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 EIGHTEENTH AAF PHOTO INTELLIGENCE DETACHMENT
 HEADQUARTERS, FOURTEENTH U. S. AIR FORCE
 A. P. O. #627, NEW YORK, N. Y.
 14 APRIL 1944

THIRD PHASE P. I. REPORT NO. 52

KAGI, FORMOSA & VICINITY
23-28 N, 120-27 E

DETAILS OF INTERPRETATION

<u>INSTALL. NO.</u>	<u>IDENTIFICATION</u>	<u>OVERALL SIZE</u>	<u>DESCRIPTION</u>	<u>REMARKS</u>
<u>AIRDROMES</u>				
1	KAGI AIRDROME	8350' X 4850'	FIRST CLASS MILITARY AIRDROME WITH FULL FACILITIES. AVERAGE AIR STRENGTH 42 PLANES	SEE SPECIAL P.I. REPORT #9 ATTACHED
19	KAGI DUMMY AIRFIELD	2500' X 2000'	NEWLY CONSTRUCTED CONSPICUOUS DUMMY FIELD OF TWO RUNWAYS, TAXI STRIP AND FEW REVETMENTS	LOCATED ON TOP OF HILL
<u>INDUSTRY</u>				
20	BUTANOL PLANT	3250' X 1500'	20 MAJOR BUILDINGS; PLANT BEING DOUBLED IN SIZE. SERVED BY RAIL; MUCH ACTIVITY	SEE SPECIAL P.I. REPORT #10 ATTACHED
21	SUGAR REFINERY AND ALCOHOL PLANT	1700' X 1700'	MAIN BUILDING 800' X 160'; 4 OTHER MAJOR BLDGS. AV. 150' X 80'; 53 WAREHOUSES AV. 210' X 45'; 5 CIRCULAR TANKS AV. 35' IN DIA., WORKERS QUARTERS AREA 1750' X 1300', 3 TALL STACKS; RR SPUR	LOCATED AT VILLAGE OF LAM TSE. PLANT ACTIVE
22	BRICK PLANT	1100' X 800'	3 KILNS 175' X 55' WITH ONE STACK, 32 DRYING SHEDS, 4 WAREHOUSES AV. 190' X 35'; CLAY PIT NEARBY; RR SPUR	TYPICAL FORMOSAN BRICK PLANT
23	UNIDENTIFIED LIGHT INDUSTRY	800' X 700' X 500'	1 MAIN BUILDING 335' X 155'; 2 TALL STACKS, 6 WAREHOUSES AV. 125' X 35', STORAGE TANK 20' IN DIAMETER, TRANSFORMER 60' X 35'	POSSIBLY METAL REDUCTION PLANT
24	LUMBER MILL	3500' X 1750'	3 MAJOR BLDGS. AV. 250' X 70'; MANY OTHER BLDGS. AV. 110' X 110'; SERVED BY 2 RR LINES; QUANTITIES OF LOGS AND LUMBER	
25	PROBABLE STEEL FABRICATION PLANT	530' X 450'	1 MAIN BLDG 370' X 175'; 2 OTHER BUILDINGS 95' X 60'; 1 TALL STACK	
26	LARGE UNIDENTIFIED INDUSTRY	1300' X 340'	1 MAIN BLDG. 210' X 135'; 11 OTHER BLDGS. AV. 150' X 75'; 5 STORAGE TANKS AV. 30' IN DIAMETER	ADJACENT TO RR YARDS. REPORTED TO BE AN ALCOHOL PLANT

27	UNIDENTIFIED LIGHT INDUSTRY	700' X 500'	6 MAJOR BLDGS. AV. 185 X 75; ONE SMALL HEAT & POWER UNIT WITH STACK.	
28	ABANDONED OIL STORAGE	800' X 400'	2 SMALL BLDGS. 2 TANKS 20' IN DIAMETER, NEAR RR	NO SIGNS OF ACTIVITY
<u>MILITARY INSTALLATIONS:</u>				
29	7 SMALL BARR- ACKS & STORAGE AREAS	AVERAGE-- 900' X 800'	AV. AREA CONTAINS 4 BARRACKS 325' X 35' AND SEVERAL SMALL STORAGE BUILDINGS	SCATTERED THROUGHOUT AREA
30	BARRACKS AND STORAGE AREA	2500' X 1250'	18 LARGE BARRACKS 390' X 35'; 18 SMALL STORAGE & MISC. BUILDINGS	REPORTED TO BE KAGI AR- TILLERY POST. NEAR DUMMY AIRFIELD
31	TEN SMALL SCHOOLS OR PERMANENT GAR- RISON POSTS	AVERAGE 850' X 650'	AV. SIZE 4 BARRACKS 325' X 35' AND FEW SMALL MISC. BUILDINGS	SCATTERED THROUGHOUT CITY. EACH HAS ATHLETIC FIELD.
<u>UTILITIES AND TRANSPORTATION:</u>				
32	2 POWER LINES	-----	ONE LARGE N-S LINE E OF KAGI ONE SMALL N-S LINE W OF KAGI	SEE SYMBOL "P-P-P" ON MOAIC
33	2 TRANSFORMER YARDS	AVERAGE 50' X 45'	ONE TAPS SMALL LINE SW OF KAGI. OTHER LOCATED IN CITY, PROBA- BLY STEPS DOWN CURRENT FOR CITY CONSUMPTION	
34	RAILROADS	-----	KAGI IS SERVED BY THE MAIN FORMOSA WEST COAST RR LINE (TAKAO-TAIHOKU). SEVERAL SMALL BRANCH LINES TERMINATE HERE	
35	RAILROAD YARD	4300' X 175'	PASSENGER STA. 230' X 60', 8- STALL ROUNDHOUSE, TURNTABLE 70' DIA., 10 LARGE WAREHOUSES; MANY SMALL SHEDS AND SHOPS, APPROX. 12 TRACKS AT WIDEST POINT	100 CARS VISIBLE 10 JANUARY 1944
36	BRIDGES (2)	EACH 860' IN LENGTH	MAIN HIGHWAY AND RR BRIDGES CROSS STREAM 6 MI. S OF KAGI	RR BRIDGE OF STEEL, HWY BRIDGE OF CONCRETE
37	MOTOR PARK	600' X 500'	SEVERAL SMALL BLDGS., 12 VEHICLES PRESENT	KAGI BUS TER- MINAL & SHOPS
38	HIGHWAYS	-----	KAGI WELL SERVED BY NETWORK OF GOOD HIGHWAYS	
<u>MISCELLANEOUS:</u>				
39	PRISON	600' X 450'	12 BLDGS. AV. 200' X 35'	
40	AGRICULTURAL EXPERIMENTAL STATION	2700' X 1300'	APPROX. 20 BUILDINGS; MANY SMALL RECTANGULAR FIELDS	

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HEADQUARTERS FOURTEENTH U.S. AIR FORCE

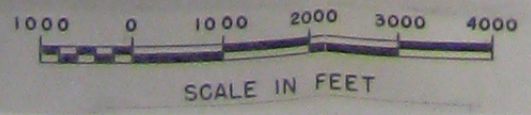
15 APRIL 1944

THIRD PHASE P.I. REPORT NO. 52

KAGI, FORMOSA & VICINITY
23° 28' N 120° 27' E



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 18TH A.A.F. PHOTO INTELLIGENCE DET.
 HQ. 14TH U.S. AIR FORCE
KAGI, FORMOSA
25° 28' N - 120° 27' E
 THIRD PHASE REPORT NO 52
 DATE OF PHOTO 6 MARCH 1944
 PHOTOS BY 21ST RCN. SQ.



TO TAINAN 40 MI

TO TAICHU 30 MI

KAGI

1-KAGI AIRDROME

10-REVTMENTS

9-COMPASS SWINGING BASE

8-OIL STORAGE?

11-A/A

7-REVTMENTS

6-A/A

8-OIL STORAGE?

5-REVTED STORAGE

12-REVTMENTS

18-HANGARS

4-BARRACK & ADM. AREA

14-RADIO

17-CONTROL TOWER

15-R.R. SPUR

13-A/A

3-STORAGE

34-MAIN R.R.

32-POWER LINE

29-BARRACKS

32-TRUNK POWER LINE

29-BARRACKS & STORAGE

29-BARRACKS UNDER CONST.

LAM-TSE

19-KAGI DUMMY AIRFIELD

21-SUGAR REFIN. ALCOHOL PLANT

AQUEDUCT

30-KAGI ARTILLERY POST

HIGHWAY BRIDGE - 36 - R.R. BRIDGE

29-BARRACKS

27-UNID. INDUSTRY

24-LUMBER MILL

GARRISON 31

39-PRISON

35-R.R. YARD

37-MOTOR PARK

29-BARRACKS

26-REPIT ALCOHOL PLANT

25-PROB STEEL FAB PLANT

33-TRANSFORMER

GARRISON 31

23-UNID. INDUSTRY

22-BRICK PLANT

33-TRANSFORMER

31-GARRISON

31-GARRISON

29-BARRACKS

28-ABANDONED OIL STORAGE

40-AGRIC. EXP. STATION

20-BUTANOL PLANT

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15 April 1944

SPECIAL P. I. REPORT NO. 9

(To accompany Third Phase P. I. Report No. 52)

LOCALITY : KAGI AIRDROME, FORMOSA (23-27 N, 120-24 E)
MISSION NO : 13/2 C, 13/4 C, 13/7 C, 4-MC-18
DATE OF PHOTOS : 10 January 1944, 12 January 1944, 24 January 1944,
6 March 1944
APPROX. PHOTO SCALE : 1:17,150; 1:15,150; 1:15,650; 1:15,250
PHOTOGRAPHED BY : 21st Photo Rcn. Sq.
REFERENCE : None
ENCLOSURE : Mosaic of Kagi and Vicinity, 4-MC-18

DETAILED INTERPRETATION

Installation No.
(See Attached Mosaic)

LOCATION: Kagi Airdrome is located four (4) miles WSW of the center of the City of Kagi.

LANDMARKS: The only landmarks are the relative position of the city and airdrome and two (2) winding rivers approximately three (3) miles N and S of the airdrome.

SIZE, SHAPE & CONDITIONS: The airdrome is roughly rectangular in shape 8350' x 4850'. The landing area occupies 5000' x 4850'. There is one paved runway 3800' x 500' lying N-S. Paved taxiways lead to the hangar area from the runway. The field is drained, graded and sodded, and usable at all times. Several lines of white markers are visible on the field paralleling the runway.

EXPANSION: The field could readily be expanded in all directions.

OBSTRUCTIONS: There are no obstructions to taking off and landing on the runway.

HANGARS: There are nine (9) hangars in the repair and administration area at the SE edge of the field, as follows: 18

- Four (4) double hangars 300' x 190'
- Four (4) single hangars 170' x 155'
- One (1) repair hangar 185' x 185'

ADMINISTRATION & BARRACKS: The airdrome administration and barracks area 3100' x 1000' is located at the SE edge of the field. In this area are thirty (30) large buildings, varying from 340' x 75' to 155' x 75', and forty-eight (48) small miscellaneous buildings. Twelve (12) truck revetments, 30' x 24', each for two (2) trucks, are visible in the area. 4

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Installation No.
(See Attached Mosaic)

- DISPERSAL: Dispersal areas are located at the NE, E and W edges of the airdrome, as follows:
- At the NE edge of the field are two (2) double revetments 185' x 90' and one single revetment 95' x 90'. ——— 7
 - At the W edge of the field are nine (9) double revetments 185' x 90' and one (1) single revetment 95' x 90'. ——— 12
 - At the NW edge of the field are eleven (11) double revetments 185' x 90', one (1) single revetment 95' x 90' and one large revetment of heavy construction, 155' x 120', which is used as a firing butt. This area is connected to the main runway by a taxi strip 100' in width. ——— 10
- DEFENSES: A four-gun heavy A/A battery, complete with command post, is located 550' SE of the N end of the runway. N of this battery are located eight (8) light A/A positions. ——— 6
- An unoccupied two-gun medium A/A position is located just E of the NW corner of the landing area. ——— 11
 - An unoccupied four-gun medium A/A battery is located at the SW corner of the landing area. ——— 2
 - A two-gun medium A/A battery is located at the SW corner of the field. ——— 13
- FUEL & AMMUNITION STORAGE: In a large revetment at the NE corner of the administration area are two (2) munitions storage buildings 60' x 40' and 60' x 25'. ——— 5
- The A/A batteries at the NE and SE edges of the field each have a partially-protected ammunition storage shed 100' x 90'.
- At the SW edge of the administration area is a pyramidal storage structure built of earth, 55' square at the base, which is believed to be for munitions. ——— 3
 - There are two (2) unidentified installations on the field which may possibly be buried fuel tanks; ——— 8
 - One (1) circular object 60' in diameter located 850' W of the runway at the NW corner of the administration area.
 - One (1) circular object 170' in diameter located 1800' N of the N end of the runway.
- COMMUNICATIONS:
- A probable radio station and radio range station is located 4200' E of the airdrome. The station is in an area 200' x 140' containing one building 80' x 45'. The four (4) masts are aligned in a square NS-EW 110' apart. ——— 14

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Installation No.
(See Attached Mosaic)

TRANSPORTATION:

The airdrome is well served by a RR spur off the main line as well as a network of highways. ----- 15

MISCELLANEOUS A/D INSTALLATIONS:

1. Located at the N and NE perimeter of the field are two (2) navigational light beacons: ----- 16
 a. One (1) located .9 mile N of the N end of the runway.
 b. One (1) located 1 mile WNW of the N end of the runway.

2. Located 3100' NW of the N end of the runway is an installation believed to be a compass swinging base which has seen little use. The outside circle is 670' in diameter. Just E of the base is a dummy airdrome. ----- 9

3. A control tower 195' x 40' is located at the center of the E edge of the runway. A semi-circular concrete hardstand, 470' in length, is located just W and in front of the control tower. ----- 17

ACTIVITY: The following table shows the air strength at Kagi A/D in each of the four photo covers used in this report:

<u>MISSION</u>	<u>DATE</u>	<u>TOTAL PLANES</u>	<u>LARGE</u>	<u>MEDIUM</u>	<u>SMALL</u>
13/2 C	10 Jan. 1944 (partial cover)	32	6	17	9
13/4 C	12 Jan. 1944	50	32	14	4
13/7 c	24 Jan. 1944	43	25	15	3
4MC18	6 Mar. 1944	42	27	12	3

DUMMY AIRFIELD: A dummy airfield consisting of two conspicuous runways, E-W and NW-SE, is located 5.2 miles SE of Kagi Airdrome. ----- 19

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 1st Lt., A. C.
 P. I. Officer

APPROVED BY: *H.F.T.*
 H. F. TOWNSEND
 Major, A. C.
 Commanding

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15 April 1944

SPECIAL P. I. REPORT NO. 10

(To accompany Third Phase P. I. Report No. 52)

LOCALITY : KAGI BUTANOL PLANT, KAGI, FORMOSA (23-28 N, 120-27 E)

MISSION NO : 13/2 C

DATE OF PHOTOS : 10 January 1944

APPROX. PHOTO SCALE : 1:17,150

PHOTOGRAPHED BY : 21st Photo Rcn. Sq.

REFERENCE : War Dept. Survey of the Island of Formosa (530-783)

ENCLOSURE : Mosaic of Kagi and Vicinity, 4-MC18

REMARKS : This report, based on an interpretation of one pair of stereo photographs, is presented with reservation because of the almost complete lack of ground information as well as conflict in the two scanty references available. The process as described here is that shown on a reference chart for the manufacture of butanol by fermentation of corn. In the process here, it is reported that sweet potatoes are used and consequently it is expected that some modification has been made.

The Kagi Butanol Plant occupying an area of 3250' x 1500' is located at the S edge of the City of Kagi.

1. A RR spur which serves the plant branches off the main line SW of the plant. Located at the east center section of the plant are four (4) receiving warehouses 230' x 70' and six (6) 130' x 35'.

2. A coal storage pile 175' x 110' is adjacent to the tracks. Next to this storage is a large heat unit with stack adjacent.

3. The beginning of the process is housed in a building 280' x 260', in which are probably located degerminators, a roller mill and the beginning of the sterile mash.

4. A building 190' x 130', connected to the above building, probably houses the separator, cooker-cooler and the sterile mash.

5. In a large O-shaped building 950' x 70' (overall) enclosing a rectangular yard, are forty-eight (48) tanks, 17' in diameter and approximately 20' high. Here the two sterile mashes are combined and continue through the fermenters, beer stills and pot stills.

6. A steam unit of two (2) buildings 70' x 70' with stack between is located just S of the above building. Several miscellaneous buildings and two (2) storage tanks, probably for by-products, are located in this area.

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7. A composite building 250' x 175' contains the fractionating column. Steam and heat are furnished by the large heat unit (See No. 2).

8. A building 110' x 85' and six (6) tanks 35' in diameter nearby for storage of finished products completes the process of the plant.

9. A unit containing three (3) buildings identical to three (3) in operation (See Nos. 4, 5, & 6) is under construction on the N side of the present plant. This new unit when completed will probably double the production.

10. East of the present plant much building activity is visible. Additions to the RR spur, new units not yet recognizable, and additional warehouses are in various stages of construction.

11. A transformer 35' x 35' is located just SE of the plant. The power comes in on a subsidiary line W from a line running N-S E of Kagi.

12. An earth scar, probably a pipe line, leads from a building 40' x 35' located at the center section of the plant to a point 4900' ENE of the first building. At this point are three (3) small buildings and a pond located between a creek and a second class highway.

13. Approximately seventeen (17) office buildings, laboratories and miscellaneous buildings are located at the W section of the plant.

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