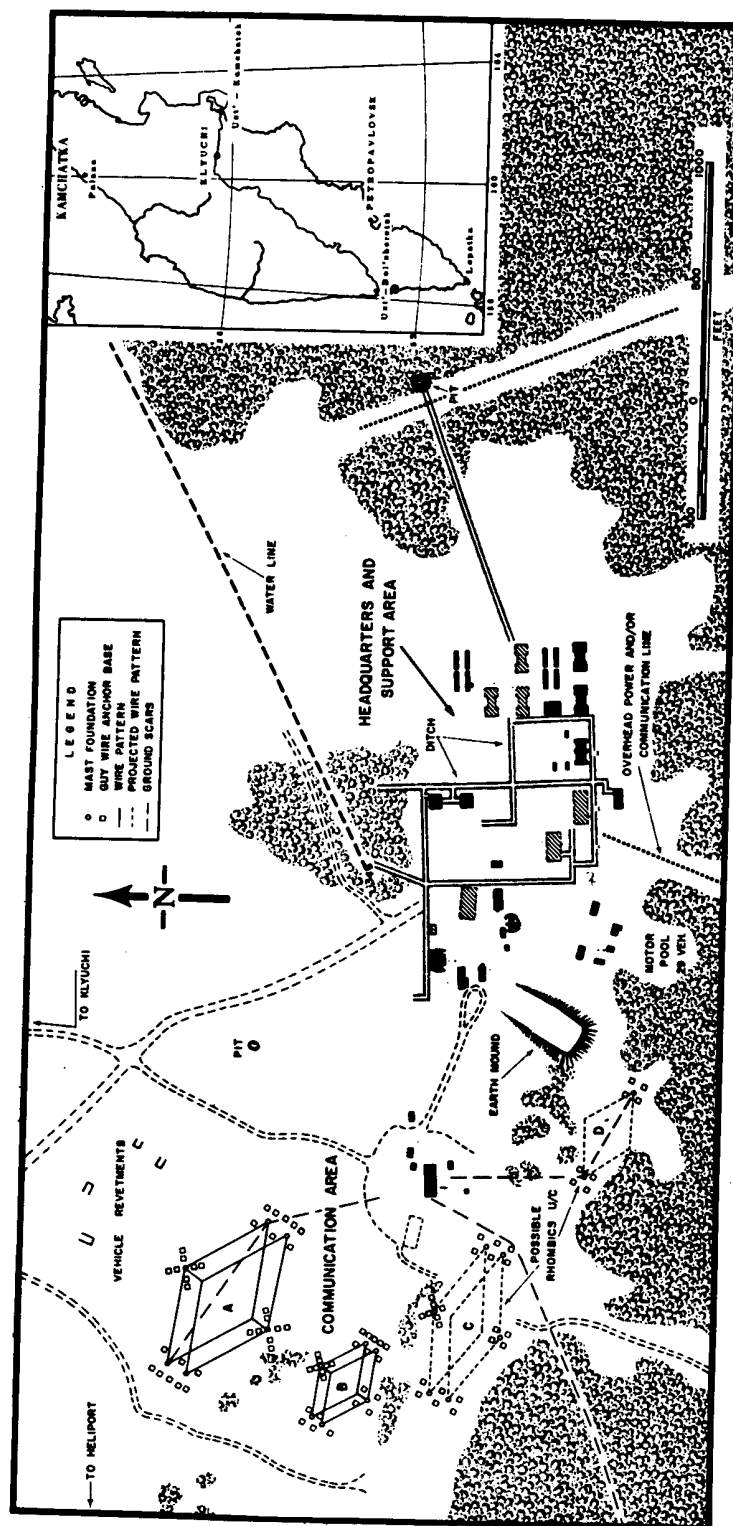
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FIGURE 51

The communications center under construction in September 1957 near the town of Klyuchi, in the Kamchatka Peninsula. This center was believed associated with the Tyura Tam Missile Test Range.

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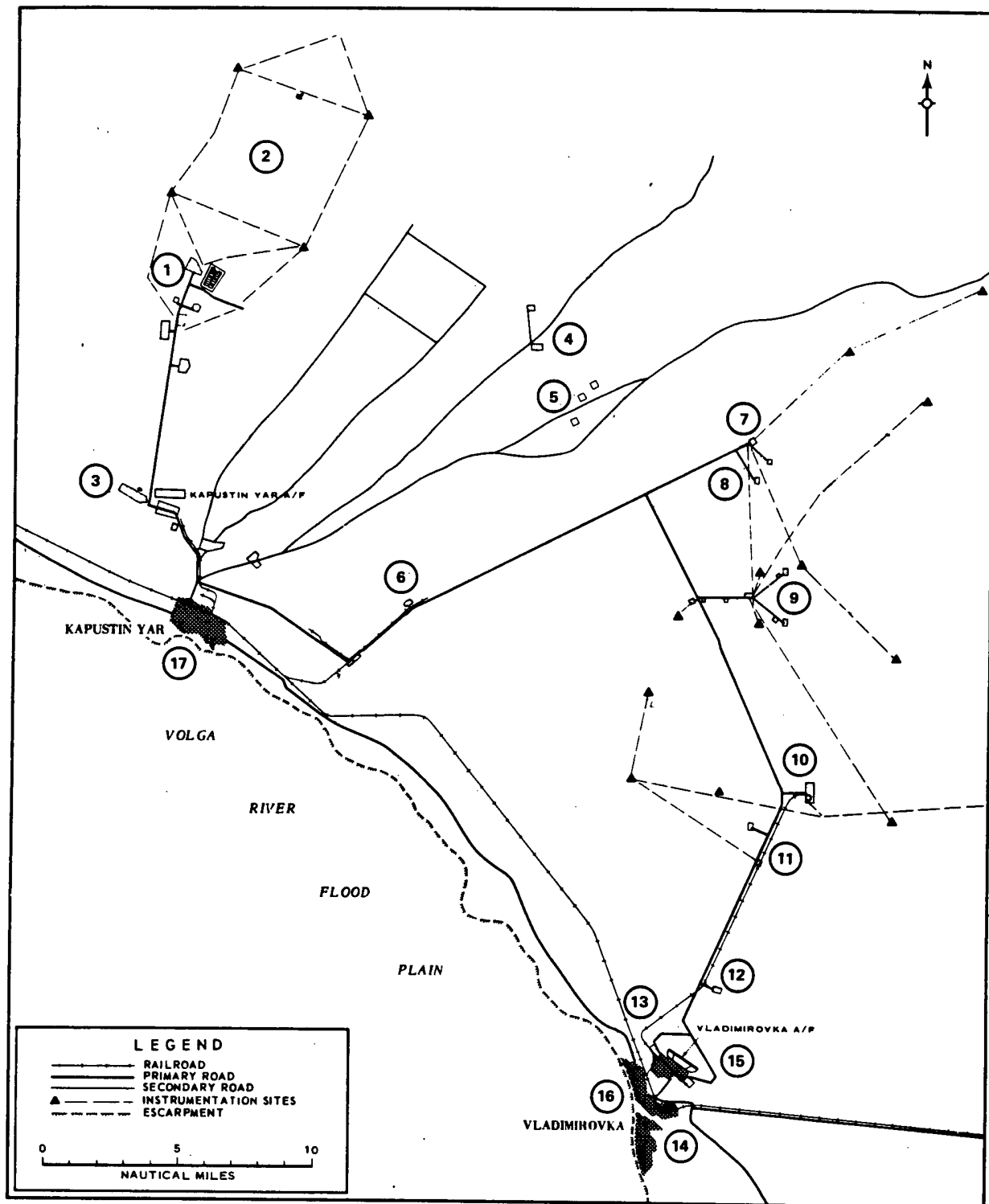
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FIGURE 52

Layout of the range, head facilities with respect to each other and to the settlements of Kapustin Yar and Vladimirovka, September 1957. The number 16 designates Vladimirovka and 17 identifies Kapustin Yar.

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**FIGURE 53**

Zones 4, 5, and 6, Kapustin Yar Missile Test Center, September 1957.

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NAUTICAL MILES



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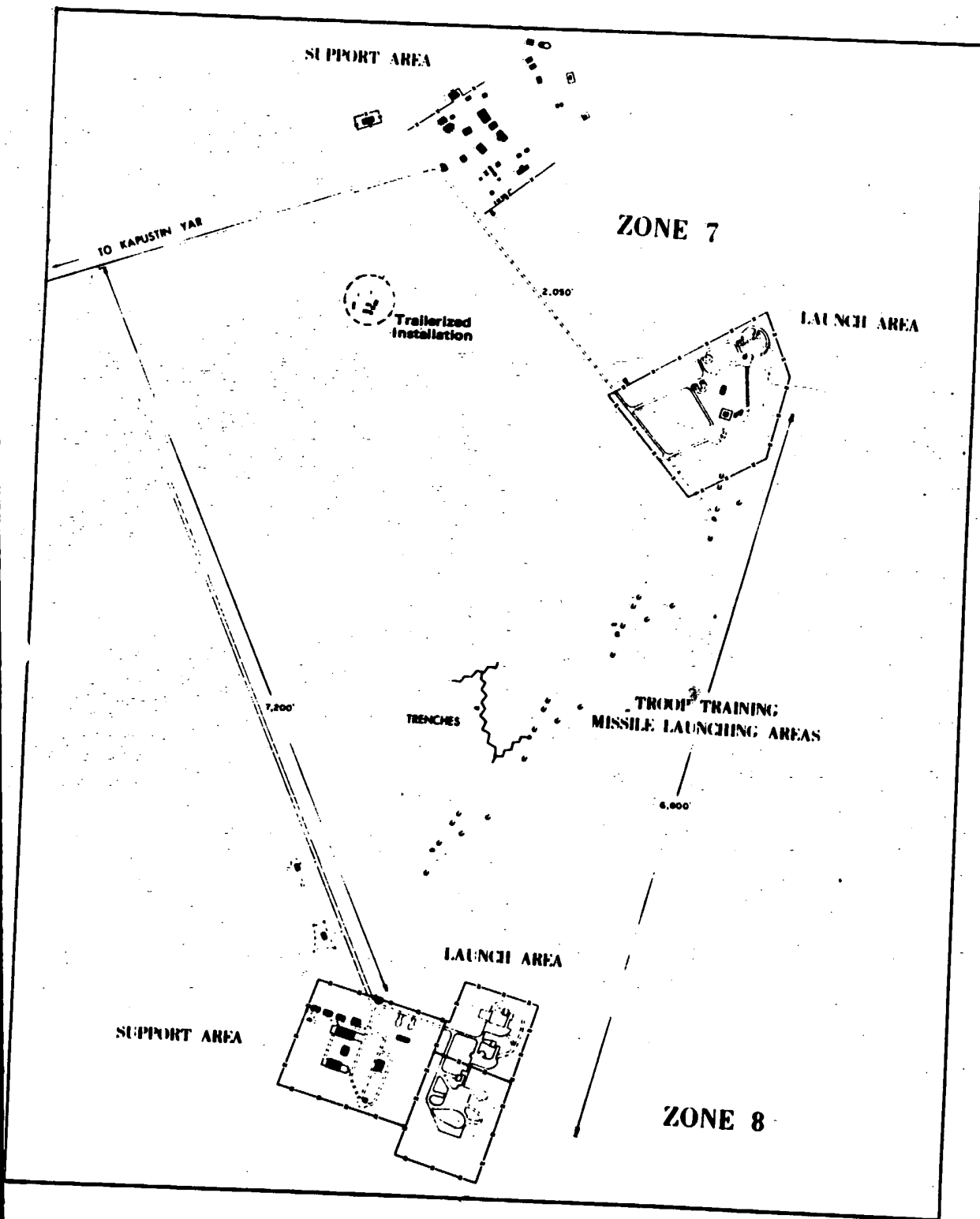
**FIGURE 54**

Layout of facilities, Zones 7 and 8, Kapustin Yar Missile  
Test Center, September 1957.

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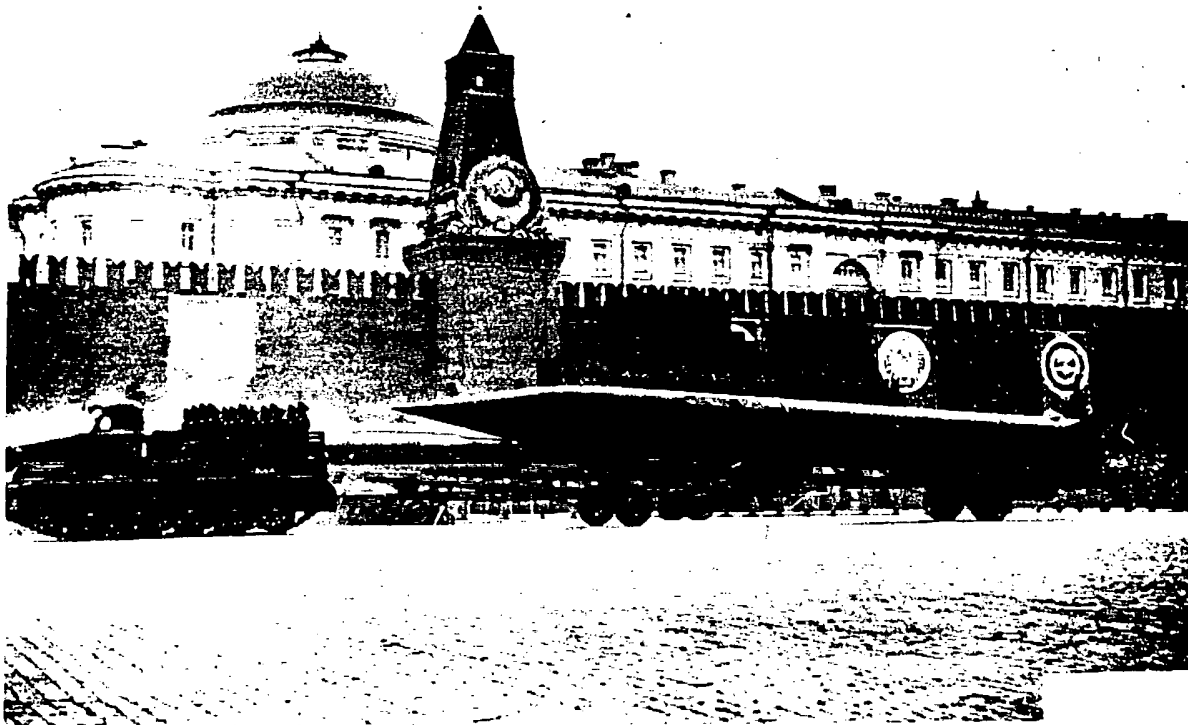
FIGURE 55

Trailer-mounted Soviet MRBM associated by JAM SESSION  
consultants with firings from the main pads, Zone 7, Kapus-  
tin Yar Missile Test Center.

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## TRAILER MOUNTED MEDIUM RANGE BALLISTIC MISSILE



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**FIGURE 56**

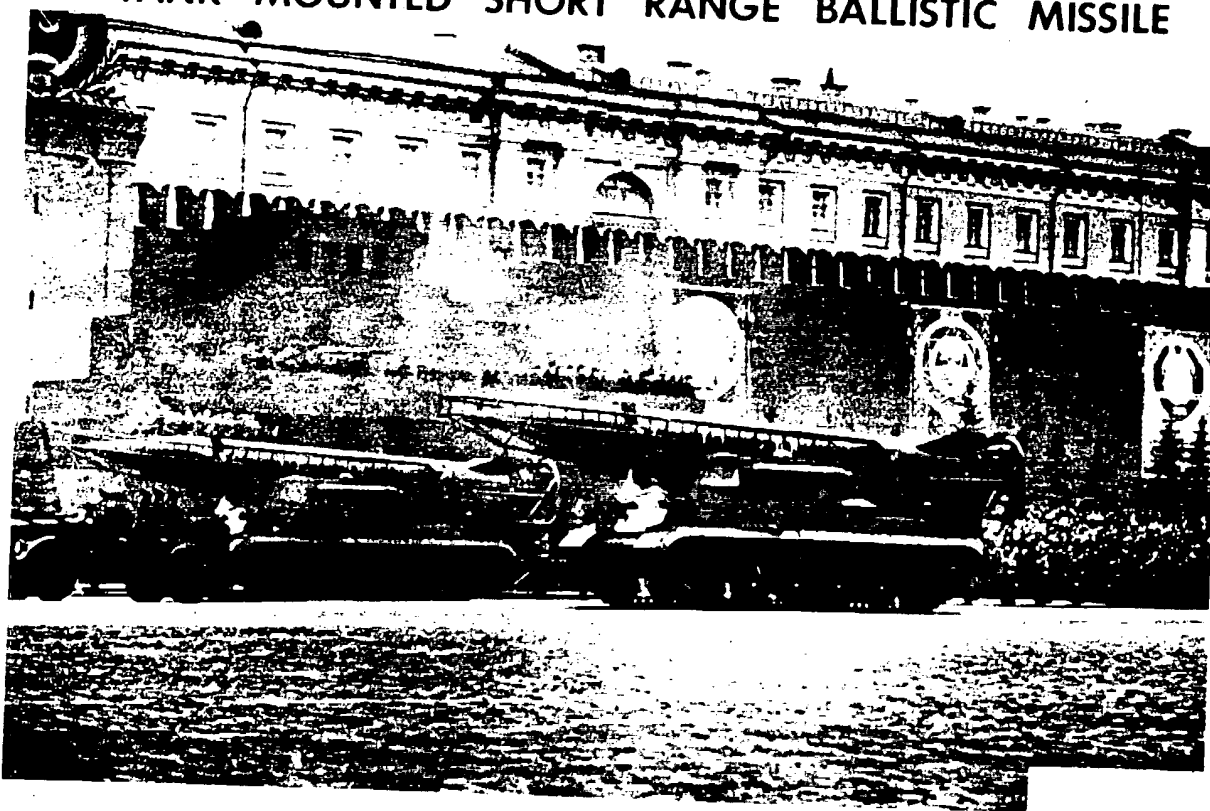
Tank-mounted short-range Soviet ballistic missile associated by JAM SESSION consultants with firings from the smaller pads at Zone 7, Kapustin Yar Missile Test Center.

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# TANK MOUNTED SHORT RANGE BALLISTIC MISSILE



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FIGURE 57

Zones 7 and 8, Kapustin Yar Missile Test Center, as they appeared  
on photography of 10 September 1957.

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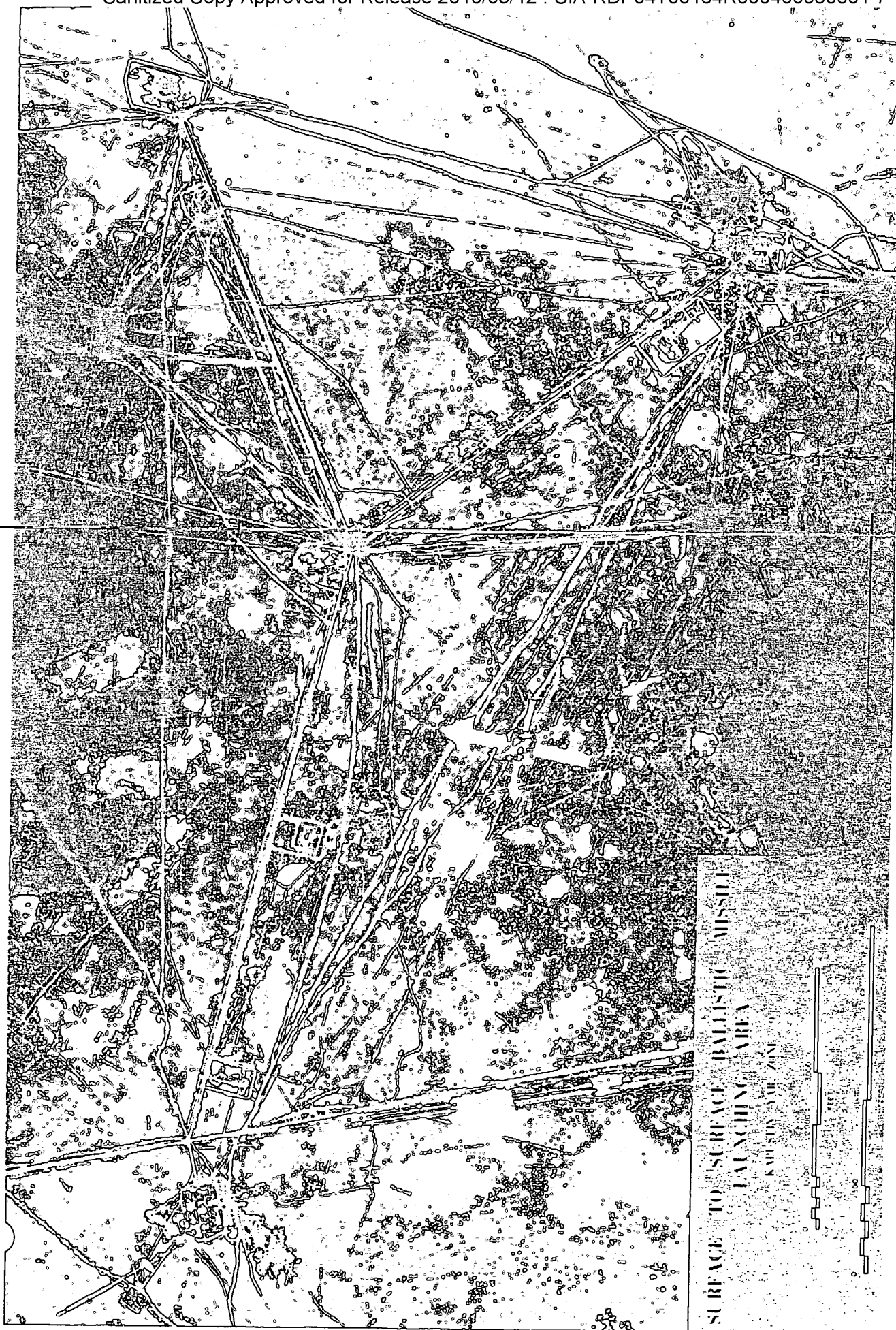
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FIGURE 58

Photograph of Zone 9, Kapustin Yar Missile Test Center, September 1957.

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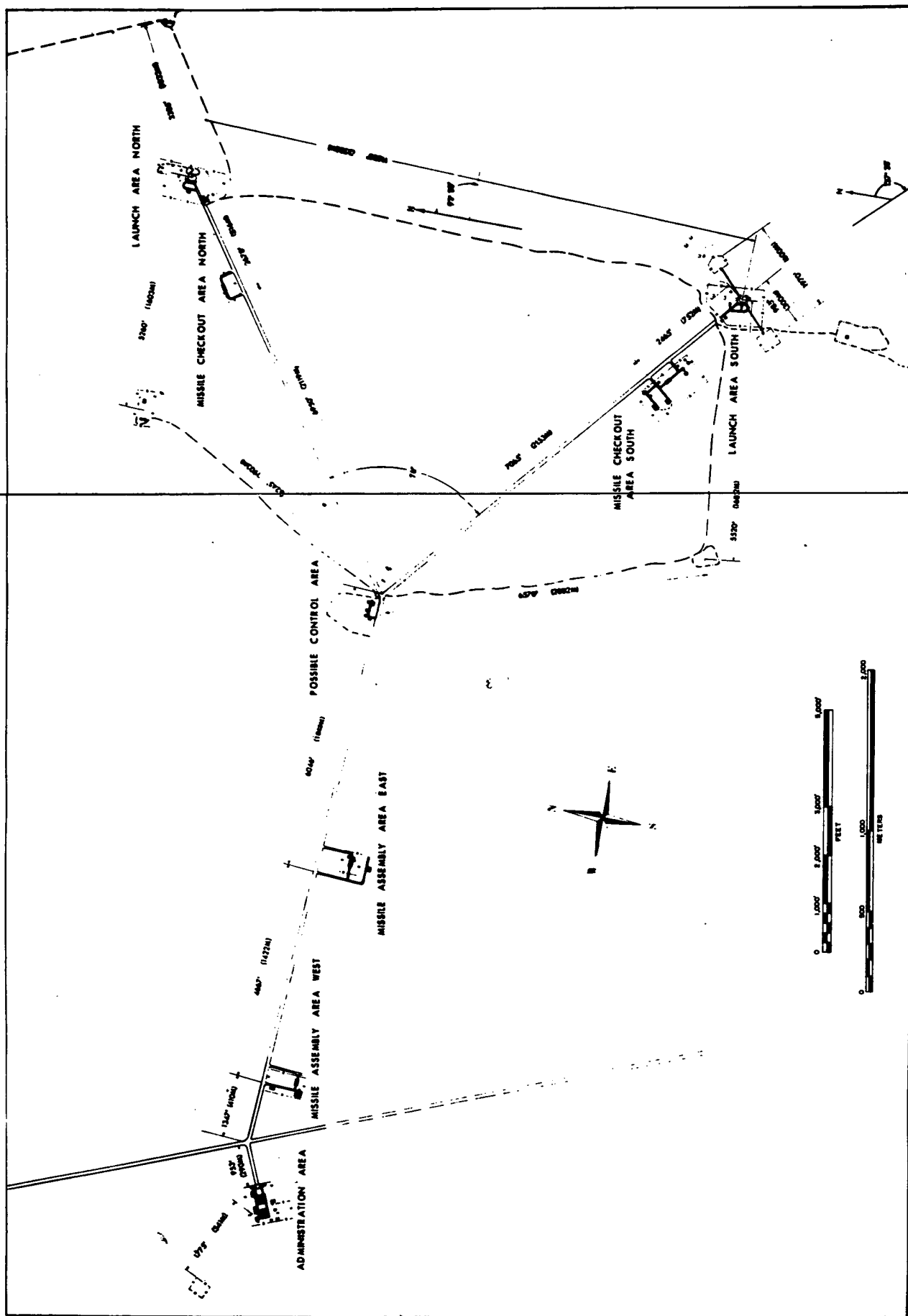
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**FIGURE 59**

Layout of facilities, Zone 9, Kapustin Yar Missile Test Center,  
September 1957

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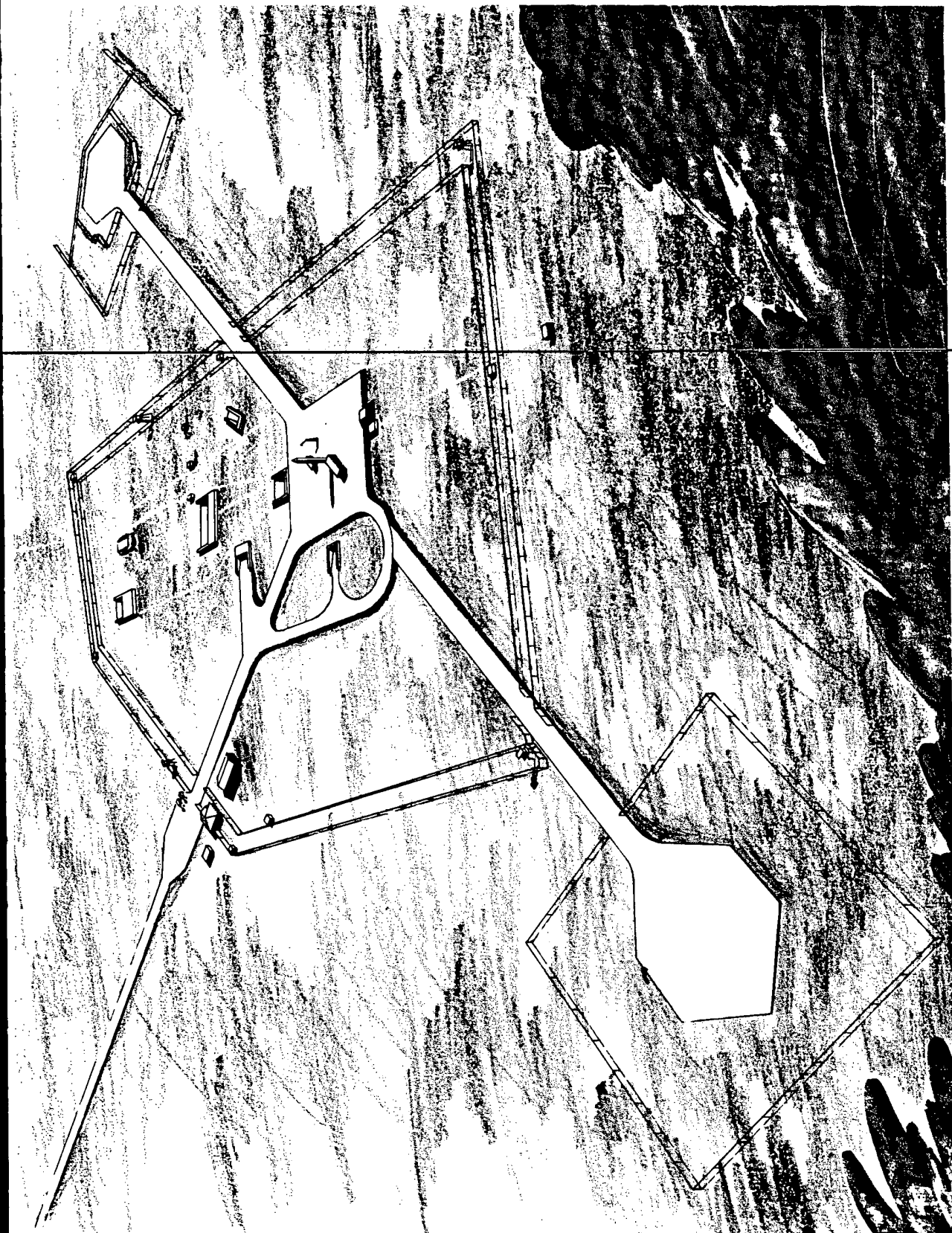
FIGURE 60

Launch Area South, Zone 9, Kapustin Yar Missile Test Center,  
September 1957. Note the erected missile on the center pad.

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FIGURE 61

Photograph of launch complex, Zone 10, Kapustin Yar Missile Test Center, September 1957.

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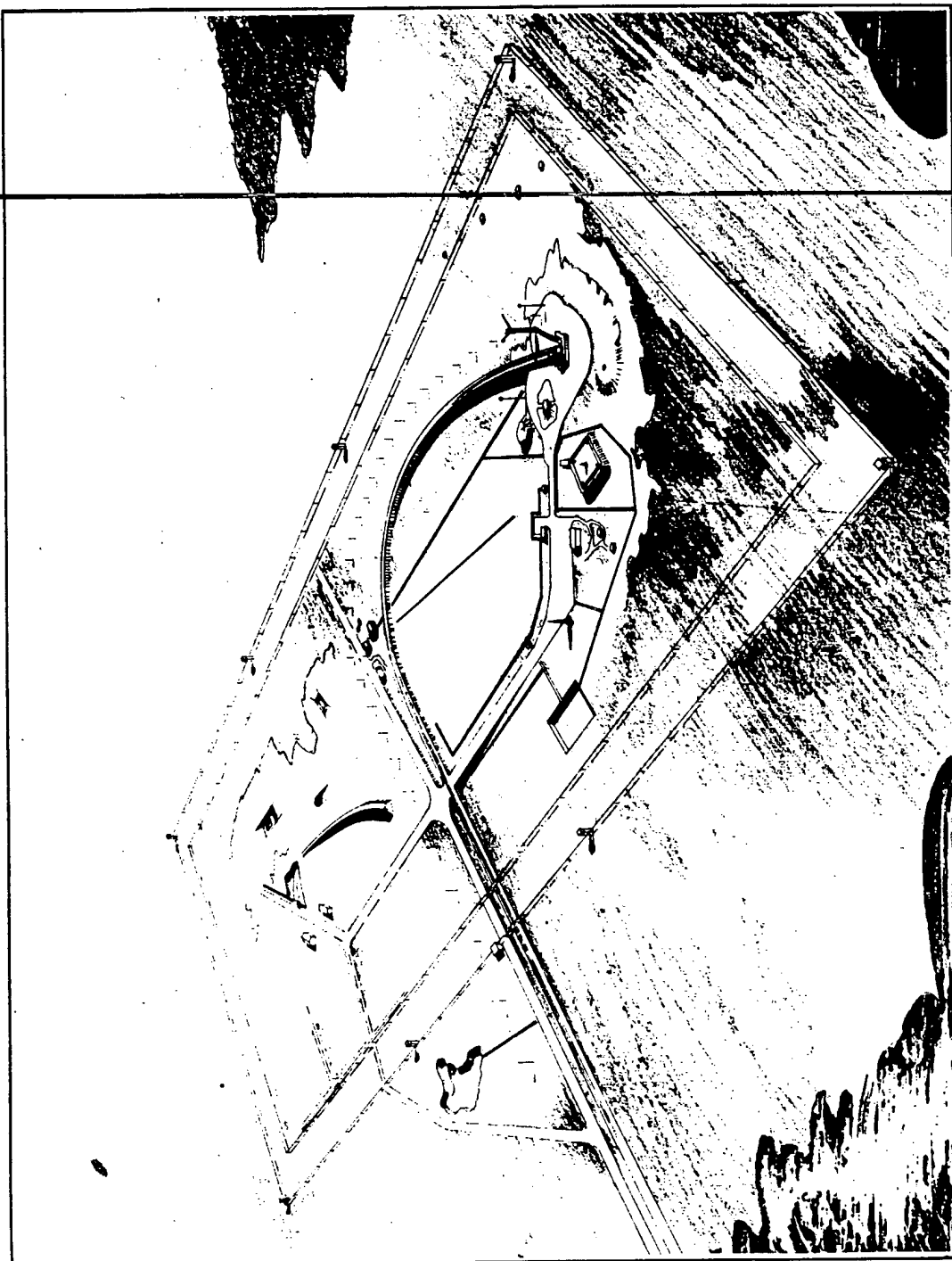
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FIGURE 62

Perspective view of launch complex, Zone 10, Kapustin Yar  
Missile Test Center, September 1957.

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**FIGURE 63**

Zone 11, Kapustin Yar Missile Test Center, September 1957.  
This facility was believed to be some kind of missile component manufacturing and test facility.

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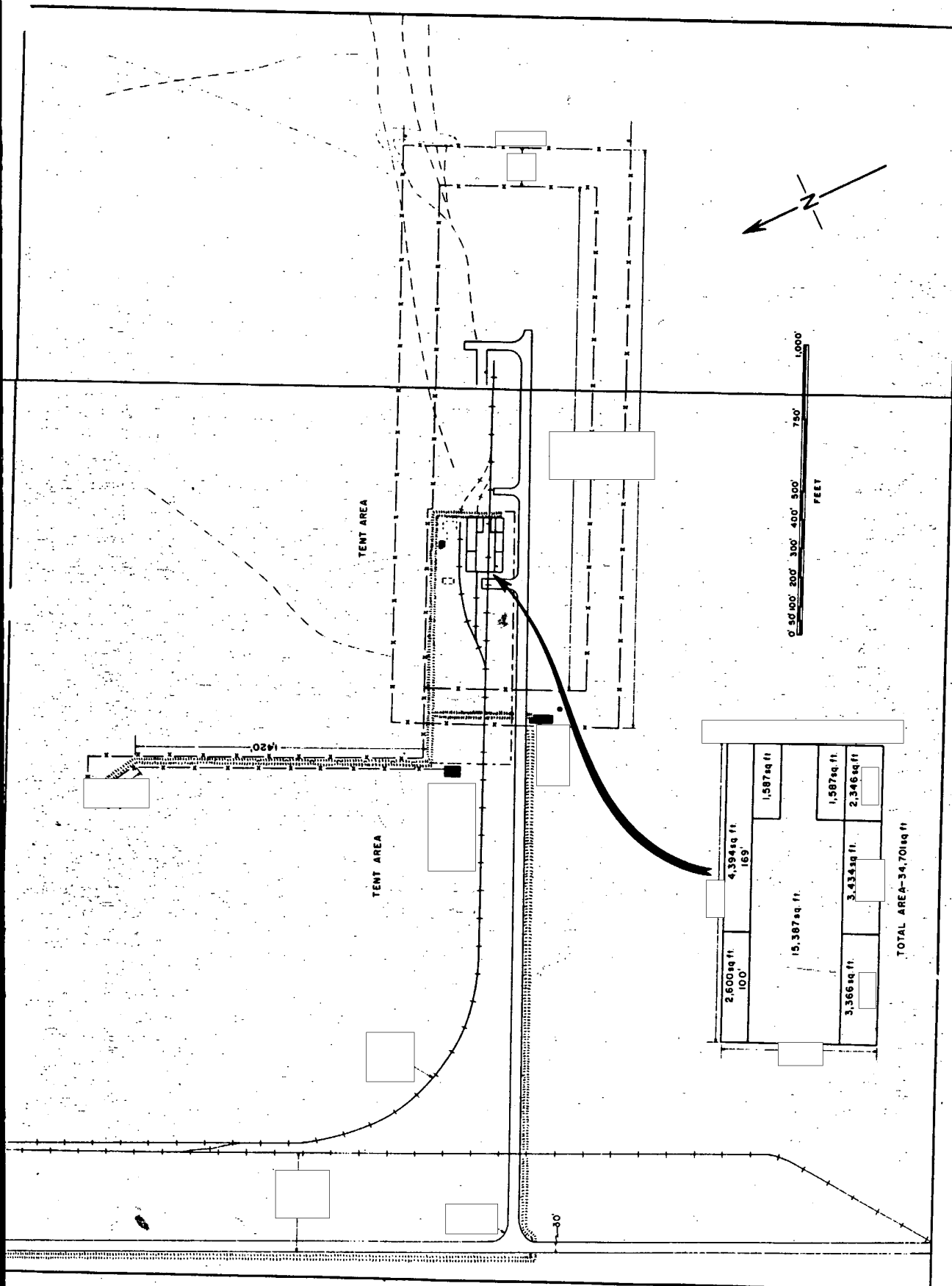
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FIGURE 64

Zone 12, Kapustin Yar Missile Test Center, September 1957.  
It was thought that this facility might be used as an assembly and support facility for the Zone 10 launch area.

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**FIGURE 65**

Vladimirovka Airfield Complex, Kapustin Yar Missile Test Center, September 1957. Zone 13 was the airborne-missile assembly and loading complex and Zone 14 was what was characterized as a missile assembly and support facility for Zone 10.

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FIGURE 66

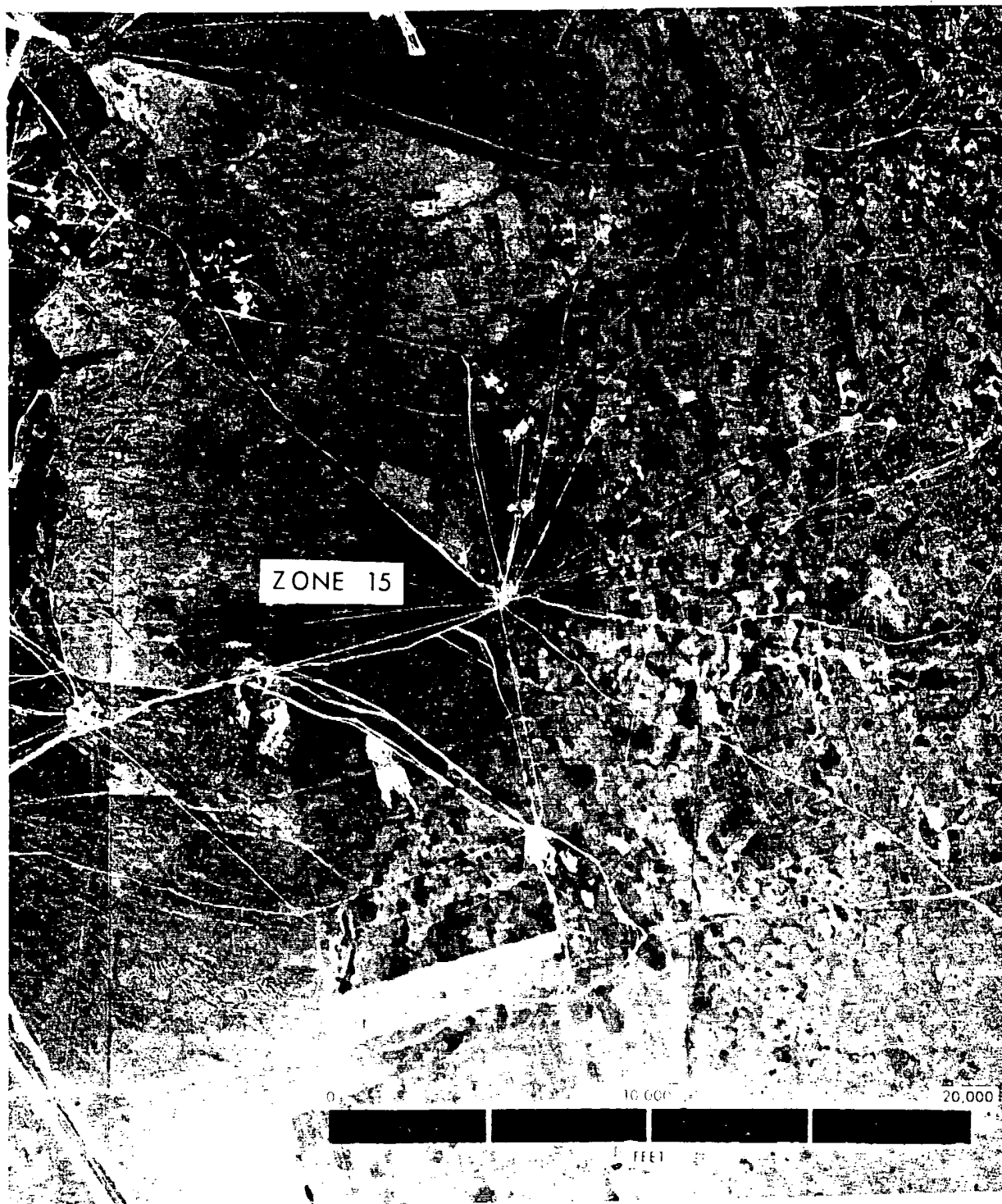
Cruise-missile test complex, Zone 15, Kapustin Yar Missile  
Test Center, September 1957.

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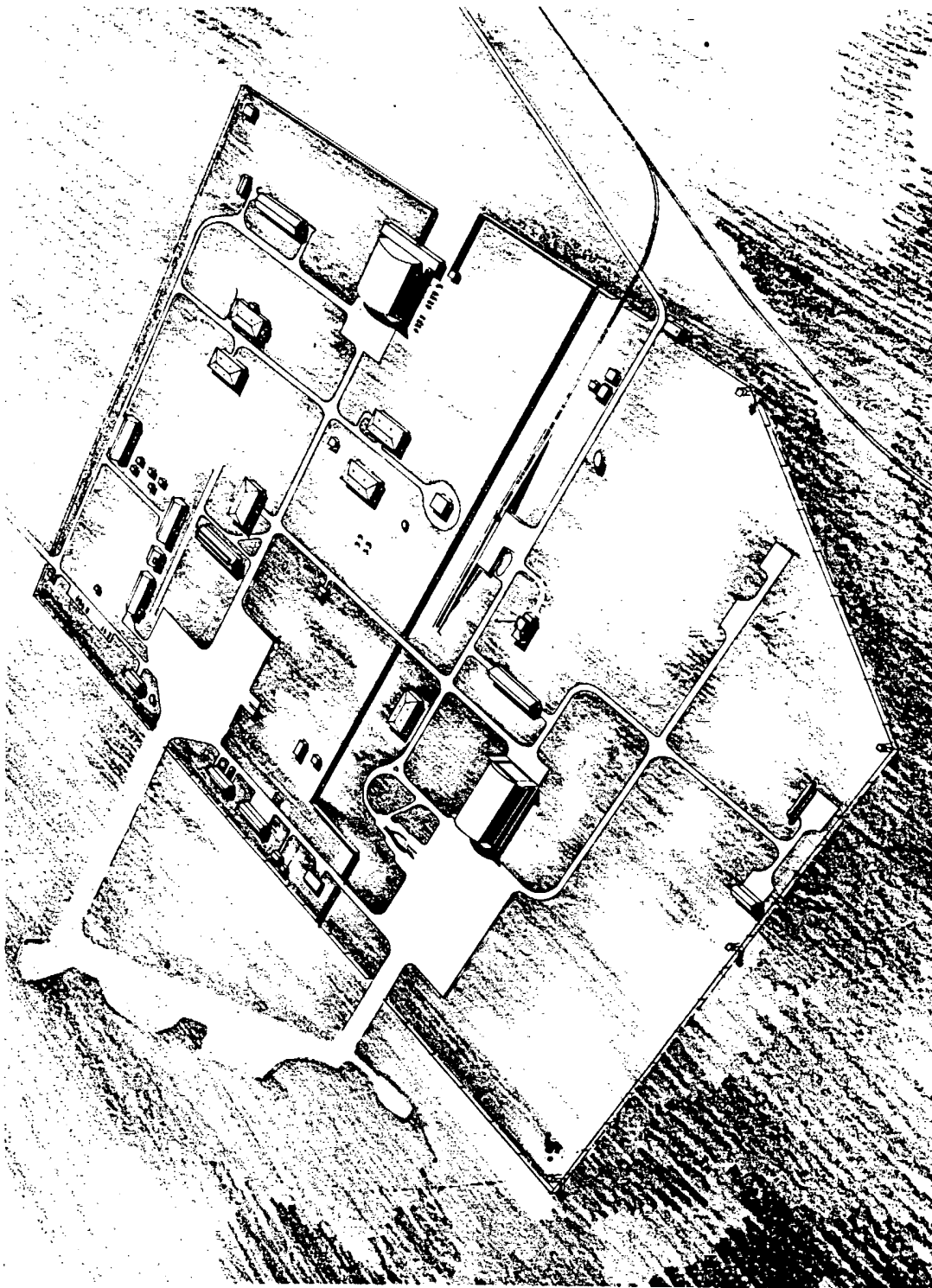
FIGURE 67

Airborne-missile assembly and loading complex, Kapustin Yar  
Missile Test Center, September 1957.

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**FIGURE 68**

Layout and dimensions of structures, airborne-missile  
assembly and loading complex, Kapustin Yar Missile Test  
Center, September 1957.

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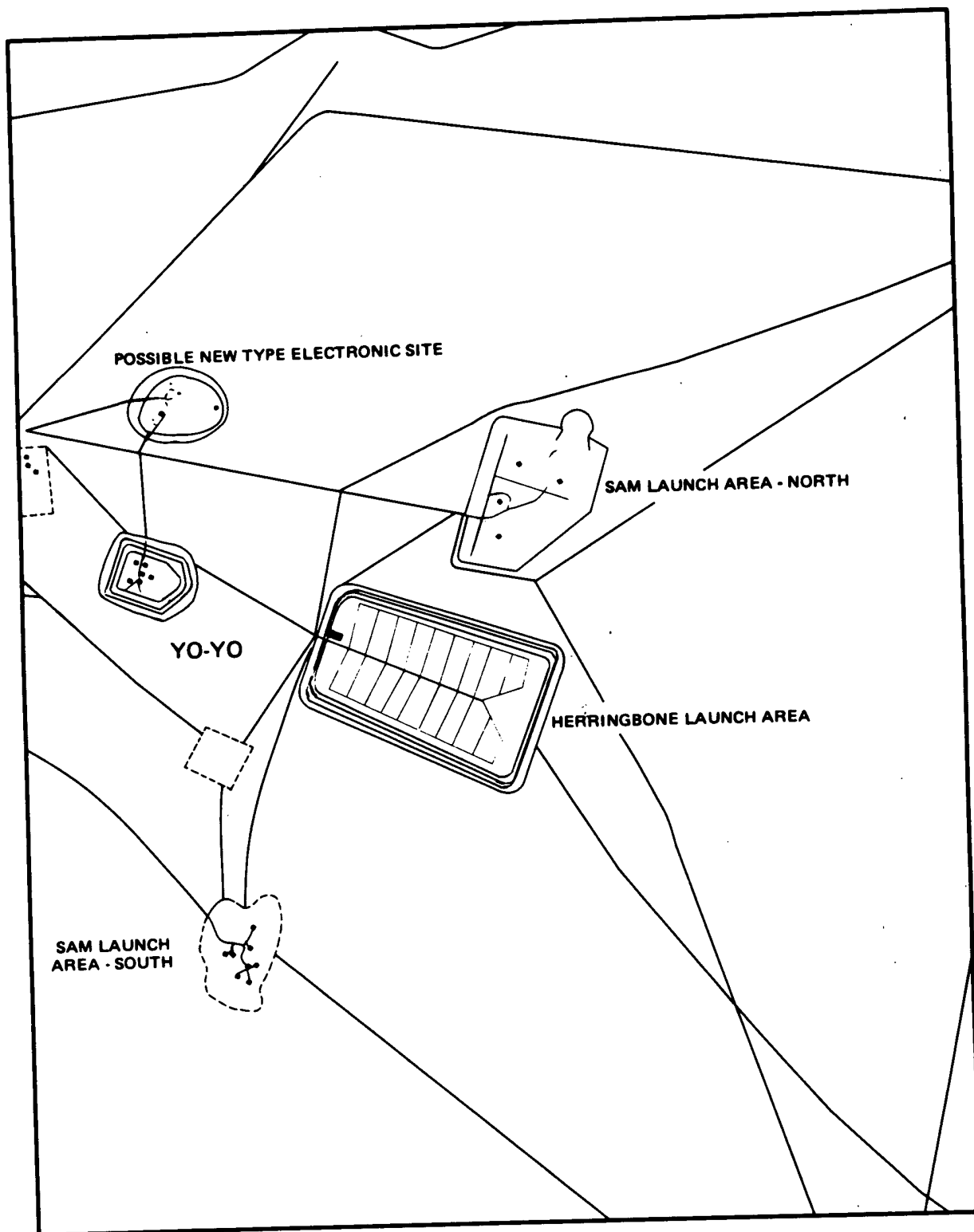
FIGURE 69

Surface-to-air missile test complex, Zone 1,  
Kapustin Yar Missile Test Center, September 1957.

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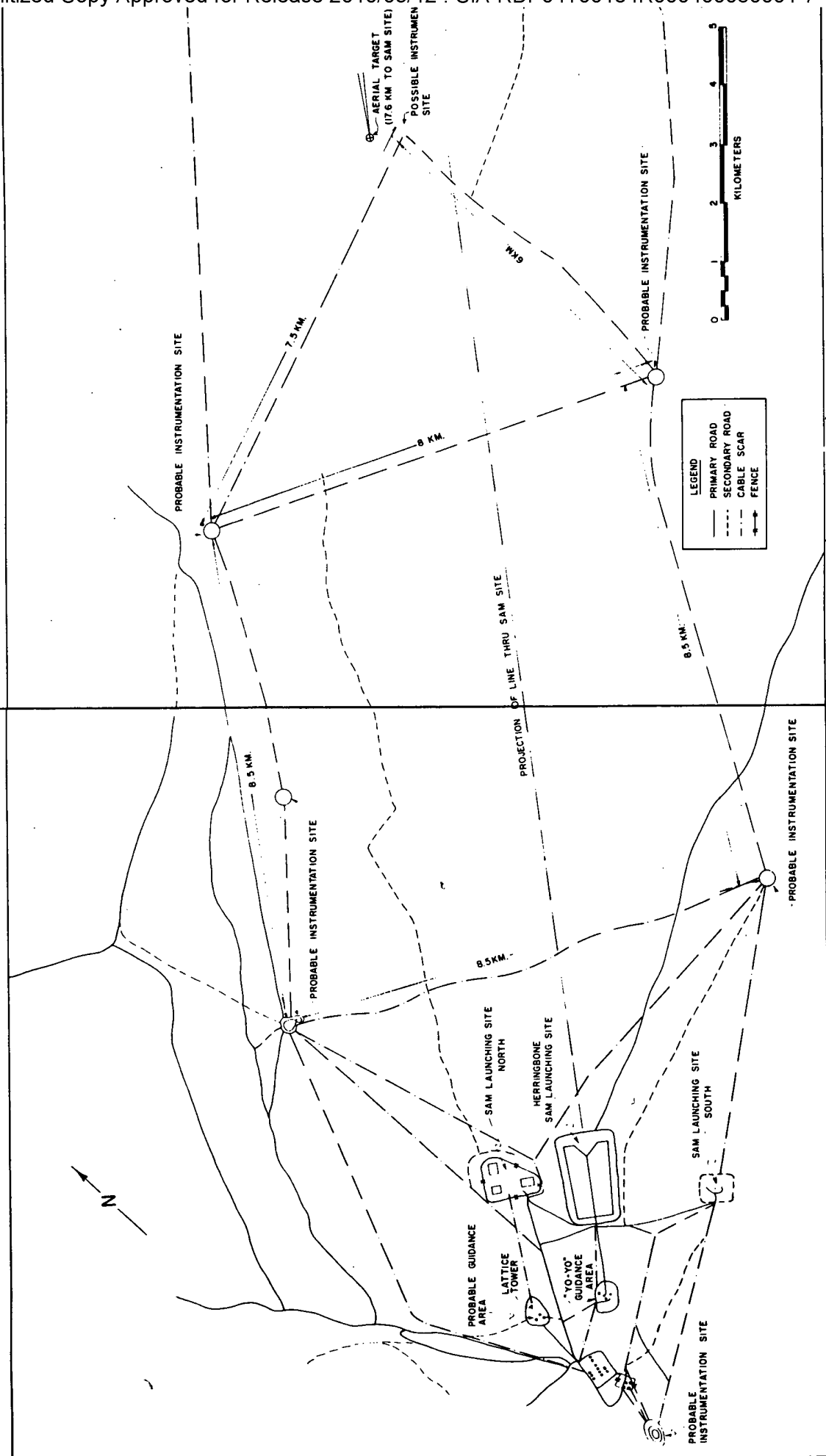
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**FIGURE 70**

Surface-to-air missile test range guidance and instrumentation facilities, Zone 2, Kapustin Yar Missile Test Center, September 1957.

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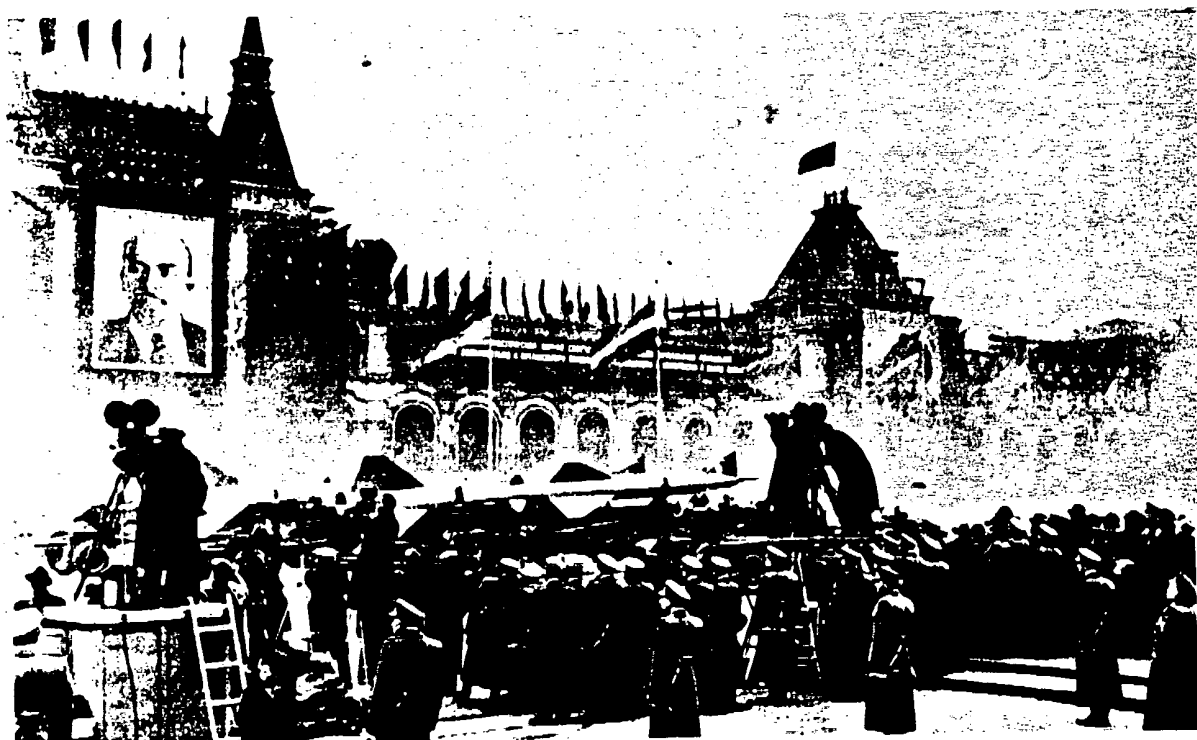
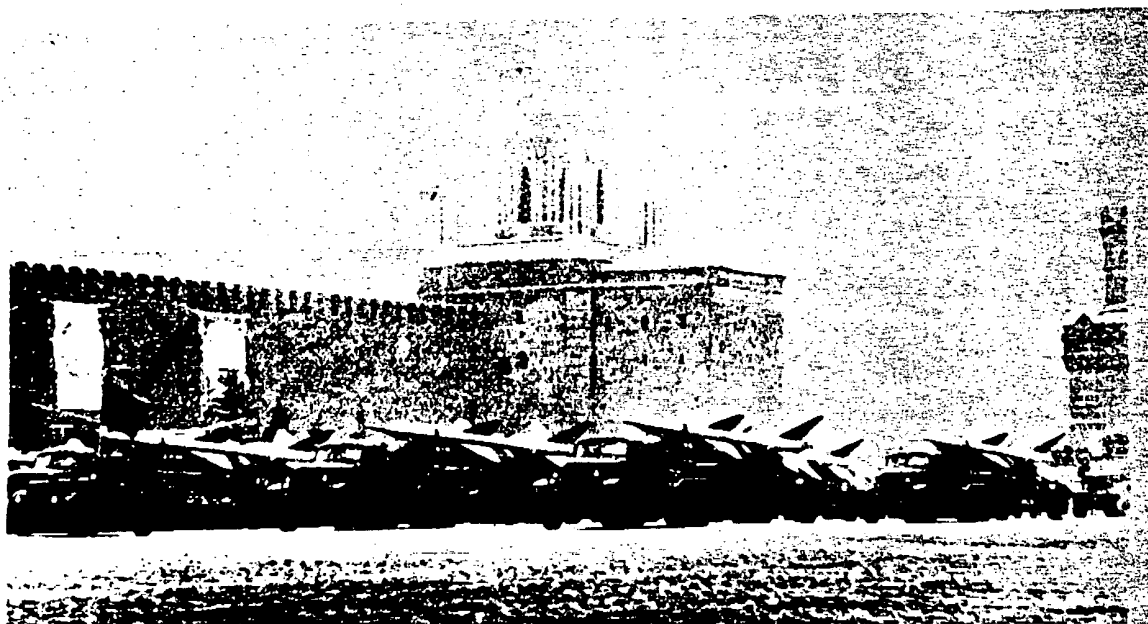
FIGURE 71

Surface-to-air missiles photographed in the Moscow parade and believed to be the type tested at the surface-to-air missile test facility, Kapustin Yar Missile Test Center. The upper photograph shows a front view and the lower a rear view.

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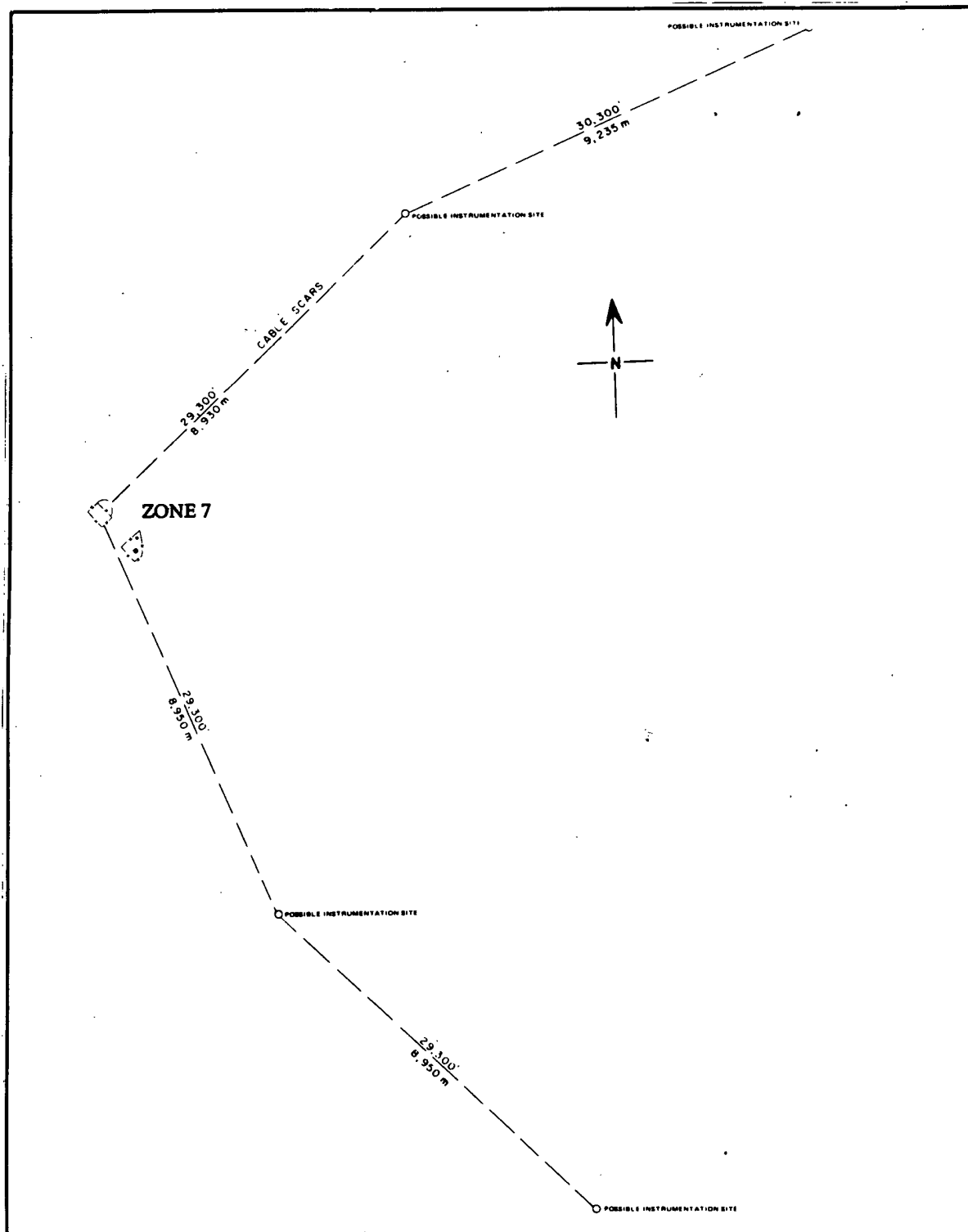
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FIGURE 72

Forward instrumentation, Zone 7, Kapustin Yar Missile Test Center, September 1957.

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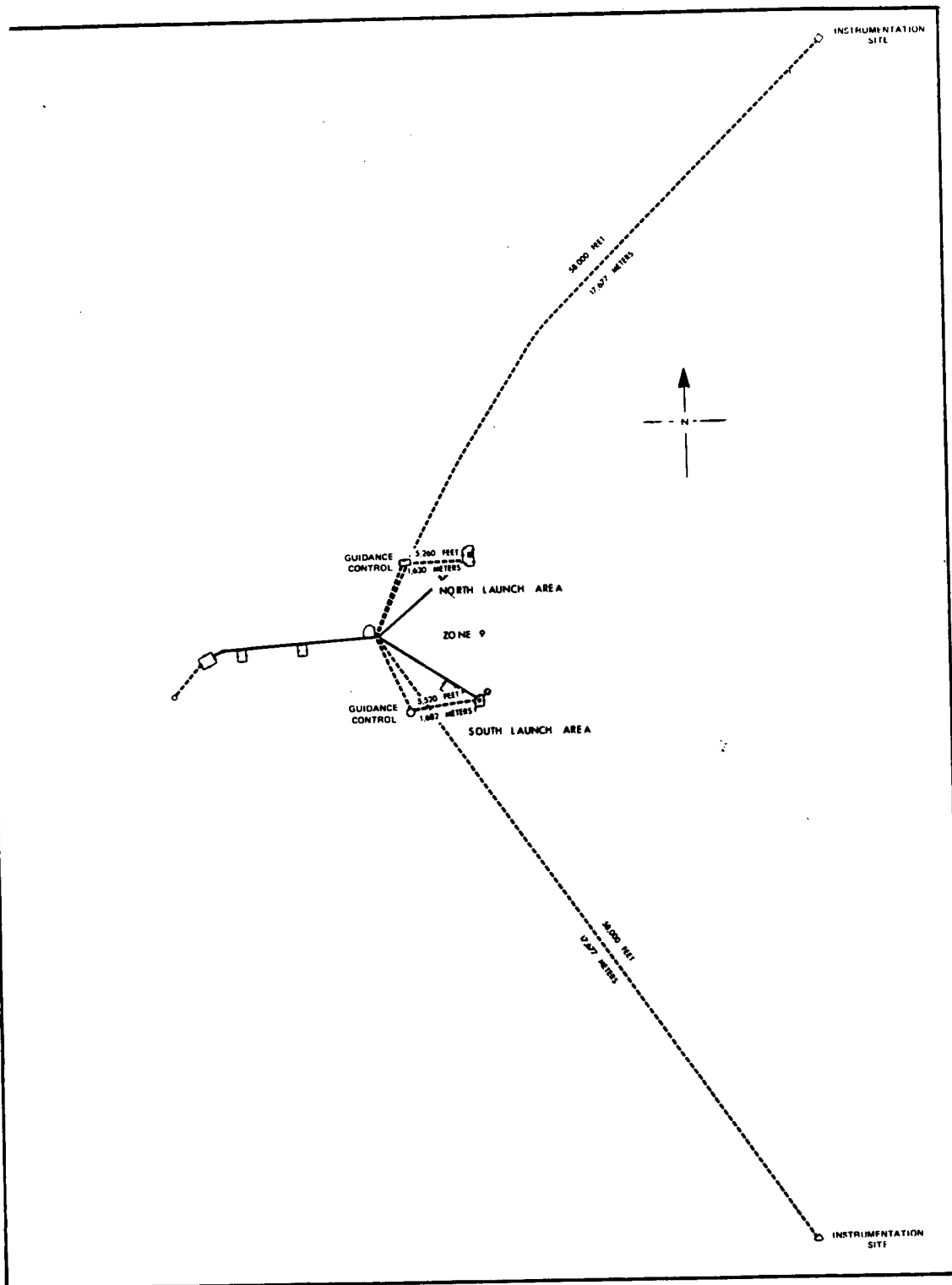
**FIGURE 73**

Guidance and forward instrumentation, Zone 9, Kapustin Yar  
Missile Test Center, September 1957.

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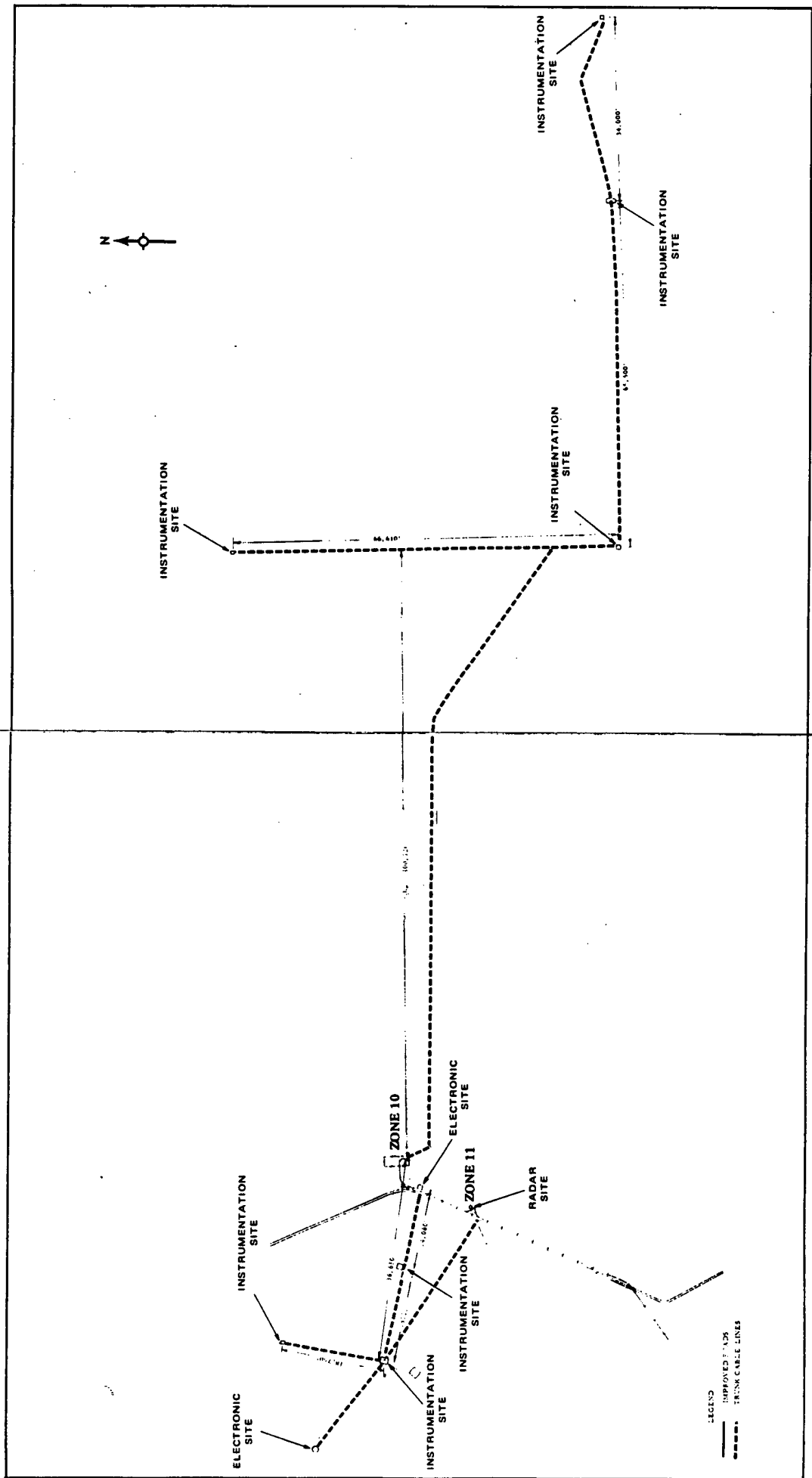
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FIGURE 74

L-shaped instrument patterns associated with Zone 10, Kapustin Yar Missile Test Center, September 1957. The dashed lines show cable scars connecting instrumentation and other electronics sites associated with the L-shaped patterns.

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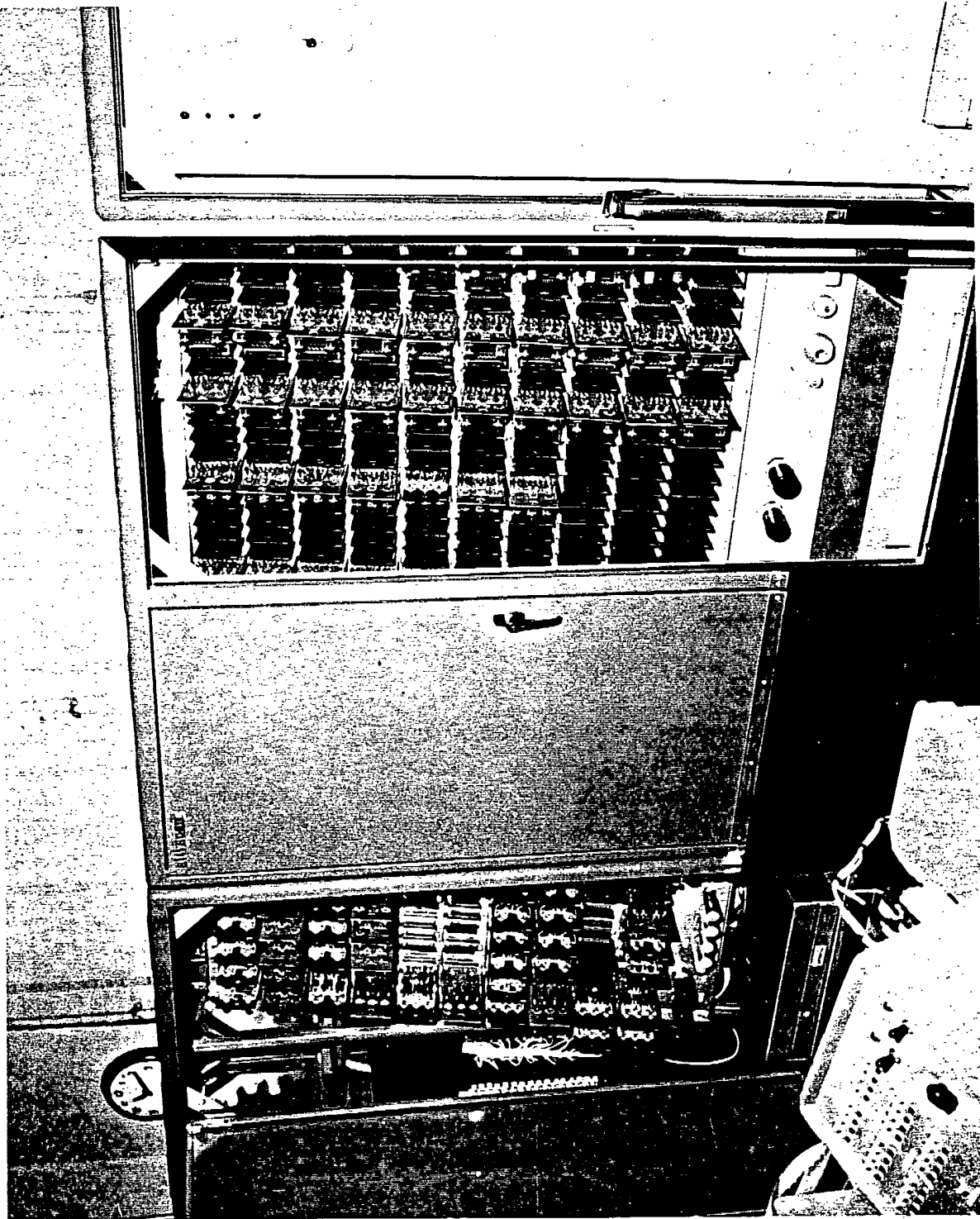
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FIGURE 75

The ALWAC III-E Computer. This piece of equipment virtually filled the small corner room where it was located on the sixth floor of the Steuart Building. At the extreme right of the photograph is the power supply unit. At the left, with one door removed is the memory unit. In the center of the photograph, with one door off and one door on, is the arithmetic or logic unit. The open portion of the latter unit reveals the circuit boards with their vacuum tubes. The heat generated by the ALWAC caused serious cooling problems. In addition to the central air conditioning, there were two or three window units in the room. At the lower left of the photograph, is the control console and, to the left of it, a corner of the Flexowriter which was used for input and output.

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