

PHOTOGRAPHIC INTERPRETATION REPORT

TEST FACILITY
TAO-AN, CHINA

NPIC/R-170/64

March 1964

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

Declassification Review by NIMA / DoD

NPIC/R-170/64

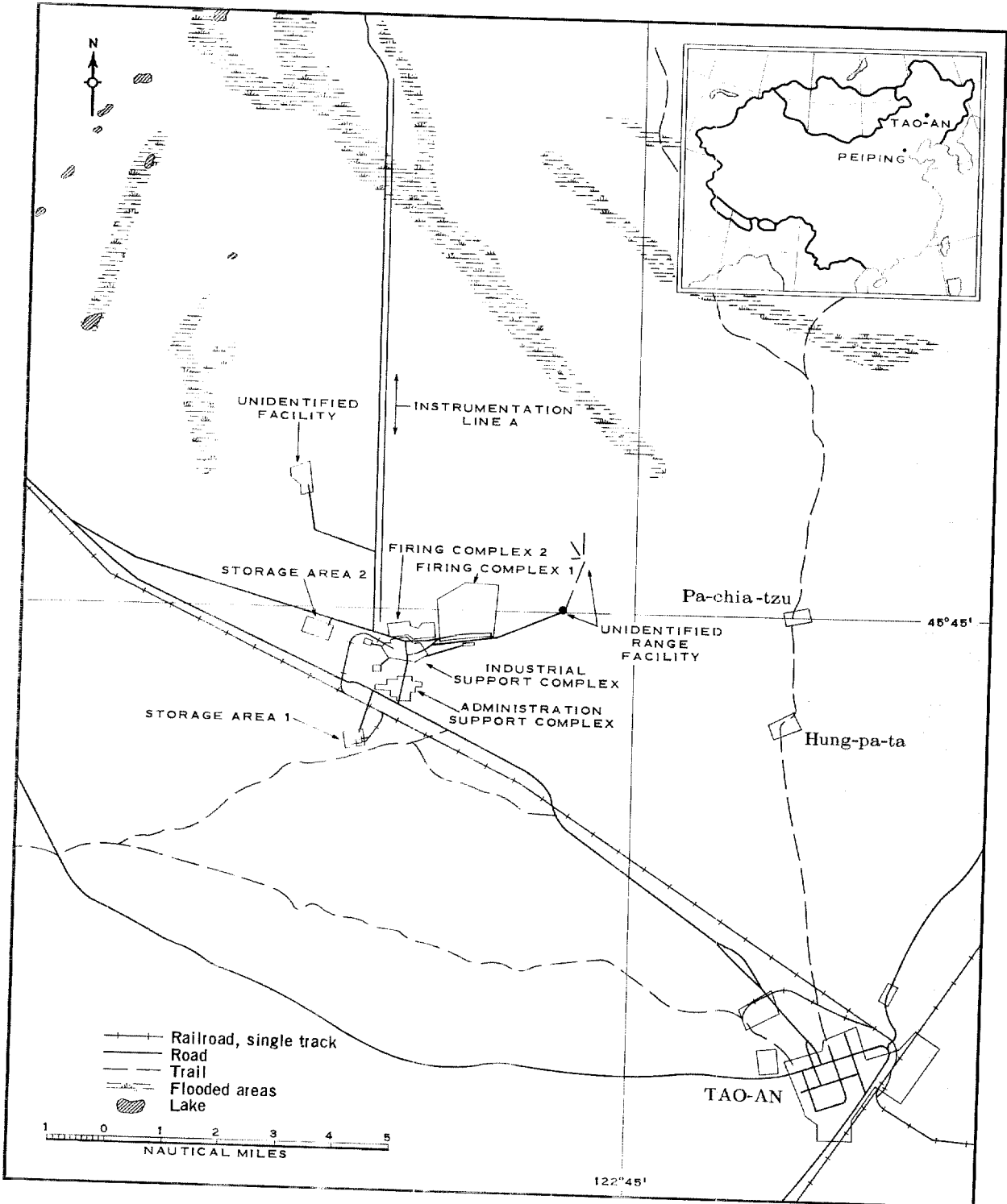


FIGURE 1. LOCATION MAP.

NPIC H-7858 (3/64)

INTRODUCTION

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Photography of [REDACTED] reveals a test facility located in northeast China at 45-44N 122-39E. This facility is situated 11 nautical miles (nm) northwest of Tao-an, along the Tao-an--Wang-yeh-miao rail line. It is road and rail served. The nearest major airfield is located at Chi-chi-ha-erh, approximately 150 nm to the north-northeast.

The facility consists of 2 firing complexes, 2 support complexes, 2 storage areas, range instrumentation, 4 impact areas, an unidentified range facility, and an unidentified facility under construction 3.5 nm northwest of the support facilities (Figures 1 and 23). Two small blast furnaces are located along the rail line on the southwest edge of the support areas. They are not active and do not appear to be associated with the test facility.

The Industrial Support Complex, the Administrative Support Complex, Storage Area 1, and the Instrumentation appear to be complete and usable. Firing Complex 1 appears complete and operable but there is no evidence of recent usage. Firing Complex 2 is still under construction but a few portions of the complex may be usable. Storage Area 2 is under construction; however, some of the storage buildings

may be usable. The Unidentified Range Facility and the Unidentified Facility are under construction and not functional.

The function of this installation is research and development of weapons, ranging in size from small arms to small free rockets. The primary emphasis at this time is probably on research. The variety of ranges and the variety of firing positions indicate that many different types and caliber of weapons can be tested simultaneously.

The facility was first observed on KEY-HOLE photography in [REDACTED] and at that time was identified as Tao-an Area, Ground Pattern 1/. The purpose was not specified. The only apparent changes since that time are in Storage Area 2 where construction continues on an unidentified area and three support buildings; Firing Complex 2, Area C, where two passageways are being constructed through the earthen blast wall; Area F where the elliptical revetment and the buildings in it have been constructed; the Unidentified Facility where the large earthen blast wall has been constructed and some small rectangular excavations have been made; and the Unidentified Range Facility where construction has started on the possible target area.

25X1D

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FIGURE 2. FIRING COMPLEX 1, TAO-AN.

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25X1D

TOP SECRET CHESS RUFF
NO FOREIGN DISSEM

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FIRING COMPLEX 1

A direct-fire range complex (Figure 2) is situated east-northeast of the Industrial Support Complex and contains five ranges, A through E (Figures 3-7), which could be used for testing a variety of weapons ranging in size from small arms to tank guns.

Each range consists of target butts and target frames, firing positions, and observation bunkers. The firing position on Range C indicates that it is probably utilized to test recoilless rifles and small man-held rockets. The test

facilities in Item 2 on Figure 4, Item 3 on Figure 6, and Item 4 on Figures 5 and 7 are probably used for testing projectiles and small finned rockets for spin and trajectory.

The ranges are utilized to test deflection, velocity, and in-flight characteristics. The bunkers are utilized for visual, photographic, and possibly electronic observation. The targets are standard ordnance type, probably cloth or paper targets.

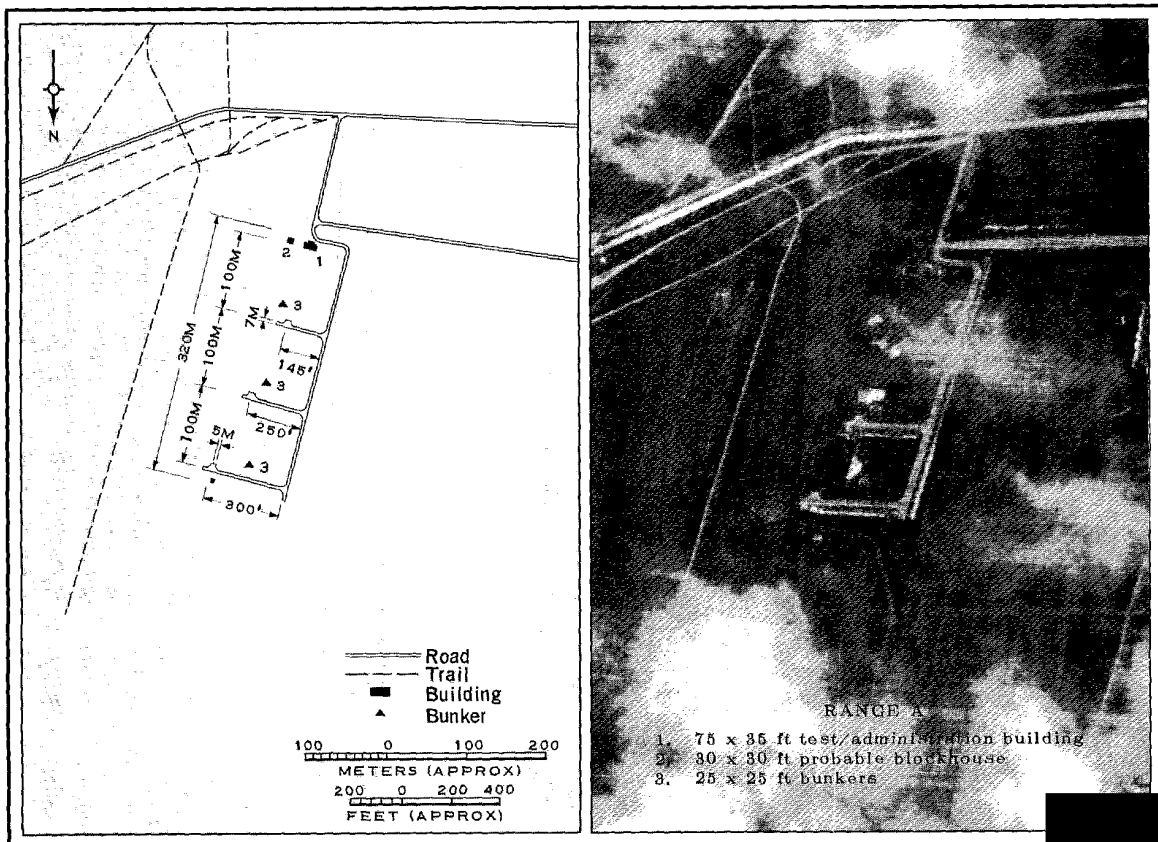


FIGURE 3. FIRING RANGE A, FIRING COMPLEX 1.

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NO FOREIGN DISSEM

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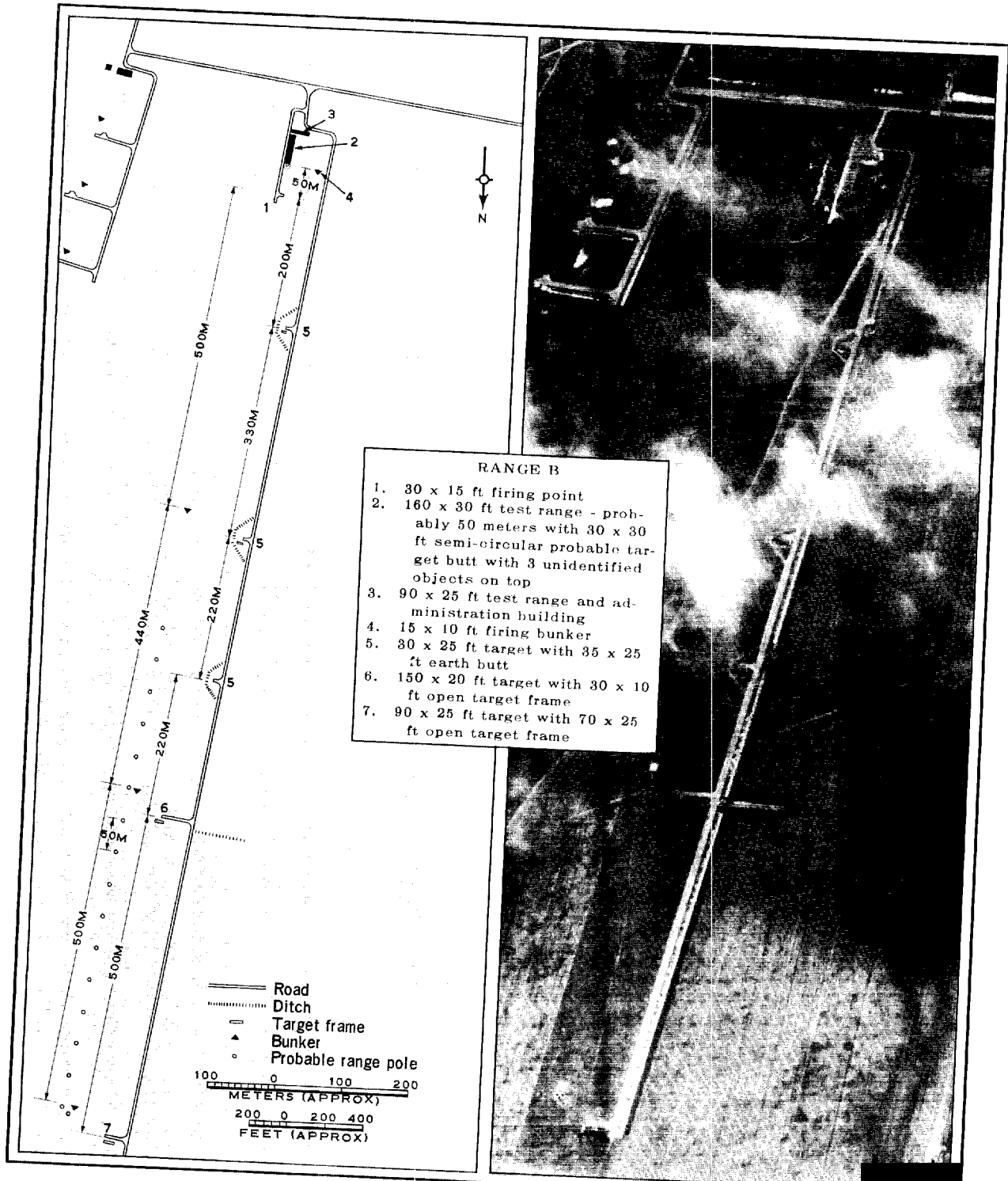


FIGURE 4. FIRING RANGE B, FIRING COMPLEX 1.

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25X1D

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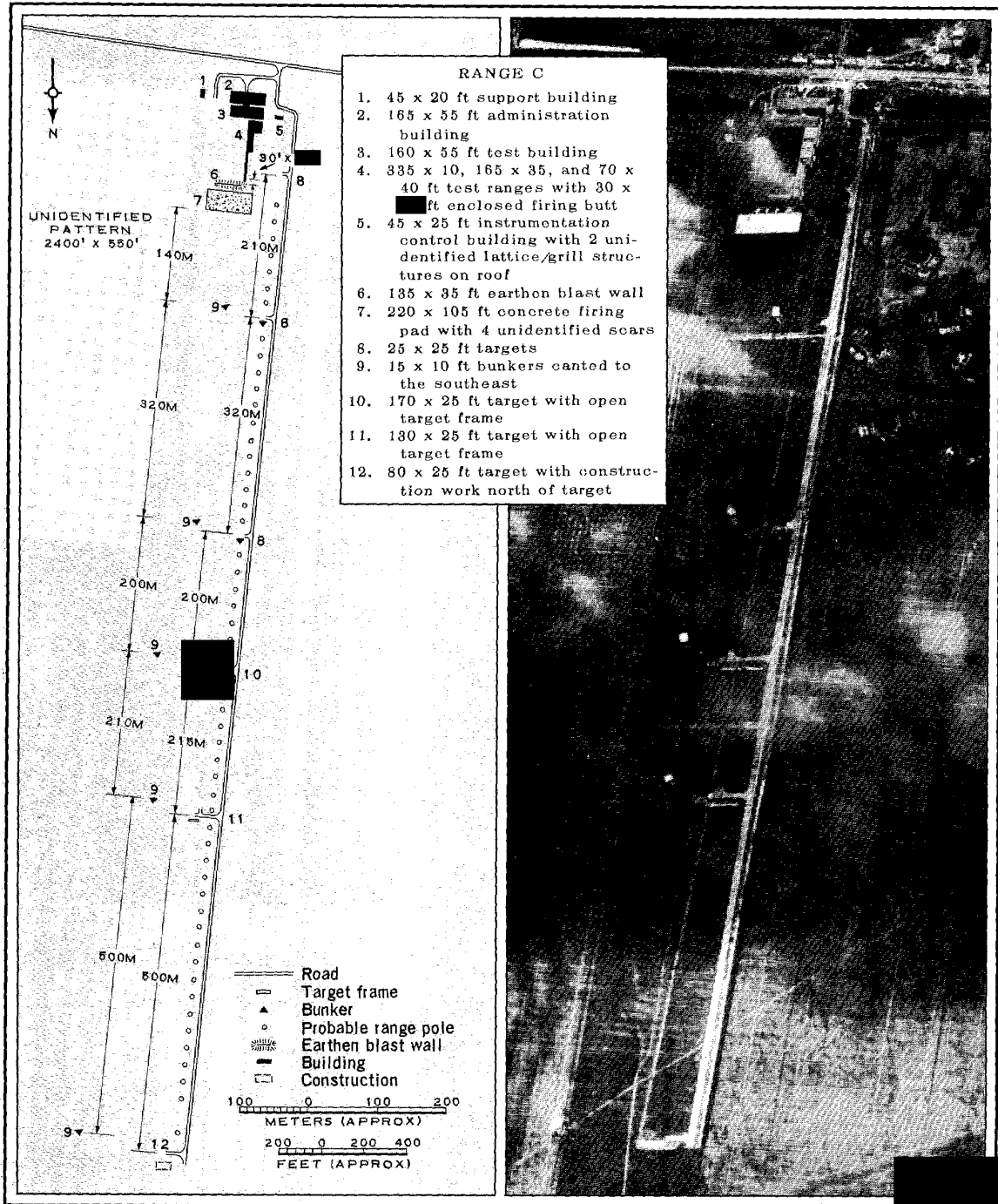


FIGURE 5. FIRING RANGE C, FIRING COMPLEX 1.

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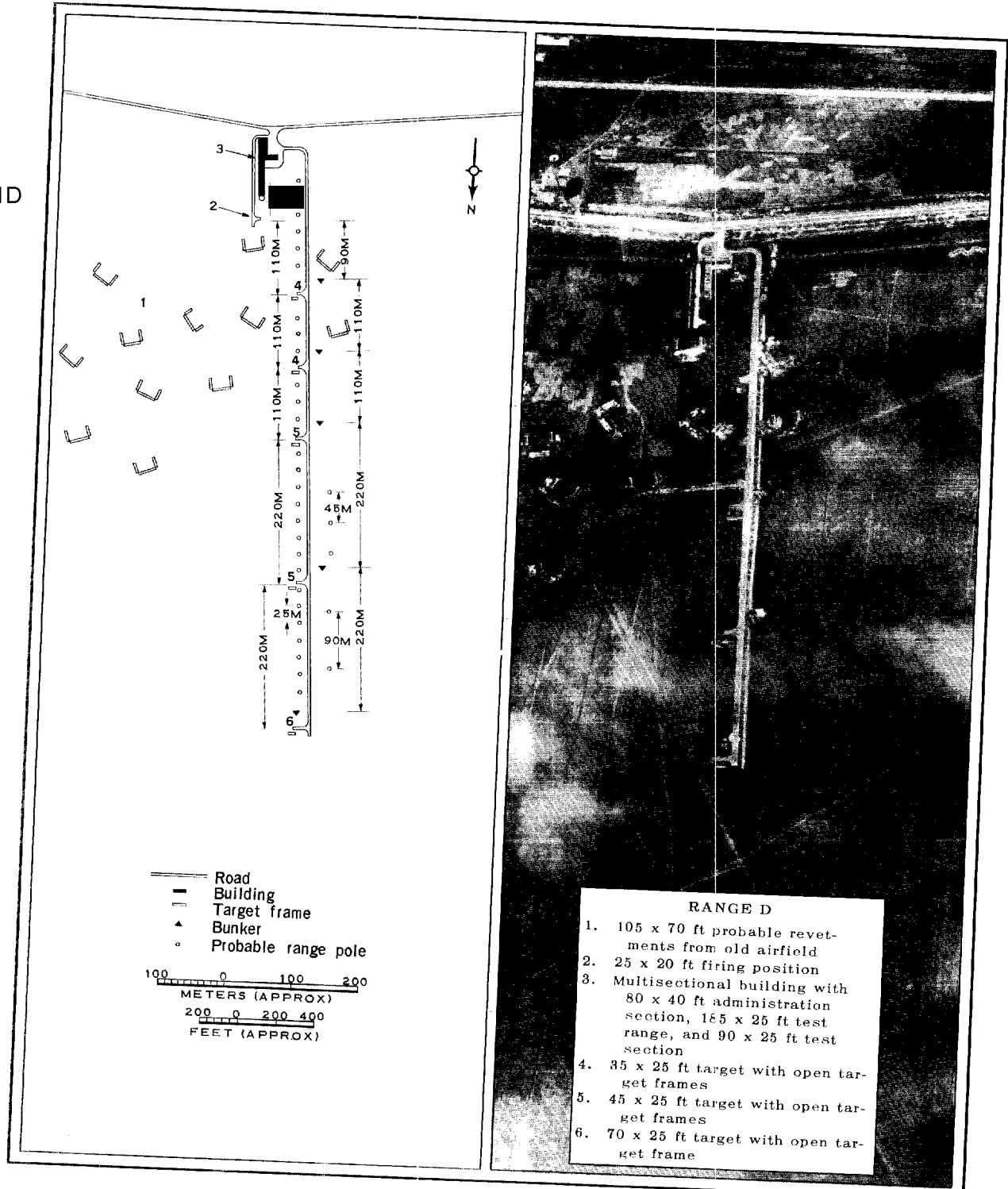


FIGURE 6. FIRING RANGE D, FIRING COMPLEX 1.

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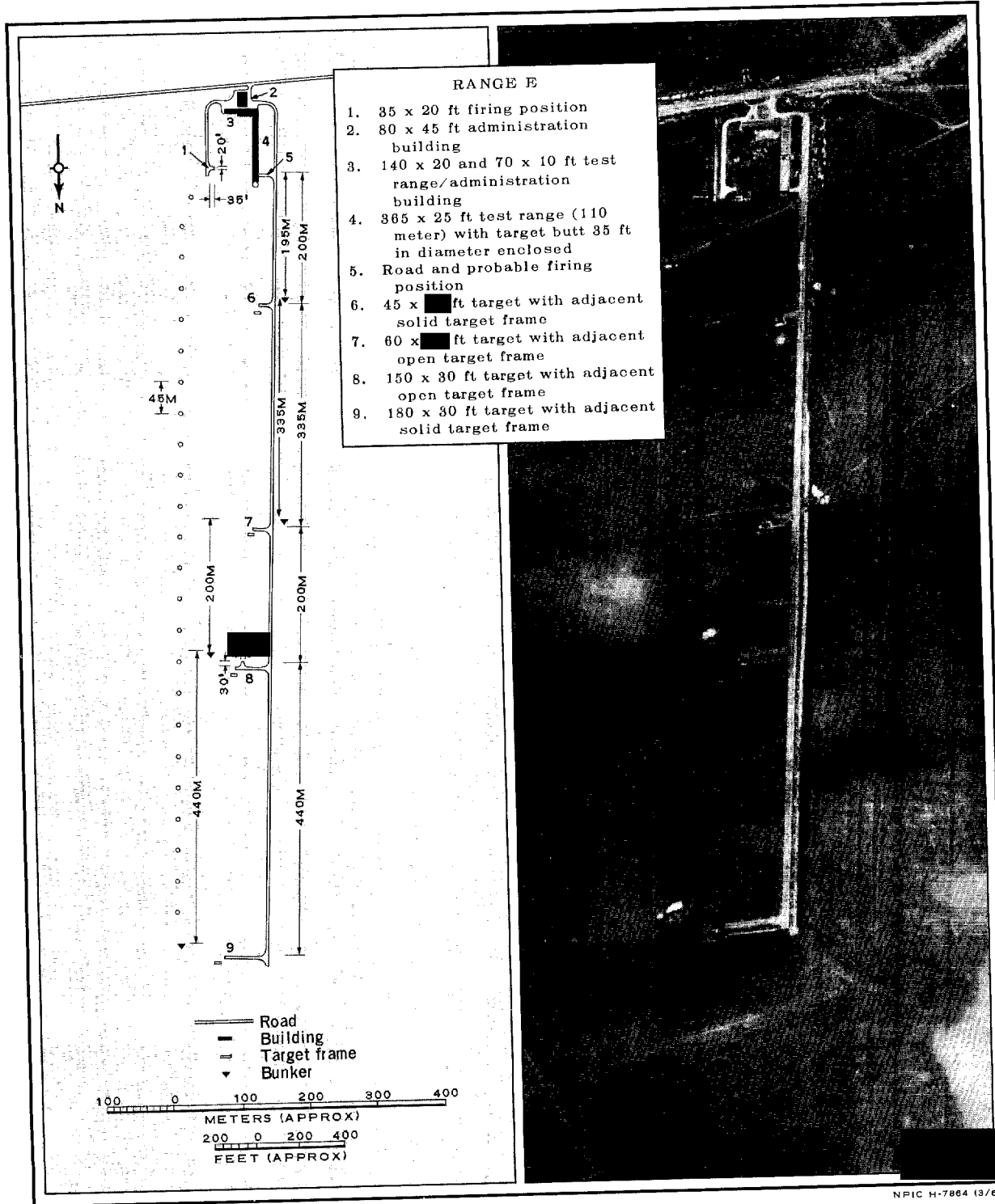


FIGURE 7. FIRING RANGE E, FIRING COMPLEX 1.

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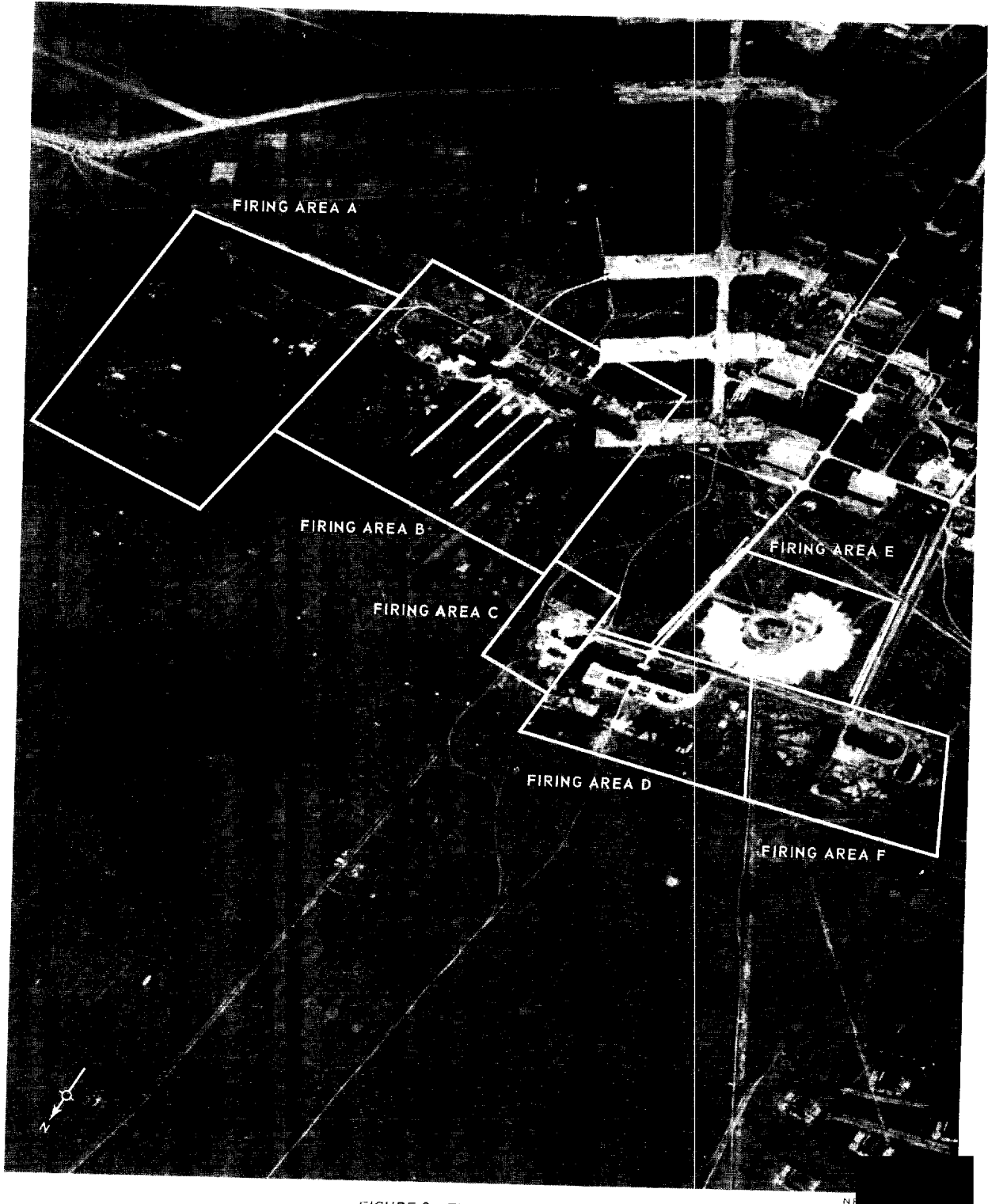


FIGURE 8. FIRING COMPLEX 2.

FIRING COMPLEX 2

25X1D This firing complex, located immediately north of the Industrial Support Complex, is divided into areas A through F (Figure 8). Areas B through F and part of Area A are still under construction and may not have been used very much as of [REDACTED] although portions are probably operable. Areas D and E are oriented due north and Areas A, B, and C, approximately 10 degrees east of north.

This complex is probably used for testing small free rockets, although Areas D and E may be used for artillery as well, and part of Area A may be used for direct-fire weapons.

Firing Area A

This area (Figure 9) has two facilities; one, a probable direct-fire range and the second, a probable rocket test facility. The probable direct-fire range, probably still under construction, will possibly be utilized by a vehicular-

mounted weapon, such as a recoilless rifle. The range consists of a standard ordnance-type target with a nearby observation bunker, excavations for two other possible targets, and two small, probable control buildings. No firing point is discernible.

The probable rocket test facility is probably utilized for horizontal static test firing of small rockets. It consists of a rectangular probable test pad (Figure 10) with a raised center portion, small earthen blast walls on three sides, and a control building located 150 feet west of the pad. On the fourth side of the pad (down-range) is a jet-type scar on the sod. This older test facility probably will be replaced in the future by another, possibly the Unidentified Facility (Figure 20).

Firing Area B

This area (Figures 11 and 12) consists of nine firing positions of three different types:

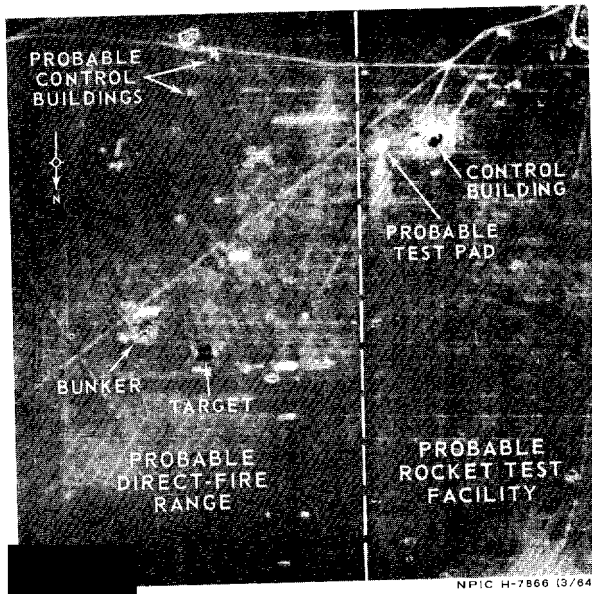


FIGURE 9. FIRING AREA A, FIRING COMPLEX 2.

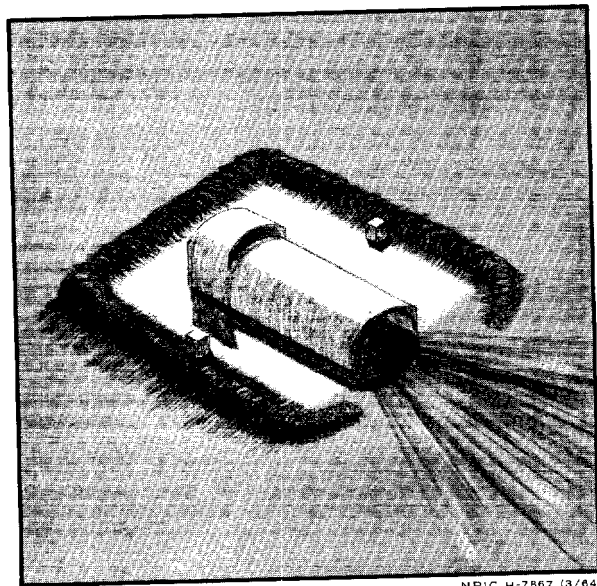


FIGURE 10. PROBABLE TEST PAD, FIRING AREA A.

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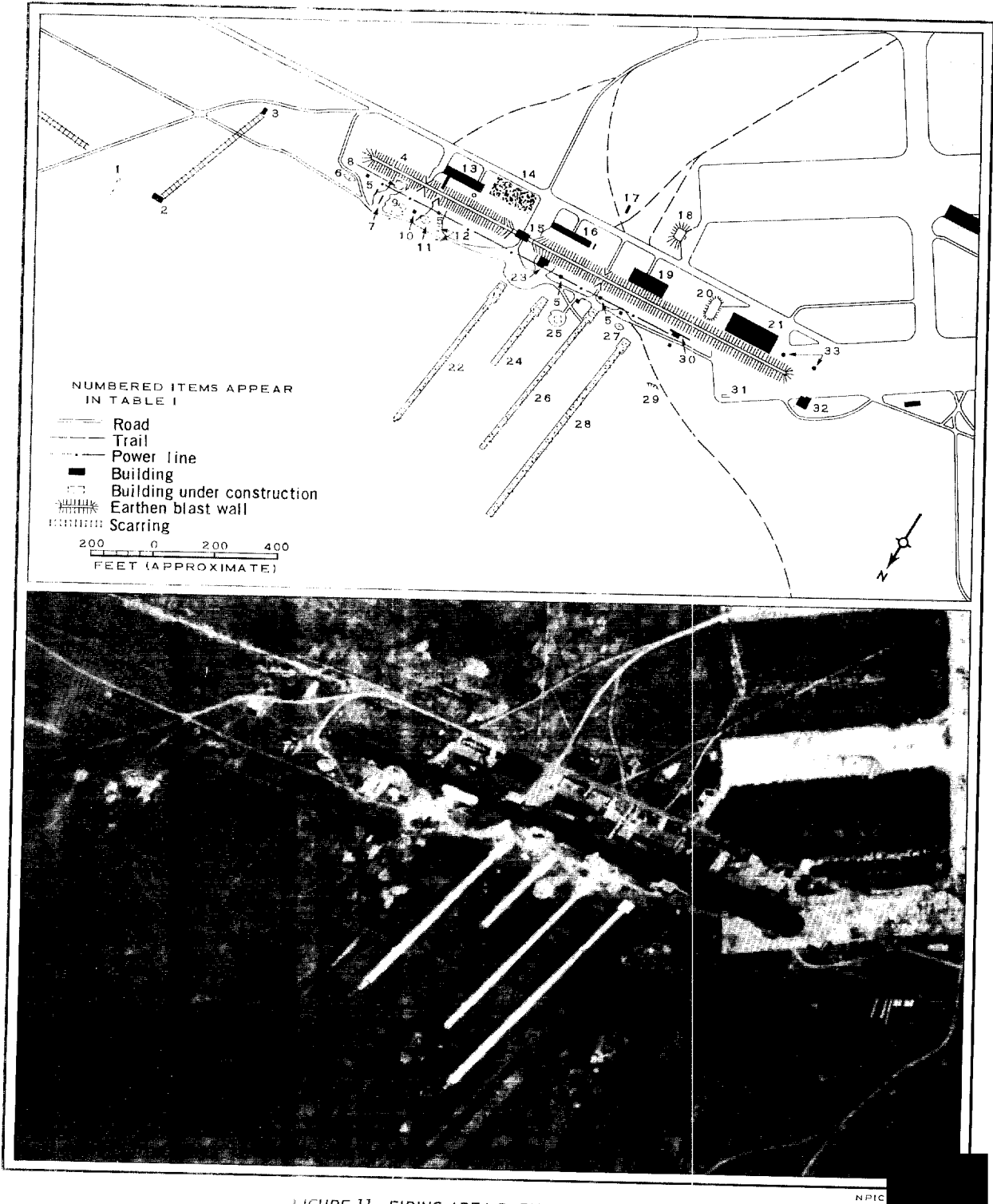


FIGURE 11. FIRING AREA B, FIRING COMPLEX 2.

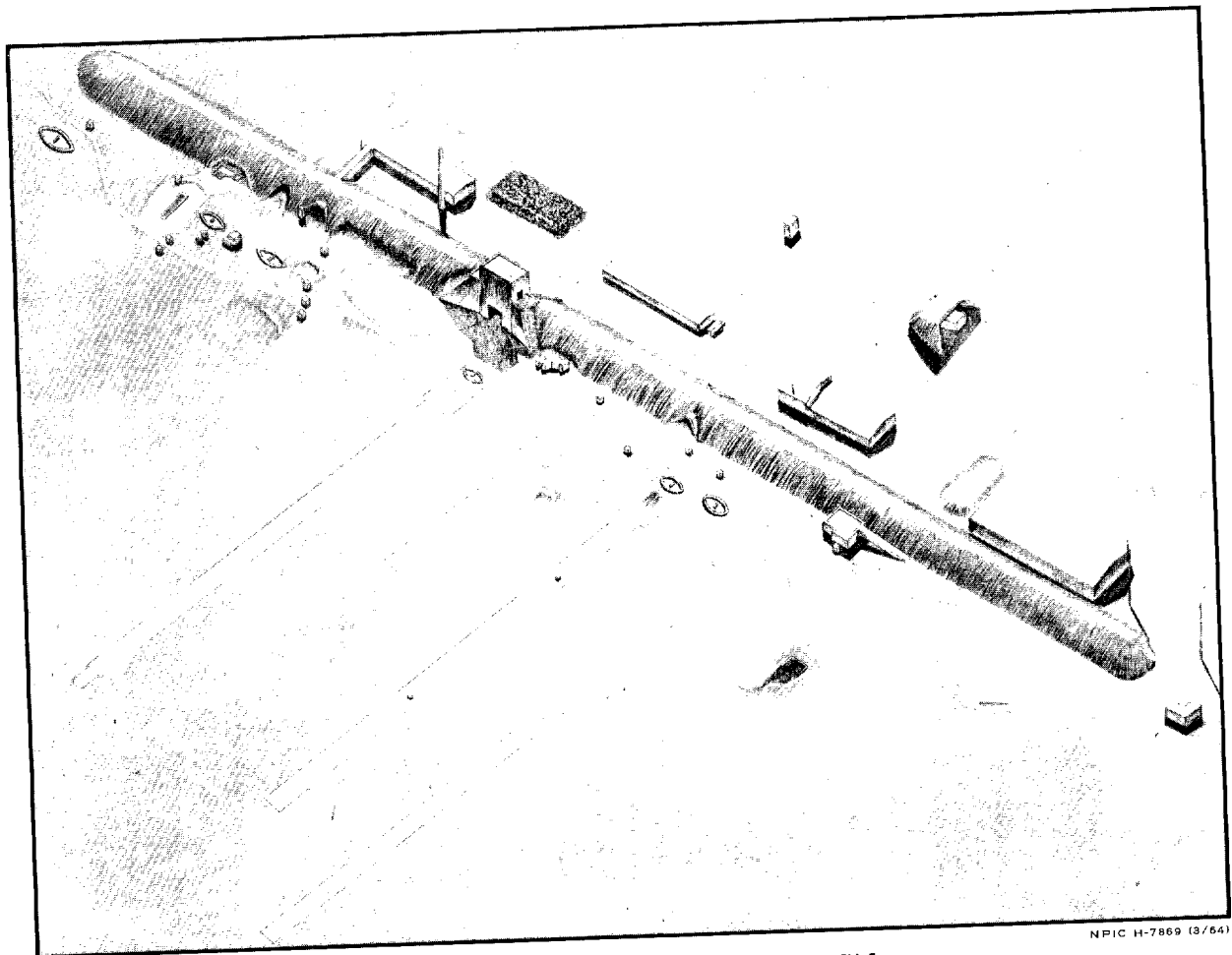


FIGURE 12. FIRING AREA B, FIRING COMPLEX 2.

elliptical (three different sizes), ramp, and plain concrete pad. To the rear of the firing positions is a large, earthen blast wall (Item 4, Figure 11) containing a drive-through passageway with a structure (Item 15) used for control of range facilities. Two additional passageways come from the vicinity of the four support buildings situated to the rear of the blast wall. Two other support buildings are in front of the blast wall. The probable function of these support buildings is to prepare the test items for firing. This area is possibly used to test small free rockets.

Additional data for Areas A and B are given in Table 1.

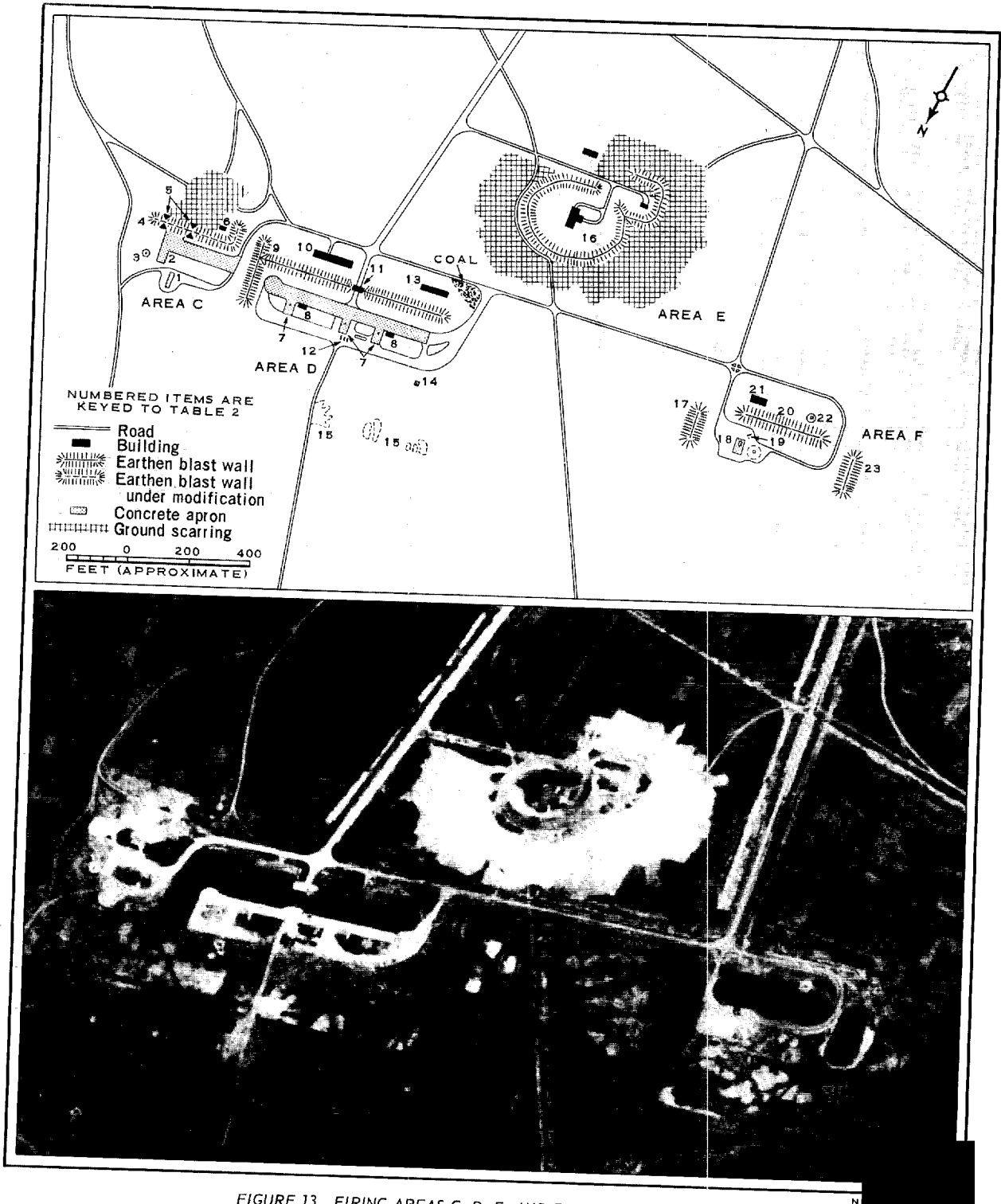
Firing Area C

This area (Figures 13 and 14) consists of two firing positions with an earthen blast wall (Item 4, Figure 13) to the rear. The blast wall is being modified by the construction of two passageways through it. The bunkers, targets, and length of the range indicate that this area is probably used to test direct-fire weapons.

Firing Area D

This area (Figures 13 and 14) consists of three concrete, probable firing positions, a

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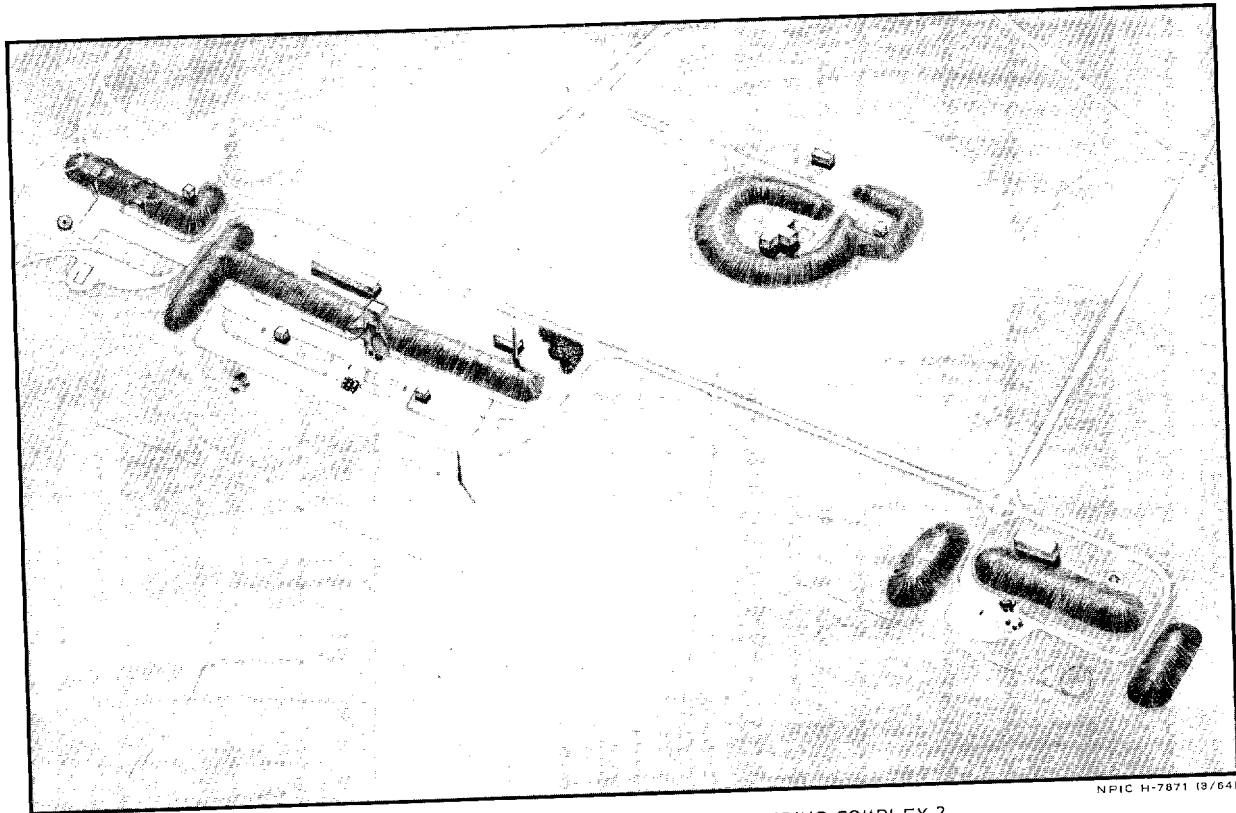


FIGURE 14. FIRING AREAS C, D, E, AND F, FIRING COMPLEX 2.

Table 1. Facilities in Firing Areas A and B

Item	Dimensions (ft)		Description
	Length	Width	
1			Probable horizontal rocket test pad
2	30	20	Probable control building
3	35	20	Probable instrumentation building with unidentified object on flat roof and earth scar (probably cable) to Item 2
4	1,485	60	Earthen blast wall
5			4 possible instrumentation sites
6	40	25	Elliptical firing position with unidentified equipment in center
7			Rectangular firing position with 40 x 5 foot dark center portion
8			Excavation, probably for building similar to Item 23
9	30	20	Elliptical firing position
10	20	15	Control building
11	40	25	Elliptical firing position
12			3 pieces of unidentified equipment
13	130	35	Support building with tall stack for a probable heating plant and covered overhead walkway into Item 4
14			Coal
15	45	25	Drive-through structure/control building
16	145	25	Administration/support building
17	20	10	Possible firing butt - distance from rear of Item 18 is 165 feet
18	80	35	Possible firing bunker
19	130	45	Support building with firewall 45 feet from east end; vehicle is parked at west end of building
20	80	35	Semiburied structure

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Table 1. (Continued)

Item	Dimensions (ft)		Description
	Length	Width	
21	165	65	Support building
22	25	10	Elliptical firing position with a 570 x 10 foot probable concrete ramp
23	30	15	Possible control building
24			Firing position on a 60 x 30 foot pad with a 285 x 15 foot probable concrete ramp
25			Possible instrumentation site
26	25	10	Probable elliptical firing position on a 35 x 40 foot pad with a 590 x 15 foot probable concrete ramp
27	25	10	Probable elliptical firing position
28			Firing position on a 35 x 25 foot pad with a 735 x 15 foot probable concrete ramp
29	5	5	Underground entrance
30	45	25	Support building [REDACTED]
31			Probable loading ramp
32	35	15	L-shaped support building
	20	15	
33			Probable utility poles

25X1B
25X1D

T-shaped earthen blast wall (Item 9) containing a drive-through passageway with a structure used for control of range facilities, two support build-

ings to the rear of the blast wall, and an observation tower. The support buildings are believed to be used to prepare test items for firing.

Table 2. Facilities in Firing Areas C, D, E, and F

Item	Dimensions (ft)		Description
	Length	Width	
1	55	15	Concrete firing position
2	65	25	Concrete firing position
3			Unidentified object 25 feet in diameter
4	285	55	T-shaped earthen blast wall undergoing modification
	55	55	
5	35	20	2 passageways - not covered yet
6	20	10	Control building
7	55	35	3 concrete probable firing positions
8	25	20	2 control buildings
9	640	45	T-shaped earthen blast wall
	215	55	
10	135	25	Administration/support building
11	45	20	Drive-through structure/control building
12			3 probable radar vans
13	85	25	Support building with tall stack for a probable heating plant
14			Lattice tower - probably observation
15			Old possible firing positions
16			Revetted area with a T-shaped building (45 x 20 feet and 20 x 10 feet) and a smaller building (20 x 20 feet)
17	175	100	Earthen blast wall
18	50	30	One concrete rectangular firing position and one possible circular firing position
19			Possible dump truck and 2 covered pieces of unidentified equipment
20	320	75	Earthen blast wall
21	65	25	Support building
22	20	20	Square excavation within circular scarred area
23	185	85	Earthen blast wall

Three probable fire-control radar vans are located in the firing area. These vans are not part of any operational site and there is no evidence of any of the weapons with which the vans are normally associated. This area is probably used to test small free rockets.

Firing Area E

This area (Figures 13 and 14) consists of a large elliptical revetment enclosing a T-shaped building and an adjacent smaller U-shaped revetment enclosing a small rectangular building.

The area is still in an early stage of construction and its function is unknown.

Firing Area F

This area (Figures 13 and 14) consists of a rectangular firing position, a possible circular firing position, three earthen blast walls, and a support building. The area is probably used to test small free rockets and possibly heavy artillery.

Additional data for Areas C, D, E, and F are given in Table 2.

INDUSTRIAL SUPPORT COMPLEX

The Industrial Support Complex (Figures 15 and 16) is situated in the middle of the installation (all other areas are referenced from this area). It consists of a main support area, a possible utility area on the west edge of the support area, a possible laboratory facility on the southwest edge, and a motor pool (Inset-Figures 15 and 16)

with 24 cargo trucks immediately south of Firing Complex 1. The complex contains 85 buildings including administration, storage, utility, and support buildings. Two of the buildings are large workshops (Items 10 and 23) containing machine tools, possible small furnaces, and a considerable amount of open space which is

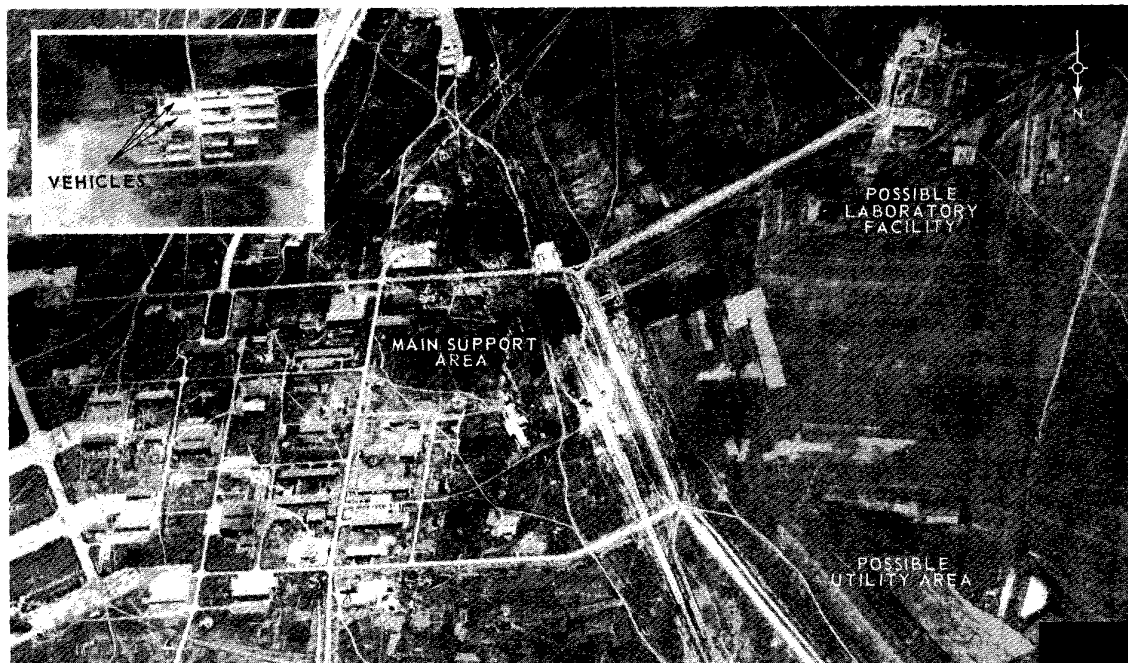


FIGURE 15. INDUSTRIAL SUPPORT COMPLEX.

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25X1D

TOP SECRET CHESS RUFF

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used for assembly/disassembly/modification of rest items. A low-bed trailer, a cargo truck, and an unidentified truck with a possible boom or crane on it are in a second motor pool which is located in the main support area.

In the western part of the main support

area are two dead-end rail spurs, along which are two transshipment buildings and open coal storage. The main support area is situated on an old airfield which accounts for the parking aprons on the east side of the area.

Additional data are given in Table 3.

Table 3. Facilities in the Industrial Support Complex

Item	Dimensions (ft)		Description
	Length	Width	
1	95	30	Possible utility building with an overhead line going underground on the south side
2	215	45	Storage building
3	195	25	Probable storage building
4	240	25	Probable storage building
5	100	40	Probable utility building
6	45	20	Probable utility building
7	85	35	Storage building
8	220	40	Storage building
9	220	40	Storage building
10	220	100	Workshop with monitor and several small stacks on roof and a raised section (possibly housing tanks, tower, or interior equipment)
11	315	40	Administration building
12	120	55	Mess hall
	65	35	
	55	20	
	55	20	
13	440	110	Substation - control building is 90 x 20 feet
14	65	25	Possible utility building with a 150 x 30 foot adjacent building shell
15	220	55	Administration building
	80	55	
16	340	35	Administration building
17	90	40	Storage building
18			Water tower - 20 feet in diameter
19	250	50	Probable forge and blacksmith shop
20	110	25	Possible utility building
21	330	40	Administration building
22	305	50	Administration building
23	195	190	Workshop with monitor, 2 possible stacks, and 4 probable vents on roof
	110	80	
	80	65	
24	215	45	Storage building
	45	15	
	45	15	
25	95	25	Shop
26	90	30	Possible storage building - may be individually secured
27	90	40	Probable utility building
28	110	45	Administration building
29			Probable weather station
30			Utility area contains 2 very small buildings, one larger building with a high-roofed section, and one structure similar to a well house
31	210	50	Administration building
32	310	60	Probable forge and machine shop
33	310	50	Administration building
34	90	30	Possible utility building with overhead line going underground on south side
35	210	50	Building under construction
36	195	40	Probable storage building
37	185	55	Probable storage building

Table 3. (Continued)

Item	Dimensions (ft)		Description
	Length	Width	
38	220	45	Motor pool with vehicle maintenance building, utility building, probable grease rack, and 55 x 35 foot garage
39			Utility area with 2 semiburied tanks - 80 feet in diameter, and a 30 x 30 foot pump house
40	140	35	Storage building
41	90	35	Possible steam plant
42	130	50	Steam plant
43	20	20	Unidentified structure - small building with possible tank
44		75	Bunker with 3 doors
45		40	Bunker with one door
46	240	40	Unidentified building with vents/skylights on roof and 2 stacks on one side
	90	35	
	55	45	
47	210	45	Transshipment building
48	210	35	Transshipment building
49	300	65	Coal
50	30	20	Fenced utility building with probable pipe line leading to possible laboratory facility
51	55	45	Earth-covered structure - overall size of bunker is 285 x 45 feet
52			Trapezoidal basin totaling 20,625 sq ft; basin depth estimated at 10 feet, 2 ladders on wall
53	225	60	Administration-type building possibly containing laboratory facilities
	40	25	
54	80	20	Ramp-like structure
55	120	45	Possible laboratory with many vents and stacks and a small steam plant
	80	25	
	80	25	
56	135	30	8 vehicle shods

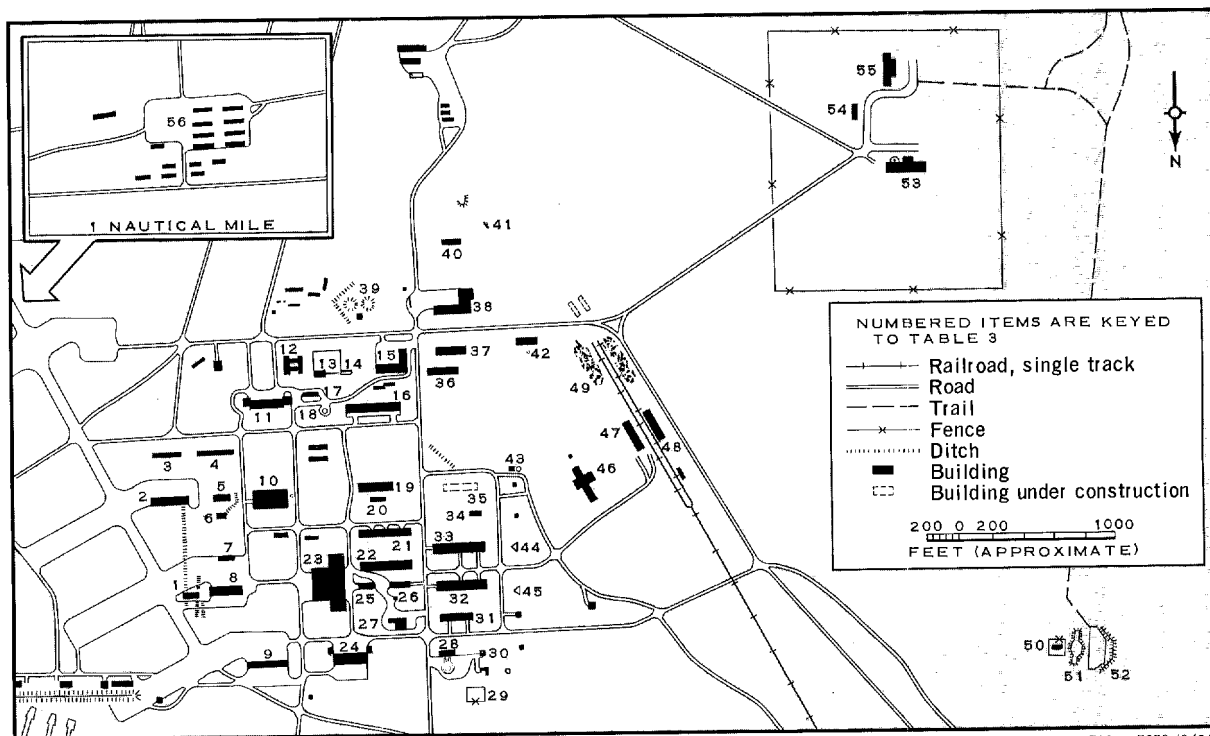


FIGURE 16. INDUSTRIAL SUPPORT COMPLEX.

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ADMINISTRATIVE SUPPORT COMPLEX

The Administrative Support Complex (Figure 17) is located immediately south of the Industrial Support Complex. It contains 51 barracks/quarters buildings, 44 miscellaneous buildings, a probable hospital, and a probable

agricultural support area. The barracks/quarters buildings appear to be more for civilian/family housing than for troop units; therefore, no personnel capacity has been computed.

Additional data are given in Table 4.

Table 4. Facilities in the Administrative Support Complex

Item	Dimensions (ft)		Description
	Length	Width	
1			Administration building (T-shaped with adjoining building) totaling 7,575 sq ft of floor space
2	35	25	Heating plant
3			U-shaped administration building totaling 6,525 sq ft of floor space
4	160	50	Probable barracks/quarters building
5	165	20	12 barracks/quarters buildings
6	135	50	Probable mess hall
7	160	20	16 barracks/quarters buildings
8	230	75	Storage building
9			Athletic field
10	210	45	8 multistory barracks/quarters buildings
11			Probable hospital totaling 28,500 sq ft of floor space
12	200	45	Administration building
13	55	30	Heating plant with stack
14			Multistory administration building (auditorium) totaling 25,100 sq ft of roof cover
15	140	50	Multistory barracks/quarters building
16	70	50	T-shaped heating plant totaling 6,000 sq ft of floor space
17	465	45	Administration building with archway over road
18	220	50	Multistory administration building
19	140	40	2 multistory barracks/quarters buildings
20	110	40	Multistory barracks/quarters building
21	170	40	Mess hall
22	140	50	Mess hall
23			U-shaped heating plant totaling 5,850 sq ft of floor space
24	220	40	Multistory barracks/quarters building
25	170	40	2 multistory barracks/quarters buildings
26	140	40	Multistory barracks/quarters building
27	110	40	Multistory barracks/quarters building
28	175	40	Multistory barracks/quarters building
29	90	35	Multistory barracks/quarters building
30	150	50	Probable barracks/quarters building
31	190	60	T-shaped administration building
32	65	45	Motor pool
33	190	35	2 probable barracks/quarters buildings
34	65	35	Irregular-shaped administration building totaling 22,700 sq ft of floor space
35			Underground entrance
36	50	30	4 probable barracks/quarters buildings
37			Agricultural support area
38			Probable water works

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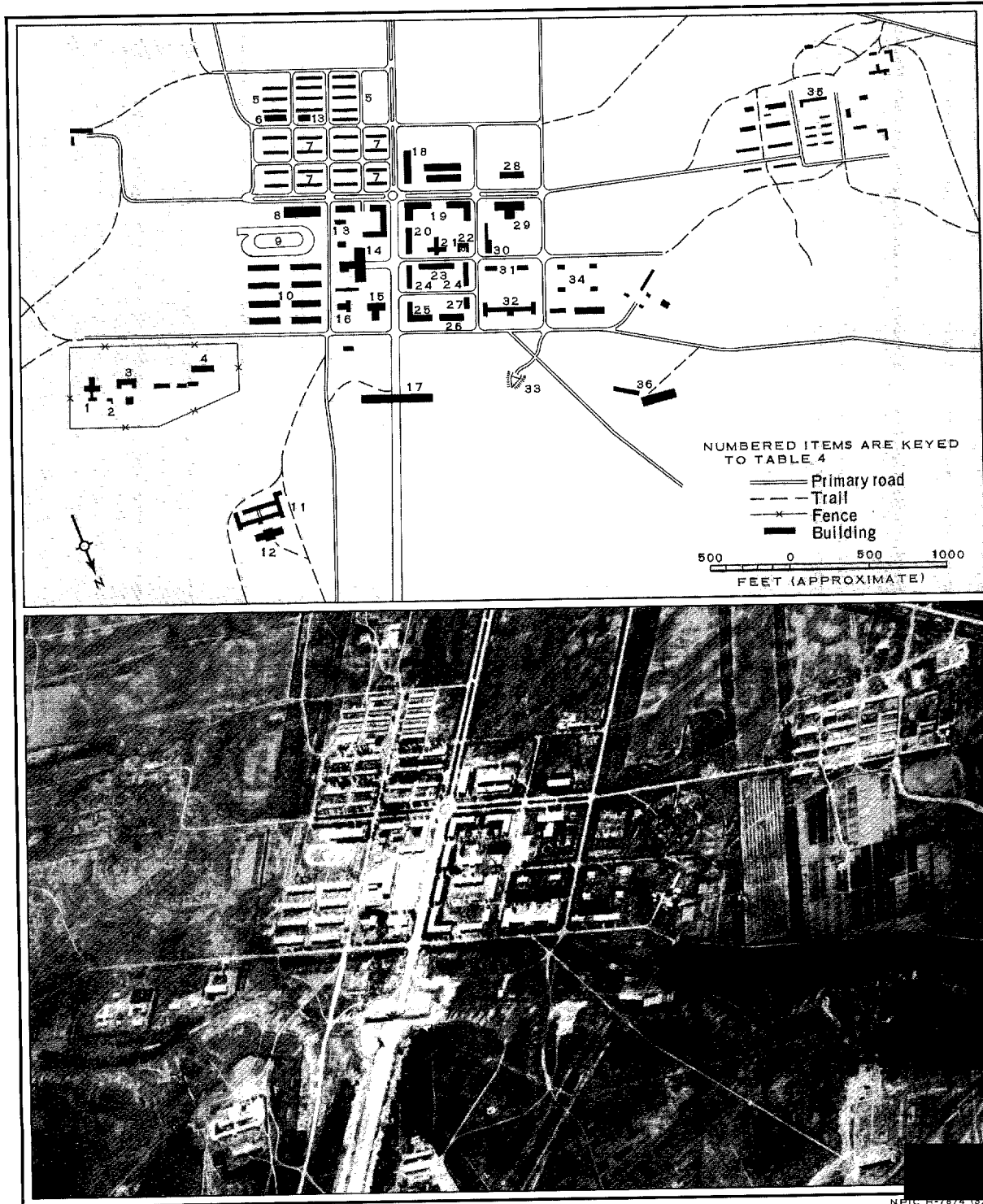


FIGURE 17. ADMINISTRATIVE SUPPORT COMPLEX.

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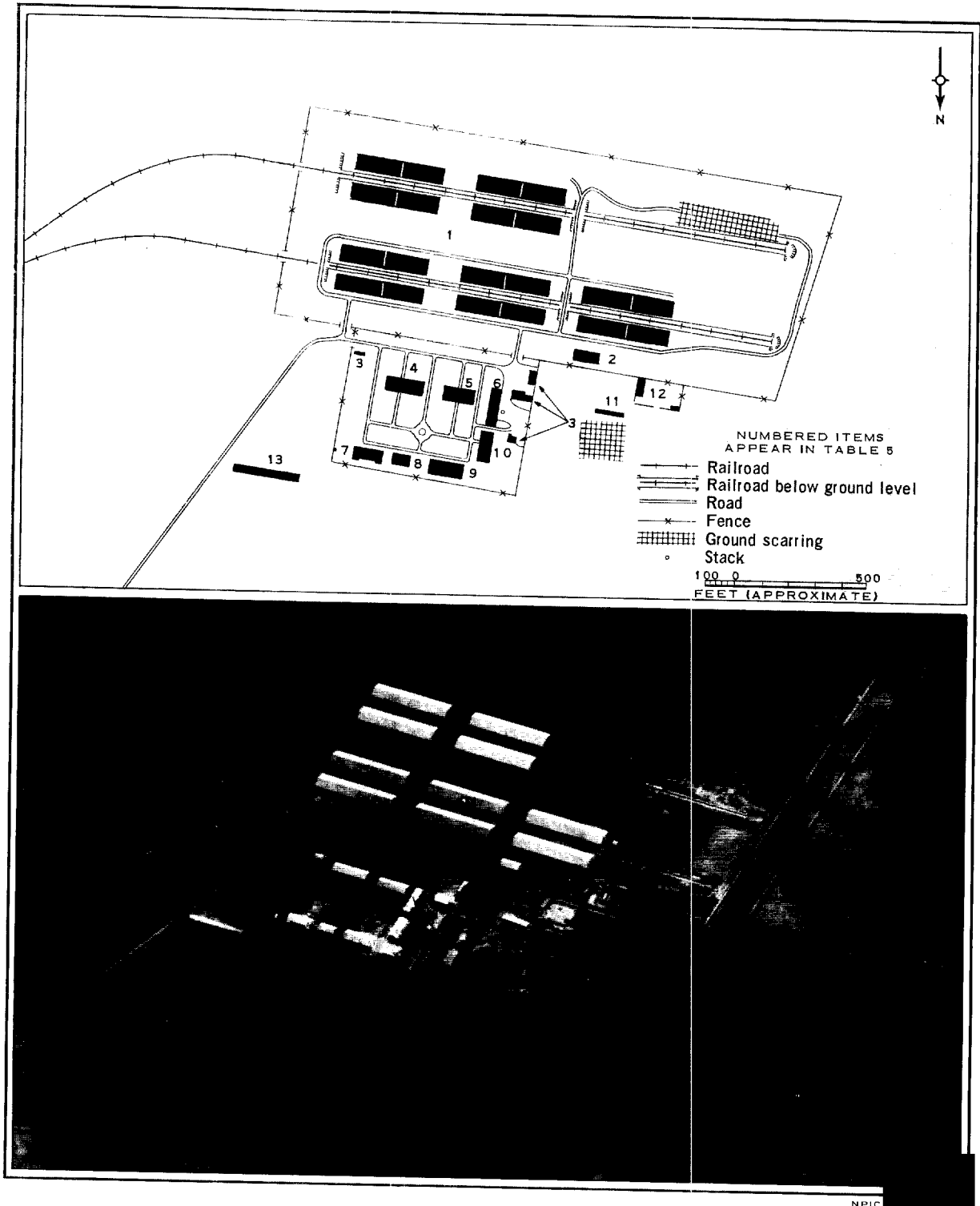


FIGURE 18. STORAGE AREA 1.

STORAGE AREA 1

A non-explosive storage area (Figure 18) covering approximately 40 acres is situated south-southwest of the Industrial Support Complex. It is secured by a high wire fence and is road and rail served. Ten large warehouses are located in the area. An adjacent support area contains 5 dormitory-type buildings, one mess hall, and 8 miscellaneous support buildings. The railroad tracks are below ground level so that the floor of the rail cars and the floors of the warehouses are at the same level.

This is the primary storage area at this installation for non-explosive materials.

Additional data are given in Table 5.

Table 5. Facilities in Storage Area 1

Item	Dimensions (ft)		Description
	Length	Width	
1	350	70	10 warehouses divided by firewalls
2	90	40	Utility and administration building
3			4 small guard and support buildings
4	150	60	Two-story dormitory
5	125	60	Single-story dormitory
6	140	35	Heating plant
7	110	45	Single-story dormitory
8	70	45	Single-story dormitory
9	130	60	Two-story dormitory
10	115	45	Mess hall
11	115	35	Support or storage building
12			Probable motor pool with a 60 x 30 foot garage
13	250	25	Support building

STORAGE AREA 2

This area (Figure 19), located west-northwest of the Industrial Support Complex, is probably utilized for storing items that are explosive, extremely sensitive, or toxic in nature, although the specific function cannot be defined at this time. The main area contains 10 revetted storage buildings, 3 buried tanks, 4 support buildings, and 3 buildings under construction. A sub-area, on the northwest edge of the main area, contains 6 buildings, 3 of which are connected by

above ground pipe lines.

The unusual amount of physical security, the overall layout, and the wide radius curves on the roads suggest that materials other than conventional explosives are stored here. A possible future use could be for the disposition of radioactive test items. The area is still under construction and is being expanded on the northwest corner.

Additional data are given in Table 6.

Table 6. Facilities in Storage Area 2

Item	Dimensions (ft)		Description
	Length	Width	
1	100	20	3 probable storage buildings with 2 covered entranceways each
2	50	20	Processing building
3	30	20	Processing building
4	50	20	Footings for structure
5	20	20	Probable pump house
6	135	70	2 revetted storage buildings with 2 covered entranceways each
7	60	40	2 revetted storage buildings
8			3 circular buried tanks - 35 feet in diameter
9	150	45	3 revetted storage buildings
10	50	20	2 revetted storage buildings
11	60	40	Revetted storage building with covered entranceway
12	120	30	Probable administration building with outhouse
13	125	40	Building under construction with 2 covered entranceways and 40-foot-long inclined ramp

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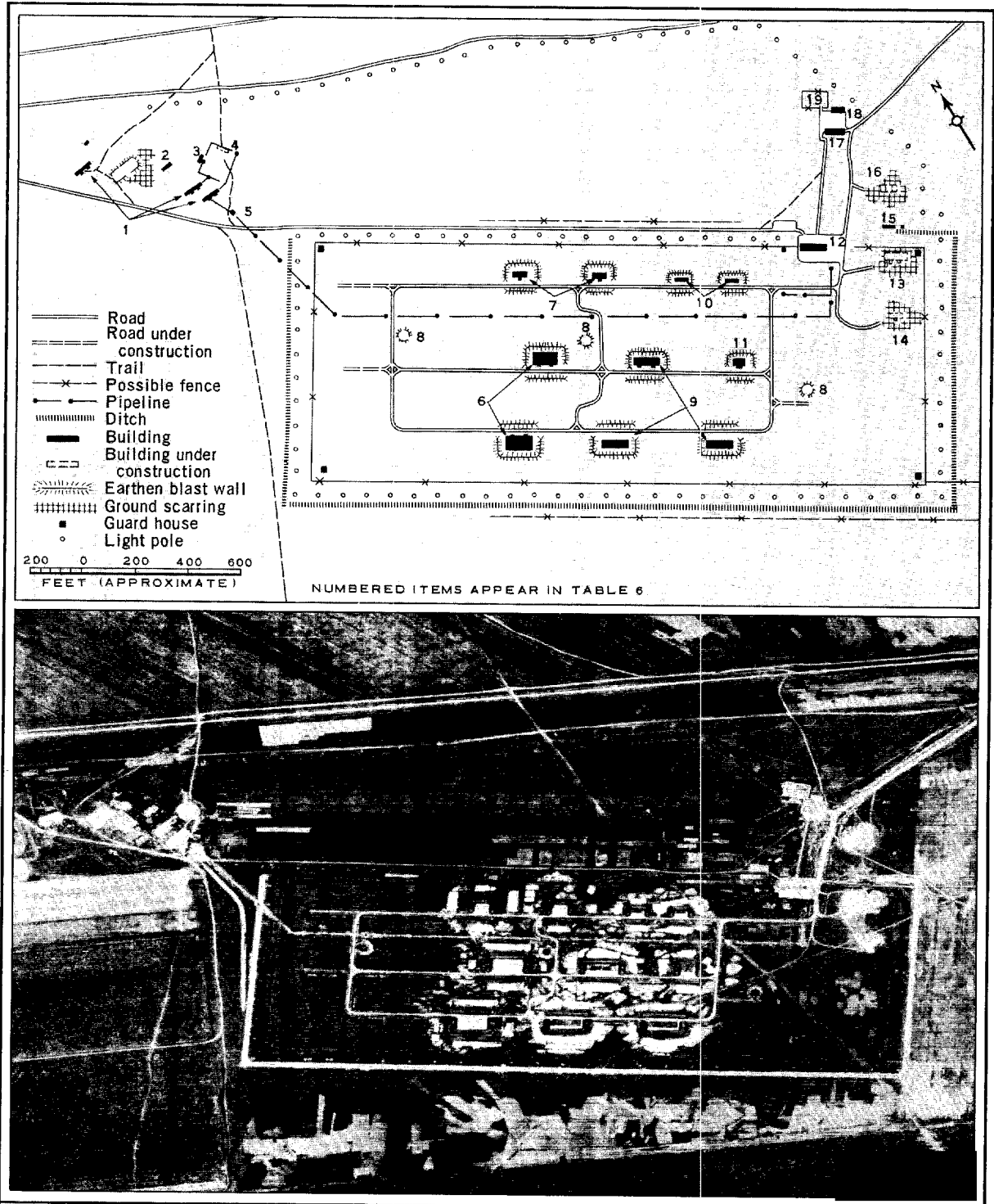


FIGURE 19. STORAGE AREA 2.

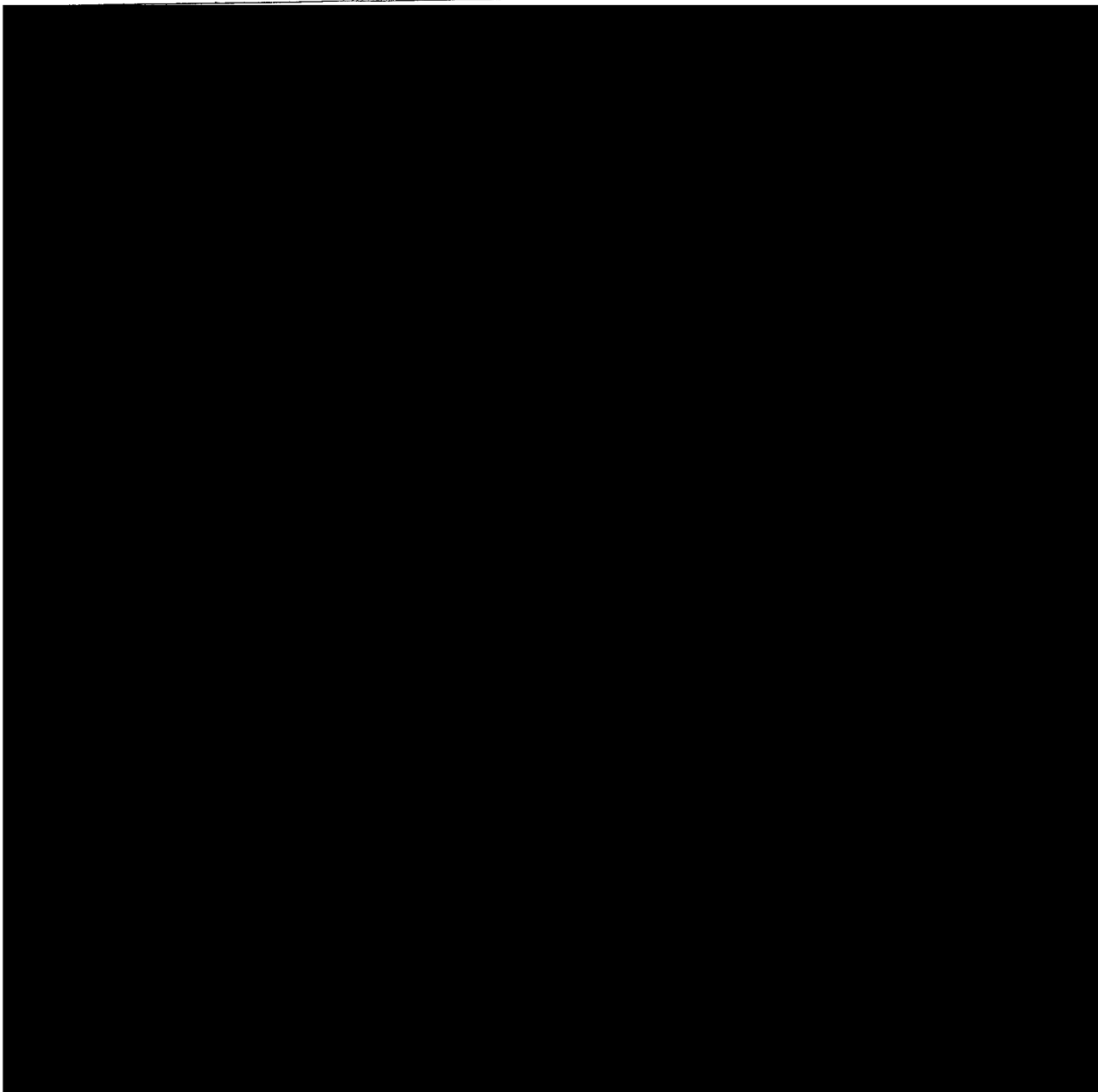
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Table 6. (Continued)

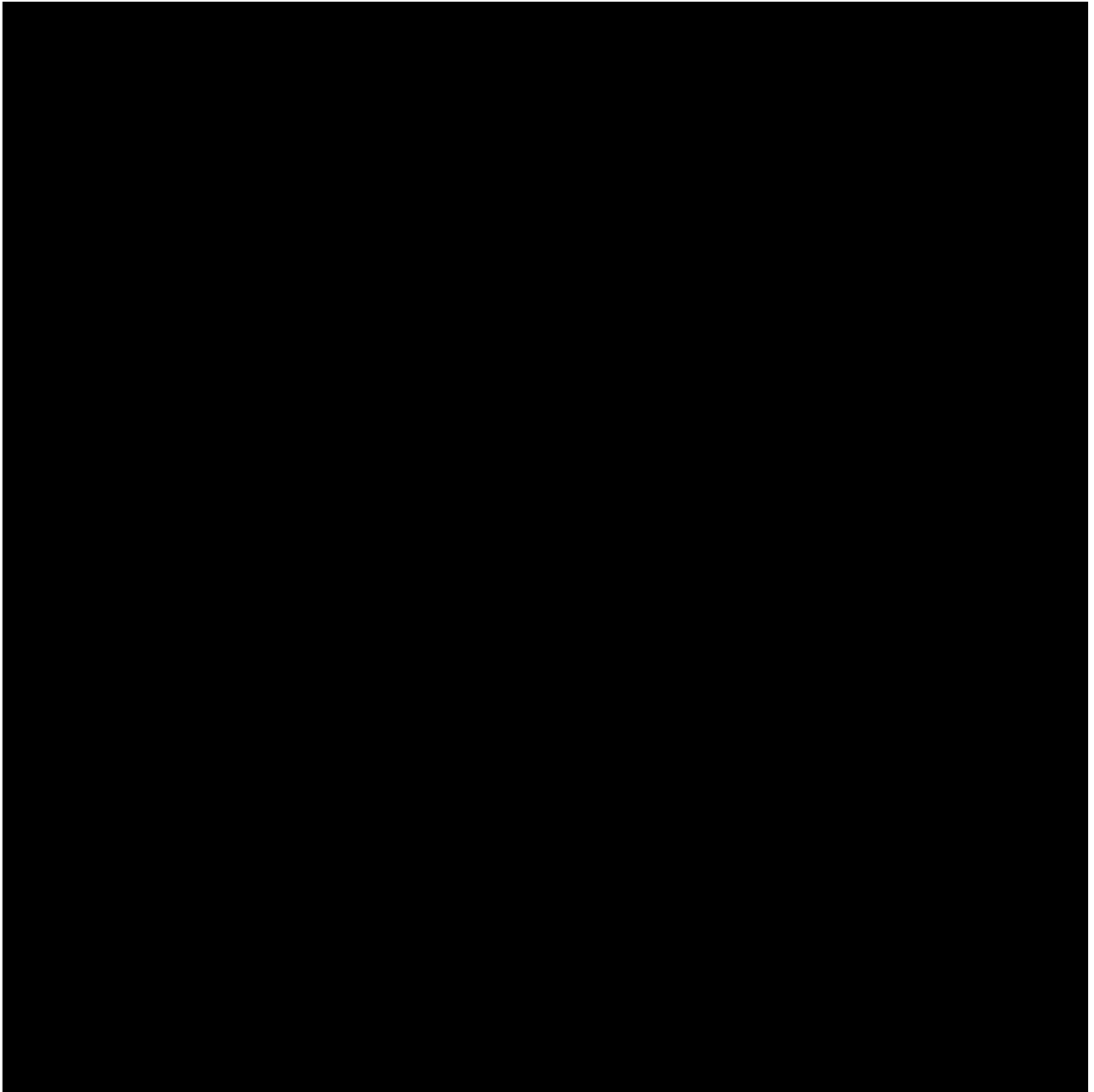
Item	Dimensions (ft)		Description
	Length	Width	
14	70	25	Building under construction with one covered entranceway and 25-foot-long inclined ramp
15	70	20	Probable barracks building
16	80	25	Building under construction
17	85	35	Probable garage
18	55	20	Probable barracks building
19			Fenced probable motor pool

25X1B



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25X1B



INSTRUMENTATION

The instrumentation associated with this facility (Figure 22) consists of five elements. Four are lines of instrumentation towers and the fifth is a line of targets with bunkers. Nu-

merous trails and/or survey lines of a similar pattern are located downrange indicating the presence of more instrumentation; however, none can be observed at this time.

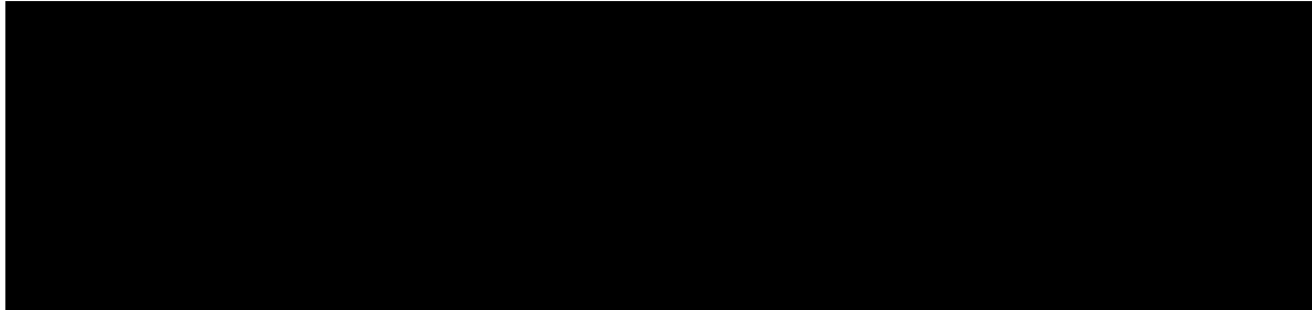
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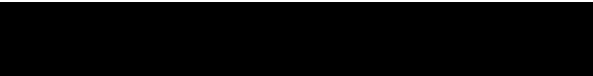
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COMPARISON WITH THE TEST FACILITY AT TU-KO-MA-CHING

This installation is considerably larger than the Test Facility at Tu-ko-ma-ching, China, 2/ and already has a greater variety of test ranges and may have more after construction is complete. There are three items that appear identical to those at Tu-ko-ma-ching; namely, the elliptical firing positions, the lattice work instrumentation towers, and the largest storage

buildings in Storage Area 2. Another area, the

 considerable resemblance in its location with respect to the firing complexes, in its general layout, and in the similarity between the major buildings and the large earthen blast wall.

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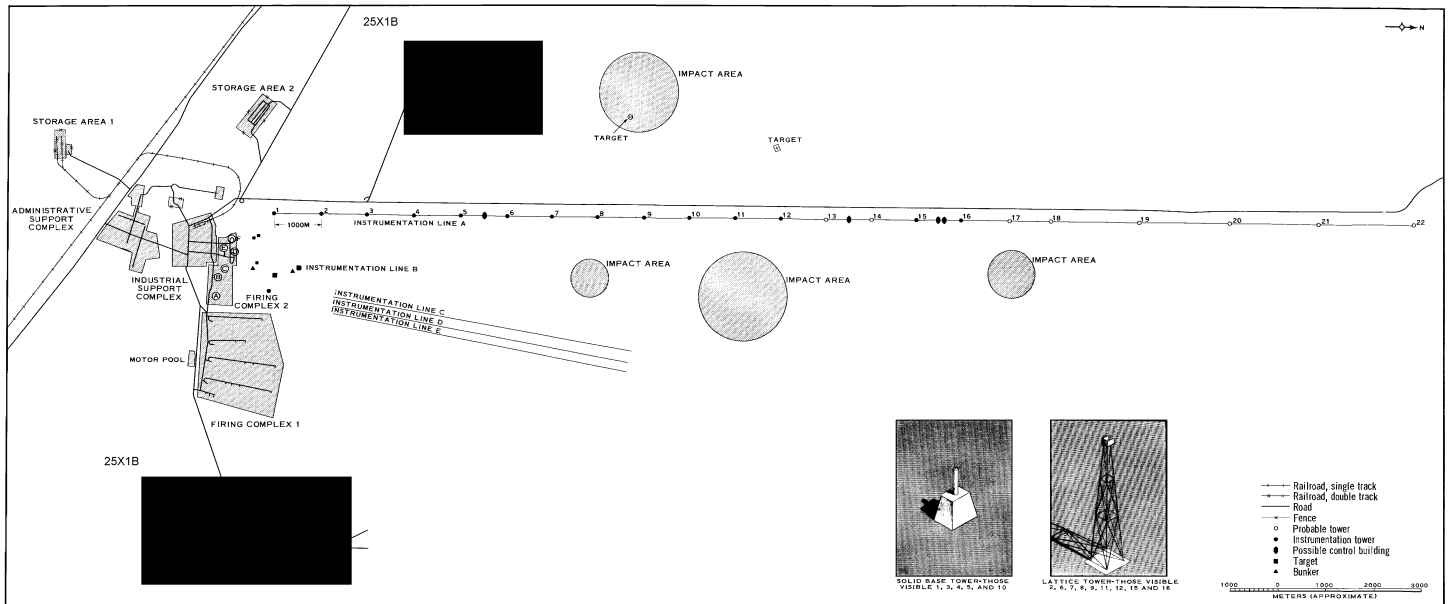
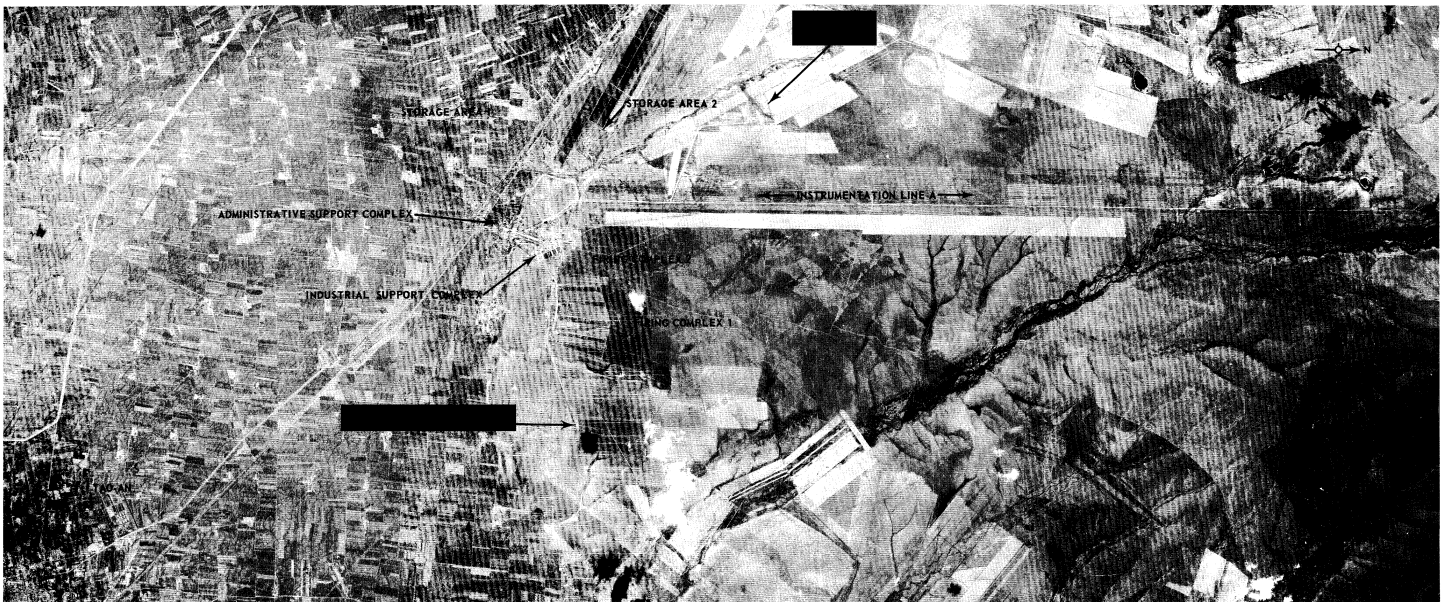


FIGURE 22. TAO-AH TEST FACILITY.

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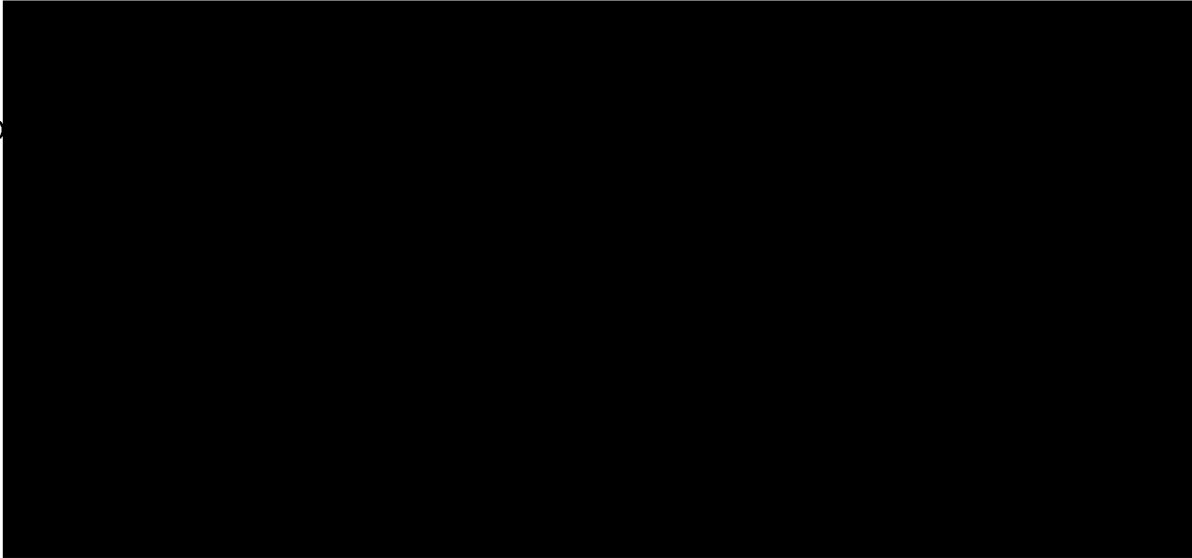
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FIGURE 23. TEST FACILITY, TAD-AN, CHINA.

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REFERENCES

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MAPS

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REQUIREMENTS

CIA. C-S13-80,566

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TEST FACILITY TAO-AN, CHINA



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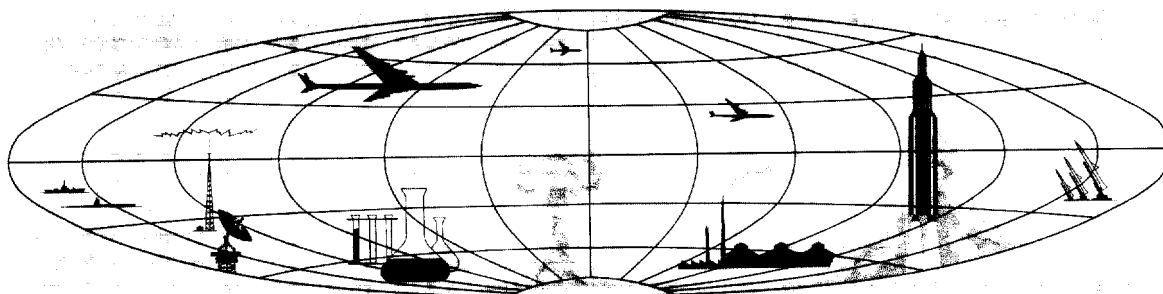
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