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HISTORY OF THE ARMY SECURITY AGENCY AND SUBORDINATE UNITS

Fiscal Year 1954

VOLUME II - Technical Operations

Declassified and Approved for Release by NSA on 02-15-2017 pursuant to E. O. 13526, MDR Case # 62312

Prepared by the Assistant Chief of Staff, G2

1957

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I. FOREWORD

This document presents an account of fiscal year 1954 operations of field units of the Army Security Agency (ASA or the Agency) in the conduct of communications intelligence (COMINT) for the Army and the National Security Agency (NSA). From missions imposed upon ASA mobile units or NSA field stations manned by ASA personnel, specific accomplishments have been discussed to provide a comprehensive guide for future planning and instruction.

Considerable coverage has been devoted to the Agency's effort in Korea in support of the UN Forces, particularly the phase directly related to the end of hostilities in this area, and the period following. Specific techniques, peculiar to ASA operations are also discussed, for developments in low level voice intercept, landline intercept, radio direction finding, and other communications methods played an important role in hastening the end of a conflict which may well have developed into full scale war.

The events of the post-Korean period are also extensively covered, for they reveal logic behind the Agency's position of caution following the Armistice, particularly the safeguarding of its Pacific holdings to offset any possible recurrence of events in the Far East. Progress in expanding ASA activities in Europe is also reflected, for preparedness against any future outbreak, such as Korea, was essential.

Facts for this compilation have been derived from records, reports, and correspondence developed through requirements placed upon commanders of ASA units in every part of the world. Controversial information has been resolved through discussion with qualified military and civilian counsel. Special authority and methods of compilation are contained in AR 220-345, Subj: Field

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Organizations, Unit Histories, 18 October 1954; DA Pamphlet 20-200, Guide to the Preparation of American Military History, August 1951; Specifications for Annual Historical Reports, Hq ASA, 21 May 1956; SR 320-50-1, Military Terms, Abbreviations, and Symbols, 23 November 1953 to include Change 1, 28 October 1954, Change 3, 8 January 1956; and other memoranda applicable to the Agency's Historical program.

Dissemination of information contained herein is to be handled in strict accordance with requirements set forth in the existing DA Regulation for Security and Dissemination of Communications Intelligence, dated 1 Jul 51, and Ltr, AGAO-S, 380.01 TS (21 Jun 51), G2, DA dated 1 Jul 51, subj: Regulators for Security and Dissemination of Communications Intelligence.

Cross reference at the end of unit summaries in this volume indicate the first page of supplementary administrative information concerning the unit in Volume I.

Note: It is to be noted that no record of the activities of Detachment V or FS 8615 AAU is included in this report. This unit remains excluded from formal accounting of its activities.

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II. BACKGROUND

The close of fy 1953 found ASA well organized to carry out its mission. The Korean conflict, however, continued, requiring more intensified COMINT and COMSEC missions. In support of the Army Forces overseas, the General Reserve, Army Field Forces, and Continental Armies, the Agency had activated thirty-six TOE units. Twenty-four of these fulfilled existing overseas requirements (11 - Europe, 12 - Far East, 1 - Alaska). Twelve units (7 - Liaison, 5 - General Reserve) were fulfilling stateside requirements.

TD units (Field Stations), charged with providing the DA portion of the NSA COMINT mission totalled thirteen, and plans had been made to establish three more to become operational as follows:

FS 8613 AAU, United Kingdom	3d Qtr, fy 1955
FS 8619 AAU, Italy	1st Qtr, fy 1956
FS 8623 AAU, Turkey	1st Qtr, fy 1956

During November 1952, the British Government concurred in the establishment of FS 8613, but the final site selection had not been made. Hq ASA Europe was conducting on-site surveys in the United Kingdom under USCINCEUR. The Italian Government had approved a Joint Army-Air Force survey and this was in progress as of 30 June 1953. In Turkey, a final statement of base and military rights had been approved by the AGofS G2, DA and was forwarded to the Department of State for final negotiation with the Turkish Government. In addition, plans were laid to expand facilities at FS 8604 in view of the signing of an executive agreement between the United States and Ethiopia on 25 May 1953 which provided necessary base and operating rights.

To directly support the Army Field Forces with COMINT intercept, mobile intercept positions out of a total of programmed had been real-

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ized and [] direction finding positions out of a total of []
[] programmed were operative. At the Field Stations, [] fixed intercept
positions out of a total of [] programmed were operating as of 30 June 1953.

In the production of COMINT several developments of interest had materi-
alized. First among these was activities of the low level intercept teams.
As of 30 June 1953, [] teams were operating [] voice and
[] intercept positions in Korea with new or replaced equipment.
Although the voice intercept effort had increased substantially, the lack
of well-trained voice interceptors and an inability to intercept ground force
traffic was apparent. [] intercept was proving successful, but addi-
tional intercept equipment was needed.

In Europe, efforts to launch [] intercept were progressing and
tests indicated that favorable results could be obtained. The assignment of
trained personnel and the arrival of newly developed special equipment were
also contributory factors.

In the fields of cryptanalysis and traffic analysis generally good
results were emanating from ASA Pacific. At ASA Europe, limited progress
was being realized in cryptanalysis, good results in traffic analysis. The
greatest handicap in both theaters was the lack of supervisory personnel.

World-wide activity in radio direction finding as of 30 June 1953 con-
sisted of thirteen units providing information on strategic targets at fixed
stations and twenty-five units deployed with mobile companies providing
tactical support information. Maximum output was being realized in the num-
ber of quality fixes, and emphasis was being shifted to refining the pro-
duct produced.

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[redacted] results were good from Field Stations located in the Pacific while those of European sites had decreased in quantity and quality as a result of poor reception.

Finally, progress in machine aids. This field, concerned with mechanization of the many forms of data processed by analytical and research units of the Agency, was progressing steadily. First courses were nearing completion and graduates would eventually be assigned to ASA Pacific and ASA Europe machine aids units. The modification and installation of various IBM machines essential to the operation was nearing completion.

Thus, a picture of the Agency's operational structure and the results being achieved as fiscal year 1954 commenced.

Source: Quarterly Report of Accomplishment and Progress of the Agency's Programs - 4th Qtr, fy 1953, 31 Aug 53, pp3-9.

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III. OPERATIONAL HIGHLIGHTS (GLOBAL)

Technical operations of the Army Security Agency were intensive and well-directed during fy 1954, and important results were achieved. Little doubt exists that the Agency fulfilled its mission, for more and better COMINT and COMSEC was encouraged by all consumers. This led to increased missions in the Far East, and further development of those throughout the rest of the world.

Korea was still a major concern. Here, hostilities continued on a see-saw scale, with both sides claiming victories. ASA low level voice and landline intercept teams, stretched across the entire Eighth US Army front, were extremely effective at this time, but this condition was short-lived for earlier negotiations for a cease-fire materialized on 27 July 1953, putting an end to hostilities.¹

The success of ASA units in Korea during July 1953 was impressive. The COMINT product had assisted UN Field Commanders and the Eighth US Army at a time when timely COMINT information was essential. The Armistice did not end the need for this, for the exchange of prisoners required security, and consideration had to be extended to post-conflict activities in which both the UN and Eighth US Army had interest. Field COMINT was helpful here.

A decision, then, to maintain ASA units in Korea for a longer period, was not without logic. A general belief existed that hostilities could recommence despite the cease-fire, and that other areas, such as Indo-China, could be the scene of an outbreak. Should this occur, field trained ASA specialists would be required. If nearby, they could be dispatched with

1. Quarterly Summary, ASA Programs, fy 1954.

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haste. Meanwhile, the gradual reduction of low level teams in Korea began. By September 1953, only thirteen teams remained. Landline intercept was also discontinued. This overstrength was integrated with other operational units in Korea and Japan.¹

As the year progressed the importance of Korea gradually declined. Units that remained in the country became just another part of the expansion of the Agency for it was now clear that specialties peculiar to ASA were in constant demand and could no longer be classed as war time operations.

To realize the degree of permanency necessary, the further advancement throughout the world of each phase of COMINT and COMSEC; the development of new techniques, equipment; the training of a permanent supply of manpower for new units; and the establishment of facilities became the primary long-range requirements.

Progress in this direction during fy 1954 is best illustrated perhaps by the status of ASA mobile and fixed intercept positions during the course of the report period, as follows:²

ASA Mobile-Fixed Intercept Positions (World-wide)
FY 1954

	<u>30 Sep 1953</u>	<u>31 Dec 1953</u>	<u>31 Mar 1954</u>	<u>30 June 1954</u>
Mobile Intercept (270 Programmed)	215	234	249	263
Fixed Intercept (797 Programmed at start of fy 1954 reduced to 790)	454	530	652	692
Direction Finding (36 Programmed)	25	23	22	18
Total	694	787	923	973

1. Quarterly Summary, ASA Programs, fy 1954.
2. Ibid.

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Automatic to this, was progress in COMINT techniques. Fy 1954 witnessed constructive advances in several fields, as follows:¹

COMINT Processing

The cryptanalytic effort in the Pacific continued in an efficient manner. No problems existed in either the quality or quantity of material processed.²

The major processing effort--traffic analysis--provided excellent intelligence. The cease-fire in Korea brought about a decline in traffic, but this was not regarded as serious. One problem--that of securing and maintaining qualified linguists--remained.³

The improvement of low level voice intercept potential was given special consideration. A close inspection of personnel and facilities disclosed a need for skilled voice technicians. Accordingly, procurement and training were stepped up.⁴ Arrangements were made for an NSA voice team to visit ASA Europe. Following this, a new, improved antenna field was constructed and Russian low level voice transmissions were intercepted with daily continuity.⁵

The delegation of operational control to the 501st Comm Recon Group in Korea and the 502d Comm Recon Group in Germany for intercept assignments, analysis, reporting, and COMINT production of all traffic intercepted by subordinate units under their control, was a major development during fy 1954. This resulted in immediate increase in more effective and more timely COMINT support of Army ground force commanders in both theaters.⁶

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1. Qtrly Rept, ASA Programs, 3d Qtr, fy 1954, p33.
 2. Ibid. 1st Qtr, fy 1954, p26.
 3. Ibid. 1st Qtr, fy 1954, p26.
 4. Ibid. 2d Qtr, fy 1954, p34.
 5. Ibid. 4th Qtr, fy 1954, p33.
 6. Ibid. 1st Qtr, fy 1954, p25.

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Finally, the completion of facilities at FS 8603 AAU, Okinawa brought about an immediate expansion of intercept coverage. Results were excellent.¹ In Alaska, intercept activity by the 333d Comm Recon Co. at Fort Richardson was discontinued as results were unproductive and were being duplicated elsewhere.²

[redacted]
COMINT produced by [redacted] facilities within ASA Pacific increased during fy 1954 providing consumers with timely, comprehensive intelligence of value to UN commanders in Korea.³ Similar activity in Europe was expanded; additional NSA-trained personnel and new equipment were secured; and considerable improvement in processing and publications was noted as fy 1954 ended. Effective 1 May 1954, NSA delegated ASA Europe operational control on all timely reporting aspects of [redacted].⁴ This division of responsibility placed personnel utilization and management under ASA Europe, while NSA retained technical control and support. The only continuing problem was difficulty in obtaining qualified linguist-analysts.

Concentrated effort was made during the report period to insure continuation of [redacted] following ratification of the Contractual Agreement with West Germany. In addition, an investigation was conducted as to the feasibility of establishing a [redacted].
A special [redacted] area during the opening days of the Geneva Conference, but was quickly abandoned because of political difficulties and the danger of compromise.⁵

1. Qtrly Rept, ASA Programs, 3d Qtr, fy 1954, p34.
2. Ibid. 4th Qtr, fy 1954, p33.
3. Ibid. 2d Qtr, fy 1954, p32.
4. Ibid. 3d Qtr, fy 1954, p35.
5. Ibid. 4th Qtr, fy 1954, p34.

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The effectiveness of all ASA DF nets increased during fy 1954. This was due, in part, to constant study of the effort, and the initiation of corrective action where sub-standard performances were noted.¹ Although operational figures showed a decrease in missions, the number of quality fixes increased.

No significant increases or decreases in DF sites occurred during the year.² However, DF activity was discontinued in Alaska due to the fact that existent positions were unproductive. This eliminated a difficult logistic and administrative liability, and released men and equipment for other duties.³

A new fix evaluation method for use by ASA mobile units in conjunction with the ASA Split "T" plotting method was developed. The COMUS DF cryptosystem- a pencil and paper one-time type code- was issued to all DF units.⁴

A DF orientation program in ASA Europe calling for a reduction of the fixed net by one station, the mobile net by six stations, and general re-deployment along a new base line was completed. These newly-oriented nets were to provide full coverage on all cases at a smaller cost in equipment and manpower.⁵

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..... [redacted]
.....
In general, [redacted] activity produced excellent results throughout the year. Field Stations 8609 (Philippines) and 8610 (Tokyo) were the largest contributors of information. In Europe, FS 8606 (Herze

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1. Qtrly Rept, ASA Programs, 3d Qtr, fy 1954, p32.
 2. Ibid. 1st Qtr, fy 1954, p25.
 3. Ibid. 4th Qtr, fy 1954, p31.
 4. Ibid. 2d Qtr, fy 1954, p31.
 5. Ibid. 3d Qtr, fy 1954, p32.

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Base, Germany) registered a decline in production due to target inactivity.¹ This was adjusted by the installation of DEN-17 equipment which was to be allotted to the Group of Soviet Forces Germany problem to assure better intercept coverage.² Results from an initial [] assignment to FS 8601 (Warrenton, Virginia) were inconclusive at the end of the year.³

Machine Aids

Considerable progress was made in the Machine Aids Program during fy 1954. Operations specialists from Fort Devens, Massachusetts were assigned to ASA Pacific, ASA Europe, and NSA, and by the end of the report period all machine aids units were up to strength.⁴

Thus, the principal accomplishments. These, however, did not complete the picture, for much was recorded by the individual units operating in their assigned areas of influence. The record which follows sets these in their proper perspective affording a view of the results achieved.

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1. Qtrly Rept. ASA Programs, 1st Qtr, fy 1954, p25.
 2. Ibid. 4th Qtr, fy 1954, p32.
 3. Ibid. 1st Qtr, fy 1954, p25.
 4. Ibid. 2d Qtr, fy 1954, p32.

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IV. INDIVIDUAL UNIT OPERATIONS (AREA)

A. Continental United States

1. Field Station 8601 AAU, Warrenton, Virginia

Organization of the Field Operations Branch, FS 8601 remained unchanged throughout fy 1954. Authorized personnel, however, was reduced 15%. On the other hand, overages existed which, at times, exceeded authorization by 50%, and it was necessary to adjust the manual Morse assignment to fit a heavy loss or gain in Morse operators.¹ The Traffic Control & Reports Section, authorized 8 March 1954, assumed responsibility for all matters relative control of the intercept assignment in addition to forwarding intercepted traffic and reports.² Policies and methods governing fulfillment of the COMINT mission were outlined by NSA as in the past.³

Manual Morse

A Services Section, combining Manual Morse, Automatic Morse, Radio Printer and Special Identification Sections, was formed during the report period. In the Morse section, intercept of Morse transmissions continued, effective operations hindered only by constant personnel turnover.⁴ Full cover manual Morse assignment averaged 251 man hours per day.

A total of 56,749 msgs was intercepted during the year. Targets were covered as follows:

(a) General Search: Three positions remained on assignment throughout the year.

..... (b) Military: Two cases remained on assignment throughout the year.

1. Ann. Rept. FS 8601 AAU, fy 1954, p41.

2. Ibid. p43.

3. Ibid. p44.

4. Ibid. p53.

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(c) [redacted] Seventeen cases were on assignment at the beginning of fy 1954. One case was dropped in March 1954.

(d) Venezuelan Guerilla: One case remained on assignment throughout the year.

(e) [redacted] Six cases were assigned at the beginning of the year. One new case was assigned in February 1954.¹

(f) Russian Manual: Seventeen cases were assigned in December 1953. At the close of the report period, all but one had been dropped.

(g) [redacted] Four cases were on assignment at the beginning of the year. Seven cases were assigned in December 1953, one was dropped in January 1954, and three in April 1954. Seven remained assigned at the end of the report period.

(h) [redacted] Two cases were assigned in March 1954, dropped in May 1954, and replaced by one other case and a search assignment.

(i) South Central American: One search position remained on assignment throughout the year.

(j) [redacted] One case remained assigned until April 1954.²

(k) Other target countries on assignment for short periods were: Cuba, Colombia, Guatemala, Poland, and [redacted]

Automatic Morse



1. Ann Rept, FS 8601 AAU, fy 1953, p53.
2. Ibid. p46.

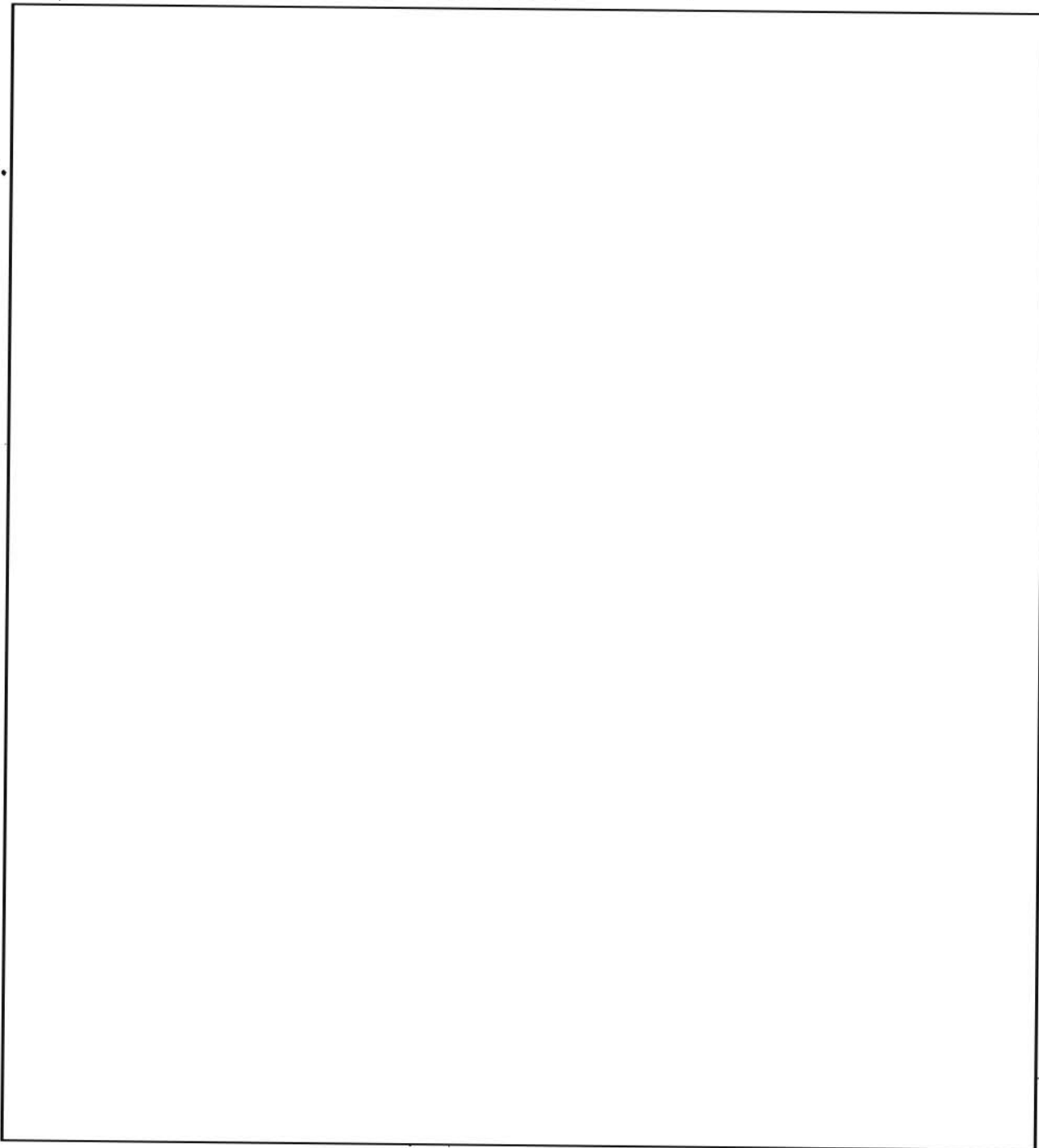
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Non Morse

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1. Ann. Rept. FS 8601 AAU, fy 1954, p47.
2. Ibid. p49.

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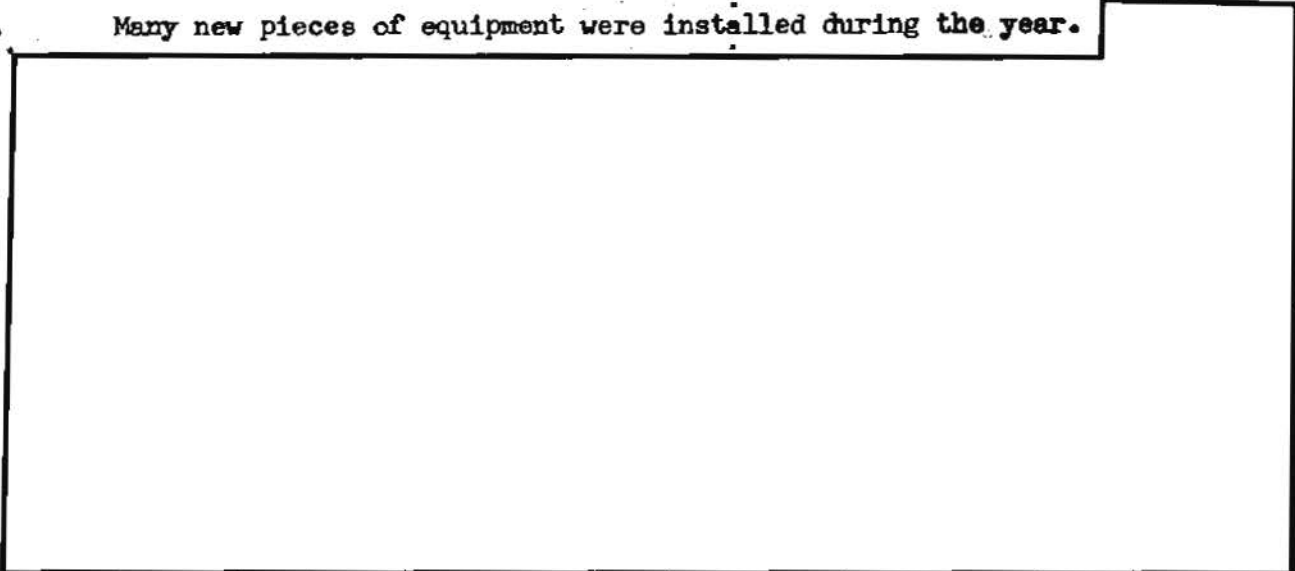
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In the Radio Printer Section, average assigned strength was [redacted] men. [redacted] enlisted men from the ASA non-Morse School, Fort Devens were assigned during the report period, and a special training program was conducted to qualify them as efficient non-Morse operators. Four enlisted men were sent to NSA for six weeks training in operation of the DEN-17 RFP unit. Two groups were sent to Cheltenham, Maryland for instruction in Signal analysis.¹

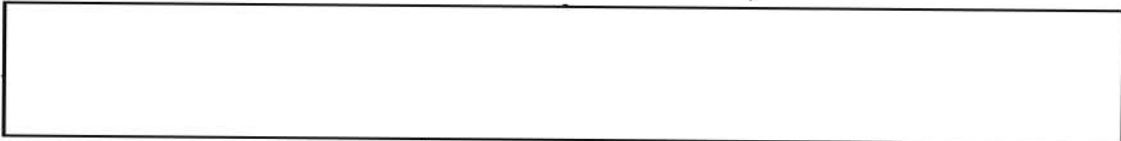
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Many new pieces of equipment were installed during the year. [redacted]



Highlights of mission coverage by the section during the report period were:

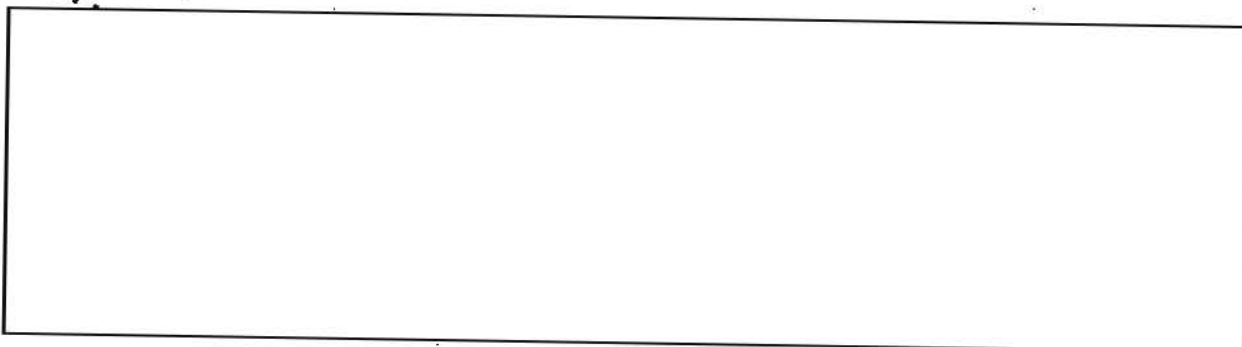
(a) Poor reception of the multiplex intercept assigned during first three quarters of the fiscal year. This was due to difficulty in hearing the desired targets. Reception improved by about 50% during the last quarter.



1. Ann. Rept. FS 8601 AAU, fy 1954, p53.
2. Ibid. p55.

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Special Missions

In order to determine the potentialities and capabilities of the station, Hq ASA directed that an extensive general search assignment be conducted. This was in addition to the NSA assigned mission and began 21 July 1953, and lasted approximately 90 days. At the beginning of the mission, assigned frequency range covered 4 to 16 mcs. Three Morse operators were utilized and each operator covered 4 mcs, (4-8, 8-12 and 12-16) with no frequency overlap between positions. Antennas were changed frequently and operators spent an hour and a half on each megacycle. "A" field antennas were used for the first week of monitoring. Emphasis was placed on European transmitters both manual and automatic.

A sample of all Morse signals was copied until call signs were transmitted or the traffic was identified. Morse automatic signals were transcribed on chatter rolls at the time transmitters were identified. A special operators' log sheet was maintained at each position.² When the log sheet was completely filled, the chatter roll was attached and a new log sheet started. All chatter rolls and log sheets for each position were kept in chronological order throughout the day. A maximum of fifteen minutes was spent on an unidentified link when only chatter was passed. On 29 July 1953,

1. Ann. Rept. FS 8601 AAU, fy 1954, p54.
2. Ibid. p48.

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the frequency range was changed to 4-14 mcs with the three positions covering 4-7, 7-10, and 10-14 mcs respectively. A list of desirable items was placed at each position thus establishing a controlled search. The operator made an entry every fifteen minutes indicating frequencies and cases he searched for. If it was necessary to copy a station to identify it, the station was logged. Known US, Canadian, British or stations were not copied. The selection of antennas was left to the operators. All traffic and logs were forwarded by daily courier to Hq, ASA.¹

2. Field Station 8602 AAU, Petaluma, California

REF: VOL. 2 P. 63

Throughout fy 1954 The Operations Division, FS 8602, consisting of sections devoted to manual Morse, automatic Morse, Tape Scanning, and Traffic Analysis, remained under operational control of NSA. Authorized strength under TD 93-8602 (5 April 1954) was most of which was provided by the ASA Training Center and ASA overseas commands. On-the-job training, ranging from 3 to 10 weeks, was conducted for all arrivals to assure qualification in their assigned MOS.²

In the manual Morse Section, actual strength varied between a low of and high of operators. Of 21 receiving positions, between 8 and 21 were continually manned. Intercepted msgs varied between a low of and a high of per month.

The assigned mission of the section consisted of Russian target transmitters located principally in the Far Eastern Military District of Russia.³ Circuits assigned included Russian military, military air, civil air, long

1. Ann. Rept. FS 8601 AAU, fy 1954, p49.
2. Ann. Rept. FS 8602 AAU, fy 1954, pl7.
3. Ibid. pl8.

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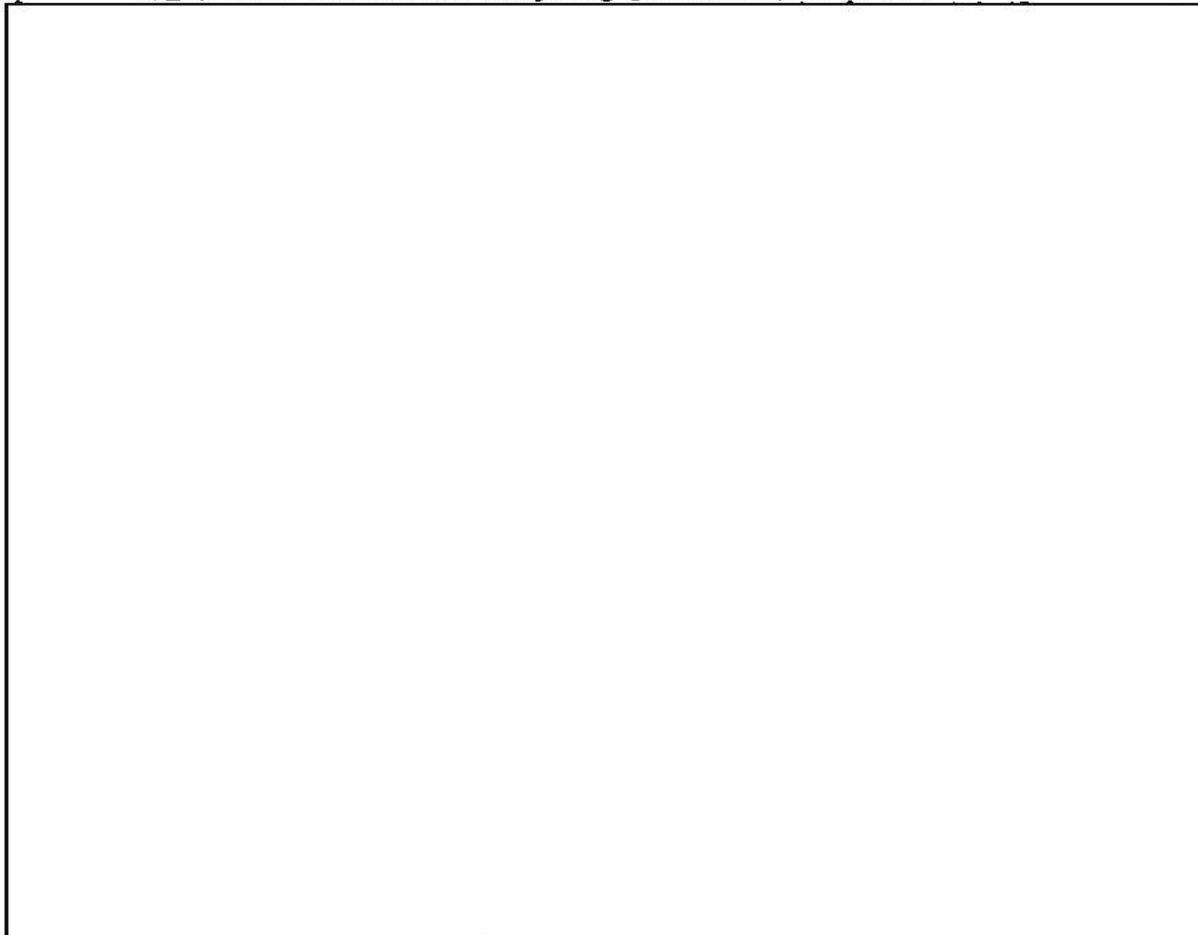
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range air, air defense, border police, COMINT, diplomatic, weather, and Chinese weather nets. Highlights of mission accomplishment follow:

Russian Military Air

This assignment was given extensive coverage during the report period. At the outset of the fiscal year, four circuits were carried as sampling position rotating coverage.

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Russian Air Defense

Coverage of Russian Air Defense network in the Far East consisted of six circuits. Of this number, two nets were carried on the mission as full coverage and the remaining four as alternate targets. Full coverage was

1. Ann. Rept. FS 8602 AAU, fy 1954, p28.

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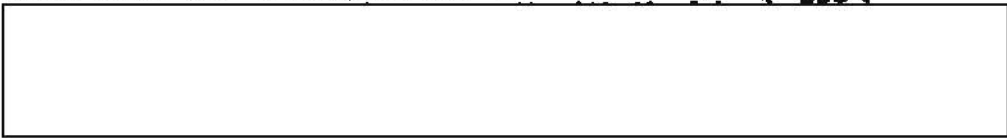
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Russian Long Range Air

These circuits were carried on alternate coverage throughout the year. Intercept was extremely sparse netting an average of seven msgs per month. Attempts were made to establish frequency rotas for the more regularly intercepted nets, but lack of continuity severely hampered these efforts. Extensive use of a frequency and schedule



1. Ann. Rept. FS 8602 AAU, fy 1954, p29.
2. Ibid. p30.

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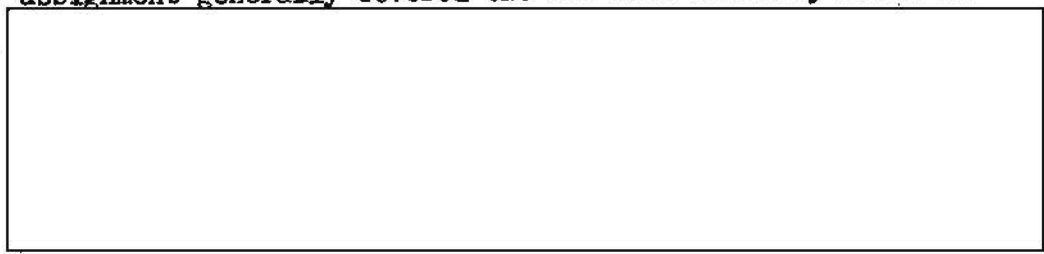
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Russian Military

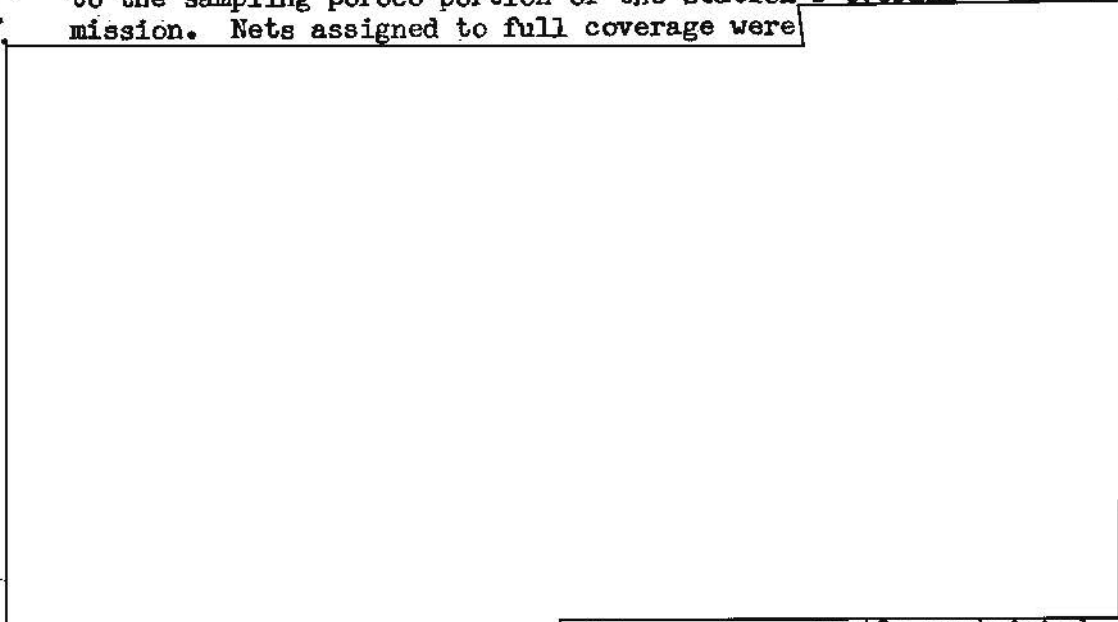
At the beginning of the report period, this assignment was a relatively large part of the station's mission. The assignment generally covered the Far East Military District

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Russian Border Police

At the outset of fy 1954, the mission consisted of two full coverage nets and a group of nets which were assigned to the sampling poroco portion of the station's overall mission. Nets assigned to full coverage were



Intercept was partly restricted due to bad intercept conditions on the low band during most of the Russian day.

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1. Ann. Rept. FS 8602 AAU, fy 1954, p31.
2. Ibid. p32.

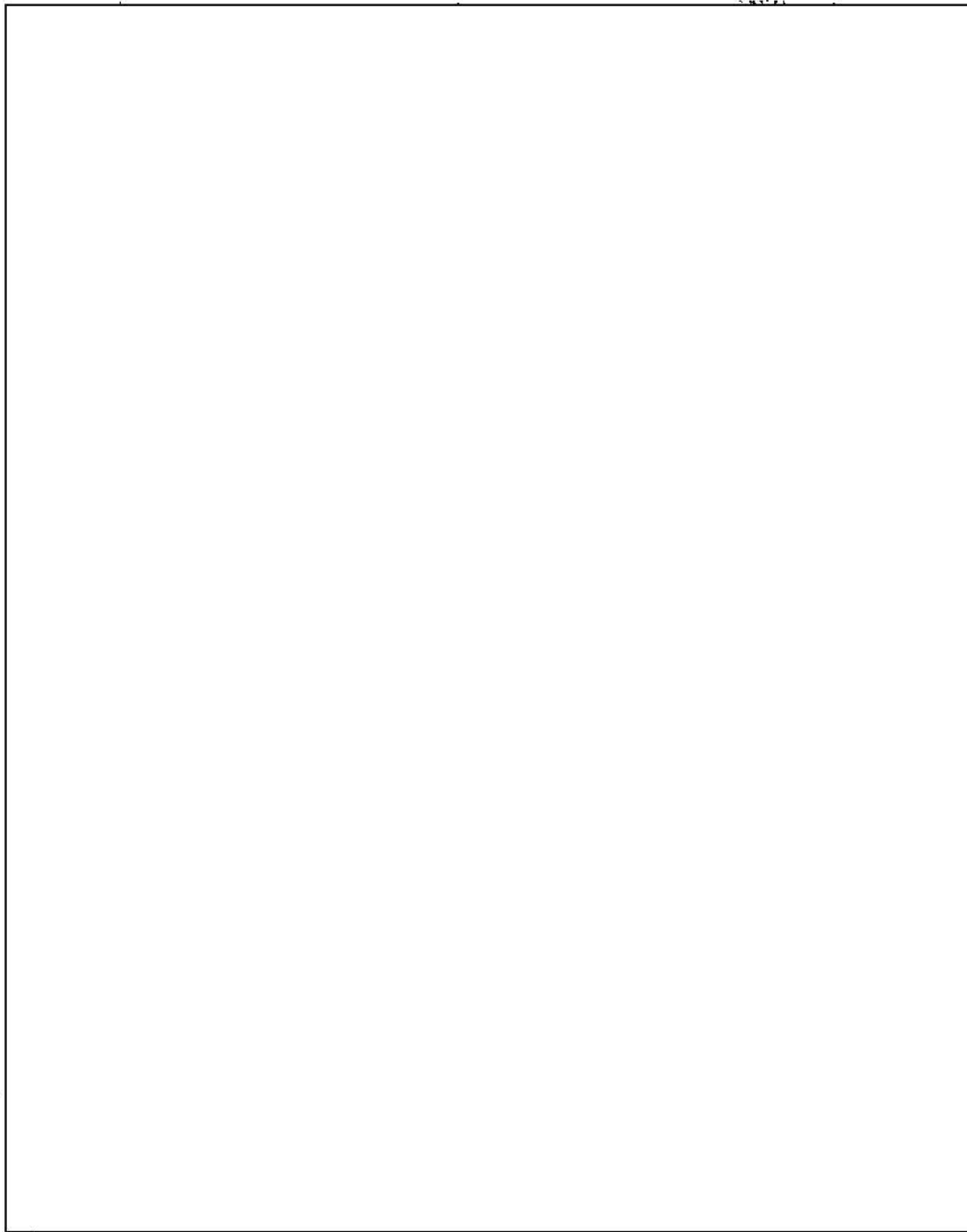
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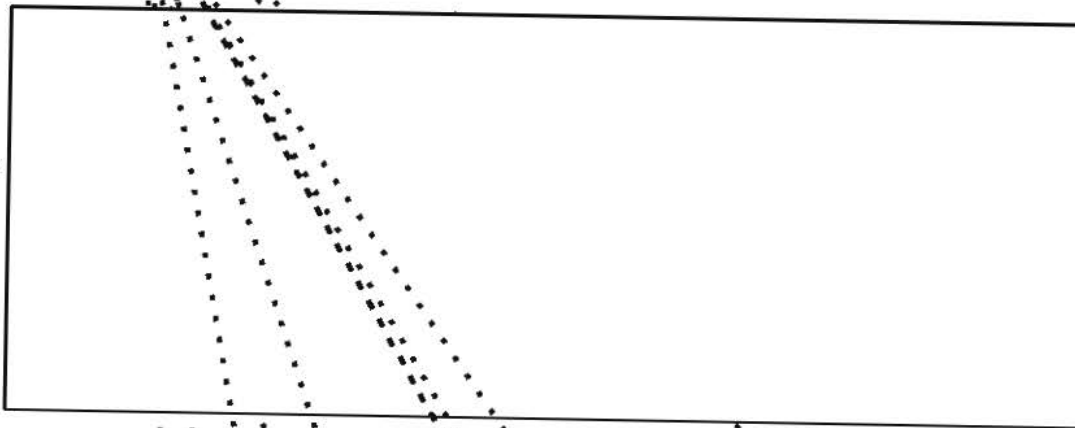
Russian COMINT



1. Ann. Rept. FS 8602 AAU, fy 1954, p33.
2. Ibid. p34.

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The Russian weather assignment during the report period was limited to six cases all of which were assigned between 18-30 June 1954. Of these, the first two cases, [redacted] and [redacted] passed a total of [redacted] msgs between 18-23 June. [redacted] located in the Vladivostok area were assigned from 23-28 June 1954. During this period, a total of [redacted] msgs were passed. Between 27-30 June 1954, [redacted] passed [redacted] msgs.²

To successfully cover the COMINT assignment, close interworking between the manual Morse and Traffic Analysis sections was necessary at all times due to extreme security-conscious procedures inherent in the nets and an almost total lack of chatter found in normal contacts. The ability of many intercept operators to recognize operating characteristics and transmitter sounds of the more frequently copied circuits proved invaluable to traffic analysis.

The station's Automatic Morse Section was authorized [redacted] operators in fy 1954. Actual strength varied from a minimum of [redacted] operators. All authorized equipment was manned and a total of [redacted] msgs were intercepted through [redacted]

1. Ann. Rept. FS 8602 AAU, fy 1954, p35.
2. Ibid. p36.
3. Ibid. p18.

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In the Radio Printer Section, of [] operators authorized, actual strength varied between [] operators during the report period. The section was equipped with [] multiplex (2-6-9), [] two channel, and [] simplex positions. Although all authorized positions were manned, a lack of mission assignment and too few copiable signals on assigned missions resulted in a major portion of the equipment being idle during most of the period.¹

In the Tape Scanners Section, a sub-unit operated by personnel of the Radio Printer and Traffic Analysis Sections, [] msgs were intercepted on multiplex and simplex nets during the report period.²

The Traffic Analysis Section forwarded 11,100 pounds of intercepted material to NSA during the report period. The section also conducted on-the-job training classes for personnel newly arrived from the ASA Training Center in specific techniques employed by nets comprising the Russian Far Eastern Theater of Operations.³ Authorized strength of this section was [] This fluctuated during the fiscal year from a low of [] men in October to a high of [] in April 1954.

REF: VOL. 1 P. 65

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1. Ann. Rept. FS 8602 AAU, fy 1954, p21.
 2. Ibid. p26.
 3. Ibid. p27.

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B. Territories and Possessions

1. Hq ASA Alaska, 8614 AAU, Fort Richardson

Throughout fy 1954, The Operations Section of Hq ASA Alaska continued to process Morse, voice and radio printer traffic to obtain COMINT and technical data essential to accomplishing its mission. Military and Border police circuits, located in the Chukotsk Peninsula area north of 50 degrees latitude and east of 150 degrees east longitude, were the primary targets. Traffic emanated from Fort Richardson, Nome, and Gambell, St Lawrence Island. Technical summaries, essential to continuity and traffic identification were from Wildwood Station, Kenai and Hokkaido, Japan.

Three sections -- traffic analysis, cryptanalysis, and translation -- constituted the operational framework during the report period. COMINT information was published in spot reports and forwarded to US Army Alaska, Strategic Air Command, Air Defense Command, ASA, NSA and NSA Alaska. Information of technical value was compiled into periodic reports and forwarded to ASA and NSA.¹

In March 1954, a category D position was allocated Detachment F, Gambell for use in research and development directed toward the interception of low level military nets in the [] area. From unidentified traffic, a total of six new temporary cases was developed. While most of these produced little COMINT, a considerable number of interesting leads were scrutinized in an effort to produce positive intelligence. Several important personalities were tentatively linked with names mentioned in other sources such as radio printer, []² A number of studies was made by the sec-

1. Comd Rept, Hq ASA Alaska, 8614 AAU, fy 1954, p15.

2. Ibid. p16.

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tions to produce positive intelligence during the report period, and coordination of reports was effected through activation of a Reports Control Section on 11 July 1954.

The Traffic Analysis Section consisted of [] EM assigned to 8614 AAU and [] assigned to the 333d CRC. Three of the men were assigned to the task of plotting and evaluating DF bearings.

Many improvements in DF operations occurred during the year. Except for three months, February, March, and April 1954, increases were noted not only in quantity, but in quality. Improved features included tip-offs, valid flashes, bearings, fixes (search and mission cases), and assigned mission bearings. Bearing volume by station was: Gambell-11,179, Wales-6,797, and Point Hope-6,435. A daily average of 69.5 flashes was reported with an average of .15 tip-offs per day originating from the three sites. Of these, 2,160 (6.1 per day), resulted in "three bearing responses" (potential fixes), and of this total, 399 (1.1 per day) produced valid fixes. Accuracy studies were completed on the three stations during the report period.¹ Results follow:

<u>Station</u>	<u>Systematic Errors</u>	<u>Standard Deviations</u>
Gambell	3.3	± 4.9
Wales	3.7	± 5.5
Point Hope	4.2	± 6.3

In June 1954, the ASA Alaska DF net was deactivated per instruction of Hq-ASA.

At the start of fy 1954, the Cryptanalysis Section was composed of

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At the close of

1. Comd Rept, Hq ASA Alaska, 8614 AAU, fy 1954, pl7.

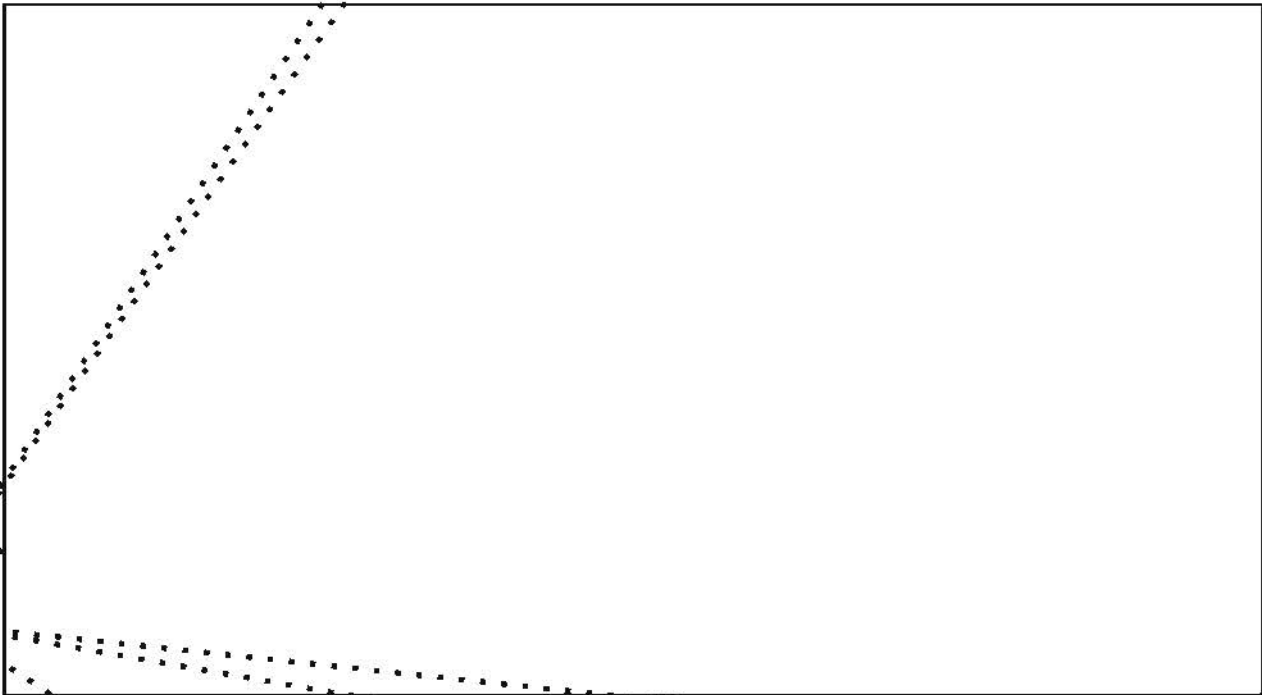
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the report period, [redacted] from the 333d CRC). Rotation of two-thirds of the section in the first quarter necessitated re-shuffling uninterrupted performance of the mission, which was to identify, [redacted] messages in cryptosystems employed by low [redacted] area.



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The Translation Section had an assigned strength of [redacted] from 8614 AAU, [redacted] from the 333d CRC). Voice recordings from [redacted] voice position at Gambell were transcribed and translated, and radio printer traffic from 8607 AAU at Fairbanks, later Kenai, was scanned for possible intelligence.

In August 1953, a voice intercept school was organized at the 333d CRC to train voice personnel for LLVI. Later in the month, NSA assigned missions to [redacted] positions at Fort Richardson. Tapes recorded at the site were initially transcribed by the section, but later two advance exploitation units

1. Comd Rept, Hq ASA Alaska, fy 1954, p18.

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were trained to transcribe.¹ Some tapes from the site however, were transcribed by the section to eliminate backlog.

In January 1954, one transcriber was included in a team sent to Shemya Island to survey that location for the amount and quality of intercept that could be obtained. A voice search position produced excellent coverage of Border Guard voice nets (South), and new air link inter-workings were discovered. To transcribe the tapes recorded at Shemya, one additional transcriber from the 333d CRC was placed on TDY in the section. Because of the additional workload caused by the Shemya project, and continued by the addition of one voice position at Gambell in May 1954, the section utilized three transcribers and one scanner the remainder of the year. Transcription of all military tapes from Kenai for possible intelligence was carried out also.

The section was also instrumental in discovering and developing [] a case concerning Russian Naval [] which took place in the [] area. This exercise began in January and continued through June, with the greater part of the [] taking place in April.

At the close of the report period another discovery believed to have been Russian [] exercises was intercepted at Fort Richardson and developed by the section.²

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1. Comd Rept, Hq ASA Alaska, fy 1954, p19.
2. Comd Rept, Hq ASA Alaska, 8614 AAU, fy 1956, p20.

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2. 333d Communications Reconnaissance Company, Fort Richardson

Throughout fy 1954, operations of the 333d CRC were conducted at the following locations:¹

Fort Richardson	-	Hq 333d
Nome	-	Det E
Gambell	-	Det F
Tin City-Wales	-	Det A
Point Hope (Tigara)		Det B

In general, most COMINT missions were carried out at Fort Richardson, Nome, and Gambell. Radio direction finding was centered at Gambell, Tin City, Wales, and Point Hope. Company personnel at Fort Richardson were organized as mobile unit in support of USARAL, and carried out routine Morse intercept missions until 25 June 1954 at which time they were discontinued and personnel placed in training status. At Nome, a routine COMINT mission was conducted throughout the report period. The most productive intercept site was Gambell, but its location thirty miles from the rough Siberian Coast was a delaying factor in getting raw traffic to Fort Richardson for analysis.²

DF activities, on the other hand, produced poor results, principally because of faulty communications and poor location of DF sites. With net control located at Nome and DF stations at Gambell, Wales, and Point Hope all of which were close to or above the Arctic Circle, frequent ionospheric disturbances occurred which disrupted communications for hours, and at times for days. The flash bearing assignment system was used at Nome, but due to the poor propagation characteristics between Nome and the collector stations, the flash assignment was often not heard by one or more of the out-stations,

1. Ann. Rept. 333d CRC, fy 1954, p3.
2. Ibid. pl4.

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thus making it impossible to obtain fixes on targets. Upon recommendation of an official team from Hq ASA, the DF mission was deleted from the overall mission of the company on 13 June 1954.¹

In voice intercept, a requirement for low level voice in support of the Western Hemisphere Reserve was placed on the company during fy 1953. As a result, a large influx of personnel was experienced which necessitated the installation of operational facilities. An NSA mission was assigned which included translation of tape intercepts.

Most intercept during the report period was confined to point-to-point radio-telephone contacts. Little non-commercial activity was heard, and routine operations continued until operations ceased. Routine voice intercept operations were carried out at Gambell throughout the report period.

In non-Morse intercept, radio-telephone intercept was installed at Nome in January 1954. A search mission was assigned which remained unchanged at the close of the report period.²

REF: VOL I P. 77

1. Ann. Rept. 333d CRC, fy 1954, p15.
2. Ibid. p16.

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3. Field Station 8607 AAU, Fairbanks and Kenai, Alaska

At the beginning of fy 1954, the operational mission of FS 8607 AAU consisted of manual interception of Russian military, Russian police and German [] circuits; automatic interception of Russian internal commercial circuits; with the utilization of special equipment, the interception of frequency shift, double frequency shift, and single channel radio teletype signals from designated locations in the USSR. The general assignment remained relatively static until completion of the move to the new operational site at Kenai. Minor changes, instigated by NSA for operational reasons, were made from time to time without changing any major considerations.

Alternate target circuits were assigned the station during periods when the primary mission was inaudible for any reason. Mission coverage levels during the report period remained virtually the same as during preceding years, with the same limiting factors prohibiting increase in either quantity or quality of intercept.¹ Some of these previously noted limitations included high noise level attributable to the multiplicity of transmitters within a relatively short distance, frequent ionospheric and magnetic disturbances, power and frequency fluctuations from the commercial source, and frequent periods of precipitation static. Intercept facilities at Fairbanks were limited also because of allowable space.

The transmissions of administrative and operational traffic to NSA continued by ASAM 2-1 off-line transmission to Fairbanks, at which point it was introduced in the Army Command and Administrative Net (ACAN). Operational and administrative traffic mean to NSA was transmitted on land-

1. Ann Rept, FS 8607 AAU, fy 1954, p35.

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line circuit to the 3d Radio Squadron Mobile at Elmendorf Air Force Base, Anchorage.

Throughout the report period, the task of maintaining complete coverage of the mission to include shifting the mission from Fairbanks to Kenai, transmission of raw traffic and required reports, and a shift in location of communications center functions was assigned the station's Operations Section. The maintenance of a balanced intercept team at Fairbanks while a complete team was making the move, became a primary consideration. The section also assisted in the selection of equipment which could be shipped to Kenai to implement the simultaneous drop and pick-up of the mission at respective locations.

The first operational group, consisting of [] arrived at Kenai Airport 15 December 1953.¹ A second group of operational personnel arrived in Kenai on 17 December. Following this, a communications center was established using a duplicate of facilities used at Fairbanks.

With the initiation of operations at Wildwood Station, (initially Seward Station) the Manual Morse Intercept Section consisted of [] manning seven positions and one trick chief's position. The assignment was primarily Russian Air and Russian Military circuits. At the end of the report period, the section numbered [] who manned [] intercept positions on a 24-hour per day basis. As additional positions became productive, the man hours of coverage increased proportionately.² On 30 June, there were [] man hours per day assigned, composed of Russian air, military, naval, COMINT, civil air, and German [] target cases,

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1. Ann. Rept. FS 8607 AAU, fy 1954, p37.
2. Ibid. p38.

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with emphasis on Russian air, military and Navy. Actual productivity increased to a total intercepted group count of [] weekly.

The Automatic Morse Section of FS 8607 AAU was not in existence at the time of the move from Fairbanks, but was organized completely at Wildwood Station. On 24 March 1954, [] ASATC graduates comprised the section. Equipment and facilities consisted of four dual diversity on-off keying receiving positions. The initial assignment was almost wholly the Morse side of frequency shift keying links assigned to the non-Morse section. From time of inception until the end of the report period, personnel increased to a total of []. Receiving positions were augmented by [] additional frequency shift keying intercept positions and one transcribing position. At the close of the report period, the assignment totaled fifty-three links with an average of 120 man hours used per day in covering the mission.

Operational effort in non-Morse intercept was started at Wildwood Station with 1 ASAN 13, 4 Simplex, 3 DEN-24, 4 DEN-35, and one trick chiefs position.¹ [] operators were assigned. The mission was Russian military, commercial air internal, and a search mission on Russian Service Printer. A gradual build-up of equipment followed until the end of the report period at which time equipment consisted of 1 trick chief's position, 4 DEN-35's, 2 ASAN-13's, 3 DEN-24's, 9 Simplex positions (6-1TPA 3-1TPD), 2 ASAH8, and 1AX9 page facsimile. Final component parts for DEN 17-2 equipment arrived and were installed in May, 1954.

When this equipment became operative, a Special Identification Section was formed using an experienced non-Morse NCOIC and [] intercept operators,

1. Ann. Rept. FS 8607 AAU, fy 1954, p39.

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who were partially replaced by manual Morse operators. In addition, [] traffic analysts trained in radio fingerprinting were added. The initial mission consisted of selected Russian Military, Naval, air, and police circuits. As personnel gained experience and maintenance became more effective, the number of shots taken rose from less than five per week to an average of twenty-five. On 30 June, the non-Morse assignment consisted of one police, ten military cases, and Russian service search. The simplex mission consisted of [] circuits, an [] search mission, and [] search. Strength of the non-Morse section was [] operators. The Special Identification Section had [] personnel assigned.¹

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In January, a Voice Intercept Section was formed, employing [] trained operators. One receiving position was designated as voice intercept, and two RD/74U recorders were installed. Intercept of Russian military, police, and civil air was originally directed. The mission at the close of the fiscal year consisted of Russian civil air search, manual air search, and military air circuits. During the latter part of May 1954, voice intercept operators were replaced with Russian language translators.

The Traffic Analysis Section became operational at Wildwood Station on 17 December 1953. [] analysts were initially assigned. Primary analysis such as call sign prediction, case identification, preparation of coverage reports, and posting TEXTA information was performed and,² by the end of the year, personnel had been increased to [] and radio printer analysis on a small scale initiated.³

REF: VOL. I P. 74

1. Ann. Rept. FS 8607 AAU, fy 1954, p40.
2. Ibid. p41.
3. Ibid. p42.

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4. Field Station 8605 AAU, Helemano, TH

Throughout fy 1954, the mission of FS 8605 consisted of the interception of foreign communications, direction finding, special identification, submission of raw material and technical reports, and the performance of ancillary tasks required to support the overall COMINT effort. On 3 March 1954, the section of the station's mission relative direction finding was cancelled.¹

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Operational personnel of 1 July 1953, totaled A gradual increase brought assigned strength up to on 30 June 1954. The station operated on a rotating trick basis with personnel working regular days and four individual tricks.²

Operations during the year were conducted in sections concerned with traffic control and reports, Morse and radio printer. In the first, traffic analysis for local intercept control was performed, intercepted raw material was processed, and other NSA-directed duties performed.³ Principal accomplishments were improvements in the method of reporting Morse traffic analysis and radio printer traffic. Another development was decentralization of intercept control which resulted in the regrouping of the Morse and radio printer assignments to provide individual station control over the mission.⁴

In the Manual Morse Section, the assignment consisted exclusively of Russian circuits, all of which employed manually keyed transmissions. At the beginning of the report period, coverage consisted of nineteen Far East military cases; two Moscow-controlled military cases; three air defense

1. Ann. Rept. FS 8605 AAU, fy 1954, p27.
2. Ibid. p28.
3. Ibid. p29.
4. Ibid. p30.

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cases; and four civil air cases. [] positions were utilized, and a minimum of 192 man hours per day was required.¹ At the close of the report period coverage included fourteen Far East military cases; eight Moscow-controlled cases; two maritime district military cases; one military COMINT case; one air defense-air situation case; fourteen air defense cases; and six civil air cases. [] positions were utilized and a minimum of 360 man hours per day were required to cover the mission effectively.

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A total of [] msgs were intercepted during the report period. This represented a 2% decrease below that of the previous fiscal year. Traffic and chatter were copied from 23.6 individual circuits during an average day.

At the beginning of the report period, [] operators, were assigned to the section. This figure steadily increased leaving [] operators assigned which represented 77% increase in strength for the year.

Considerable time was given by the section to the study and development of a procedure for more efficient coverage of the Morse assignment. Close liaison was maintained between the Morse and Radio Printer Sections to insure optimum coverage of links common to both.² During the report period, 1,078 radio printer references were noted and exploited, the most common being [] In addition, the compilation of all available data relative to frequencies used by Russian cases was continued. Research was productive to the extent that a highly reliable system of rotation was noted, which allowed intercept of many Russian cases on assignment.

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1. Ann. Rept. FS 8605 AAU, fy 1954, p34.
2. Ibid. p35.

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The mission of the Radio Printer Section during the report period was the interception and recording of all types of radio printer transmission. This consisted entirely of Russian service printer and Russian commercial transmissions.

The Russian service printer assignment included single channel, two channel, and frequency shift keying manual Morse transmissions of all services (Army, Navy, Air Force and Police), which were heard at the station. The assignment varied from six assigned cases and all cases parallel to the Morse assignment, plus a search mission at the start of the report period, to twenty-two assigned cases and all cases parallel to the Morse assignment, and a search mission at the close of the year.¹

The Russian commercial assignment consisted of nine targets and one fixed band search mission on low priority. This varied from a high of fourteen assigned targets to a [] search mission and eleven assigned targets at the end of the report period.² On 23 June 1954, an alternate [] assignment consisting of nine targets was added to the radio printer assignment.³ Transmissions intercepted from [] assignments included two channel, four channel, six channel, and nine single channel transmissions, [] single channel transmissions, and automatic Morse transmissions. The majority of the assigned [] targets used double frequency shift keying.

The section continued to perform all [] traffic analysis work. [] identification aids were also continued and approximately 99% of all intercepted [] transmissions were correctly identified.

1. Ann. Rept. FS 8605 AAU, fy 1954, p36.
2. Ibid. p37.
3. Ibid. p39.

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Total Russian [] traffic intercepted consisted of [] perforated tapes, [] pieces of page print, and [] magnetic tape recordings.

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Through Navy cooperation, the station utilized direction finding as an aid in the identification of Russian transmissions. Comparatively few fixes were received, but several single line bearings were provided.

Although long range direction finding was of limited value, the bearings proved helpful in the identification of Russian Service transmissions.¹

Personnel increased from [] during the year.² Major additions of equipment were replacement of seven ASAN-13's with six DEN-24's for copying Russian service two channel transmissions, and the installation of four DEN-35's.³

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The station's voice assignment at the beginning of the report period consisted of [] search carried out under the aegis of the Radio Printer Section. On 1 October 1953, the Morse Section took over the responsibility, and the assignment was changed to [] coverage on a 24-hour basis. On 23 January 1954, this assignment was established as Voice [] and on 25 February [] search was added. On 5 March, it was increased to seven links (both ends) and the search. On 10 April, the assignment was changed to [] coverage with two links (both ends), and an [] search for Russian and Polish conversations only.⁴ Due to poor reception for this type assignment (distance from target), and phasing out of qualified operators, the mission was discontinued on 9 June.⁵

REF: VOL. I P. 84

1. Ann. Rept. FS 8605 AAU, fy 1954, p37.
2. Ibid. p38.
3. Ibid. p39.
4. Ibid. p33.
5. Ibid. p32.

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C. Pacific

1. Japan

a. Hq, ASA Pacific, 8621 AAU, Tokyo

Throughout fy 1954, the mission of the Operations Division, ASA Pacific, was the supervision of technical operations to provide cryptologic support to the Far East Command (FECOM) and Army Forces Far East (AFFE). This included direction of cryptologic activity of all ASA units in the Pacific as well as pertinent branches (Intelligence, Security and Communications) within the headquarters at Tokyo.

In general, planning for cryptologic organization in the ultimate Republic of Korea (ROK) Army continued to be guided by existing policy that no independent COMINT activities would be operated by the ROK Army as long as ASA troops were deployed in support of the Korean theater.¹ Planning that COMSEC assistance could be given to the ROK Army was implemented with the activation of two ROKA Radio Security Companies during the latter part of the report period.

With the close of the active combat phase of the Korean conflict in July 1953, plans were also made for deployment of major US combat forces from Korea. To insure concurrent planning for this deployment, policy was announced by ASA Pacific to the effect that certain COMINT units and limited security activities in support of residual US Forces in Korea would be retained. Remaining ASA units were scheduled to be phased out.

When the US X Corps Group stopped its command functions and served as

1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p43.

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a military advisory group to the First ROK Field Army, one Hq & Hq Det of a Comm Recon Bn became surplus to the requirements of Korea. Because of the possibility that this unit might be required in Indo-China, it was retained in Korea at cadre strength on a 72-hour readiness basis. In turn, the withdrawal of two US Divisions from Korea decreased the COMSEC support requirements and therefore proposal was made to Hq ASA to deactivate or reduce to zero strength the 351st CRC (Scty), but this was not favorably considered.

Other developments of interest included an increased emphasis on proper utilization of school-trained operators with resultant increase in the number of manned positions with a very nominal increase in personnel; conversion of the ASA Pacific communications network to on-line operation utilizing a synchronous mixer (SSM-4); and discussion with the [] government in Okinawa concerning establishment of a [] radio direction finding site in the vicinity of FS 8603 AAU on Okinawa.¹

Determination on the latter development was that the facilities required by the [] would cost \$50,000. At the end of the report period, reimbursement or funding for the expense was under discussion, the outcome of which would result in scheduling the site for construction.²

In the Intelligence Branch, the cessation of hostilities brought about a gradual shift in emphasis in operations. As the intelligence content and volume of [] material decreased, more and more stress was placed upon traffic analysis. With the growing importance of Chinese and Russian T/A projects, it was considered more efficient to decentralize OB and intelligence report writing personnel to a nationality section. Under this arrange-

1. SAR Hq ASA Pacific, 8621 AAU, fy 1954, p44.
2. Ibid. p45.

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ment report writers and intelligence analysts were co-located with case analysts and raw material. On 19 May 1954, the branch was reorganized into an administrative section and three nationality sections: Chinese, Korean and Russian.¹

Although the branch commenced fy 1954 with a Viet Minh Section, the world-wide scarcity of Annamese linguists and the inherent difficulty of the language made it advisable to centralize Viet Minh processing in Washington.² In August 1953, after discussions between NSA, ASA and ASA Pacific, the section was closed and all linguists returned to NSA. Traffic analysis personnel were assigned to FS 8609 AAU, and the balance absorbed within the Chinese, Korean, Russian, and administrative sections of the branch.

Under the reorganization, the Administrative Section assumed responsibility for all functions common to intercept, reports and personnel control, machine aids, direction finding and photography.³ Assigned personnel at the end of the report period was .⁴

Throughout the report period, intercept assignments were made directly to the field stations (8603, 8609, 8610 and 8612) and to the 327th CRC by NSA. Mobile stations in Korea (326th, 329th, and 330th CRC's), with the prime mission of supporting Eighth Army, received their mission assignments from the 501st CRC.⁵

As of 30 June 1953, a total of assigned personnel operated manual Morse positions. On 30 May 1954, assigned personnel operated manual Morse positions. Through more efficient assignment and utilization

1. SAR Hq ASA Pacific, 8621 AAU, fy 1954, p46.
2. Ibid. p47.
3. Ann. Rept. Hq ASA Pacific, 8621 AAU, fy 1954, p46.
4. Ibid. p47.
5. Ibid. p48.

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tion of operators, an increase of 82% in manual Morse positions was made possible while increasing manual Morse personnel only 25%.

Chinese Communist Section

At the start of fy 1954, the entire Chinese Processing Section, encompassing administration, cryptanalysis, research, language, and traffic analysis, consisted of [REDACTED]. By the end of the report period the section, including an integrated OB sub-section, consisted of [REDACTED].

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The cessation of hostilities in Korea made possible a reduction in the amount of personnel needed to process voice Morse material. At the same time, plans for the assumption of complete responsibility for the People's Volunteer Army (PVA) traffic analysis problem necessitated expansion in the Traffic Analysis Sub-Section from [REDACTED]

Throughout the report period, traffic analysts processed material derived from intercept of four problems, namely: People's Volunteer Army (North Korean and Manchuria intercept), Third Field Army (East China intercept), North China, and Voice Morse (North Korea Intercept). The PVA problem attained the status of a major problem during the report period. A resume of progress follows:

1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p59.

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At the beginning of fy 1954, the PVA problem was being exploited by [] analysts. At the time, a complete duplication of effort of the 501st CRG and NSA existed. Because of the limited number of analysts assigned, the development of unknown calls and any long term research was extremely difficult.

In early December 1953, NSA proposed decentralization of the Chinese Communist problem with subsequent assumption of complete responsibility of PVA analysis by ASA Pacific.¹

With establishment of machine aids processing, all PVA traffic was handled on a current basis. Skeletonized intercept was received on a round-the-clock basis. With the introduction of the daily technical summary (TECSUM), [] material continued to be teletyped in skeletonized form while notated cases were reported in the TECSUM. Machine aids processing made possible the exploitation of newly identified PVA calls through intercept assignments within call sign periods. [] traffic was stressed, particularly since the mission was primarily development of unknown nets and long-term research.²

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In general, section accomplishment prior to 27 July 1953 could be classified as largely tactical, as a close watch on the location of all Chinese Communist Forces (CCF) Armies in North Korea was maintained. Following the cease-fire on 27 July 1953, the movements and locations of armies continued to be of the deepest interest to all intelligence consumers. With decreased activity on other problems, notably voice Morse, PVA traffic analysis became the main source of COMINT concerning the CCF in North Korea.³

Intercept positions were assigned according to the relative value of the intelligence missions requiring such positions. At the beginning of the report period, all PVA traffic was intercepted on [] positions.⁴ This was gradually increased to a total of [] thus resulting in the processing of more intercept. In addition, new identifications through both COMINT and collateral sources, development of unknown nets, and an increased number of available analysts were combined to produce a much more complete analysis effort on the PVA problem than was formerly possible.

1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p63.60
2. Ibid. p61.
3. Ibid. p62.
4. Ibid. p63.

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T/A contributions during the report period consisted of geographical locations of armies and branch units by weekly report, identification of divisions, information as to movements of Chinese armies and branch units in North Korea, and any unusual contacts or lack of contacts. Before the truce, twenty armies were located and identified in North Korea through COMINT. Since that time, nine of these armies departed. Major moves occurred among almost all army and branch units entities. In at least two instances, a "6th Branch Unit" was mentioned by station designator on isolated links, but no such unit was identified. In the latter part of the report period, stations were identified serving as Chinese Liaison attached to the 1st, 5th, and 7th North Korean Corps.¹

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Third Field Army

OB information collected through research by NSA played an important part in the development of the Third Field Army problem. During the report period the number of identified cases rose from 16 notated in June 1953 to 41 notated in June 1954. Call signs did not increase in the same proportion because many permanent cases were renotated from former temporary cases.

Chinese Morse intercept positions were increased from [] in July 1953 to [] in late May 1954. Of these, the Third Field Army utilized [] positions in July 1953, and [] positions, including 2 search and development, in May 1954. This increased intercept resulted in a corresponding amount of added processing. Machine aid message logs, instituted in May 1953, continued in use. TECSUM reporting was initiated on 17 July 1953.²

Exploitation of the North China problem was initiated in May 1953 under the supervision of the Third Field Army Subsection. Primary mission was to expedite development of Peking mainline military links. Traffic was intercepted on a search and development basis. In June 1953, two additional search and development positions were assigned. Concurrently, NSA directed that the project be discontinued in favor of a mission of higher priority.

In October 1953, a special search and development project was added. Its mission was to develop all military links in North China not exhibiting characteristics of the Third Field Army or PVA. Nets in this area which evidently were associated with PVA, but which did not generate in accordance with PVA's call sign tables, were included. During November, the project was successful in discovering and exploiting the [] Complex

1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p64.
2. Ibid. p64.

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(at Antung) which was tentatively identified as part of the net serving anti-aircraft units throughout North China. Other North China nets such as the [] complex in Peking and the [] Complex in Mukdeh were further exploited.¹

The voice Morse problem deteriorated rapidly following the ceasefire.

[] was retained on the problem, whose task was routine processing of the six or seven remaining active nets. At the beginning of

the report period voice Morse was intercepted on [] positions. In June,

1954, this had declined to [] A voice Morse development mission was

initiated in April 1954. Only [] positions were assigned as intercept

volume was relatively small. Traffic analysis produced no tangible results,

except for the isolation of three nets presumed to be Communist Forces on

the Chinese mainland. No identification or location was made. The Crypt-

analysis Research Sub-section was composed of [] and

[] at the start of the fy 1954. At the end of the report period, assign-

ed strength was [] Immediately before the sign-

ing of the armistice, monthly traffic volume in readable systems hovered

near the [] mark. In August, only [] were

received as compared with [] during the previous month.² This was a

decrease of over 70%. Since traffic volume normally varied in direct pro-

portion to the intensity of activity of units passing the traffic, the

decrease of traffic volume in August 1953 and subsequent months reflected

very accurately the lull in activity during the post-armistice era.³

Of the more than [] active during June 1953, all but two had become inactive. One of these was a plain [] system, includ-

1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, 65.

2. Ibid. p66.

3. Ibid. p67.

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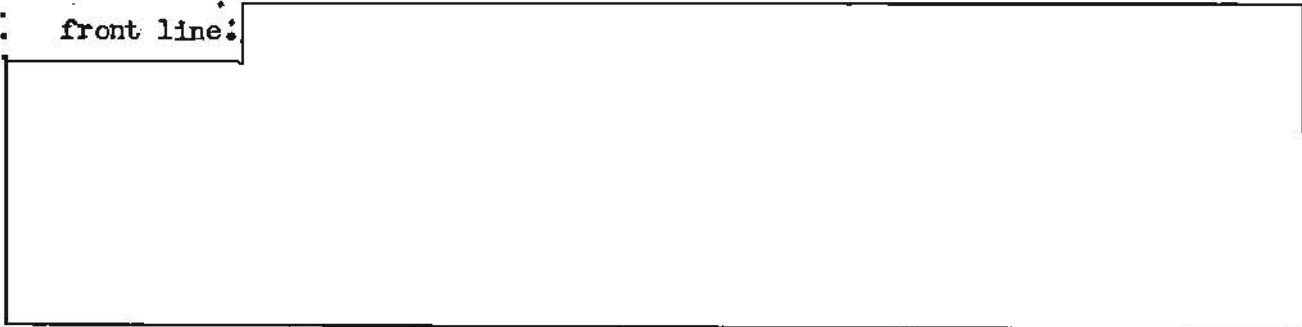
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ing [] as well as the commercial traffic found on [] nets, the other [] plain text spoken in the clear.

The sub-section capitalized on this period of comparative lull to engage in various forms of research which heretofore had been suspended for more pressing demands. Several technical aids were compiled, and others were in stages of completion. A dictionary of compounds found frequently in military traffic was compiled and several tape recordings, suitable for training voice operators were made.

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In early June 1953, the CCF in Korea began to increase their offensive efforts with a series of limited objective attacks along the front. During this period, the CCF had 19 non-organic artillery regiments present on the front line:



The following is a brief summary of the part that each of these units played in the attacks, and the intelligence derived from their communications:



1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p69.

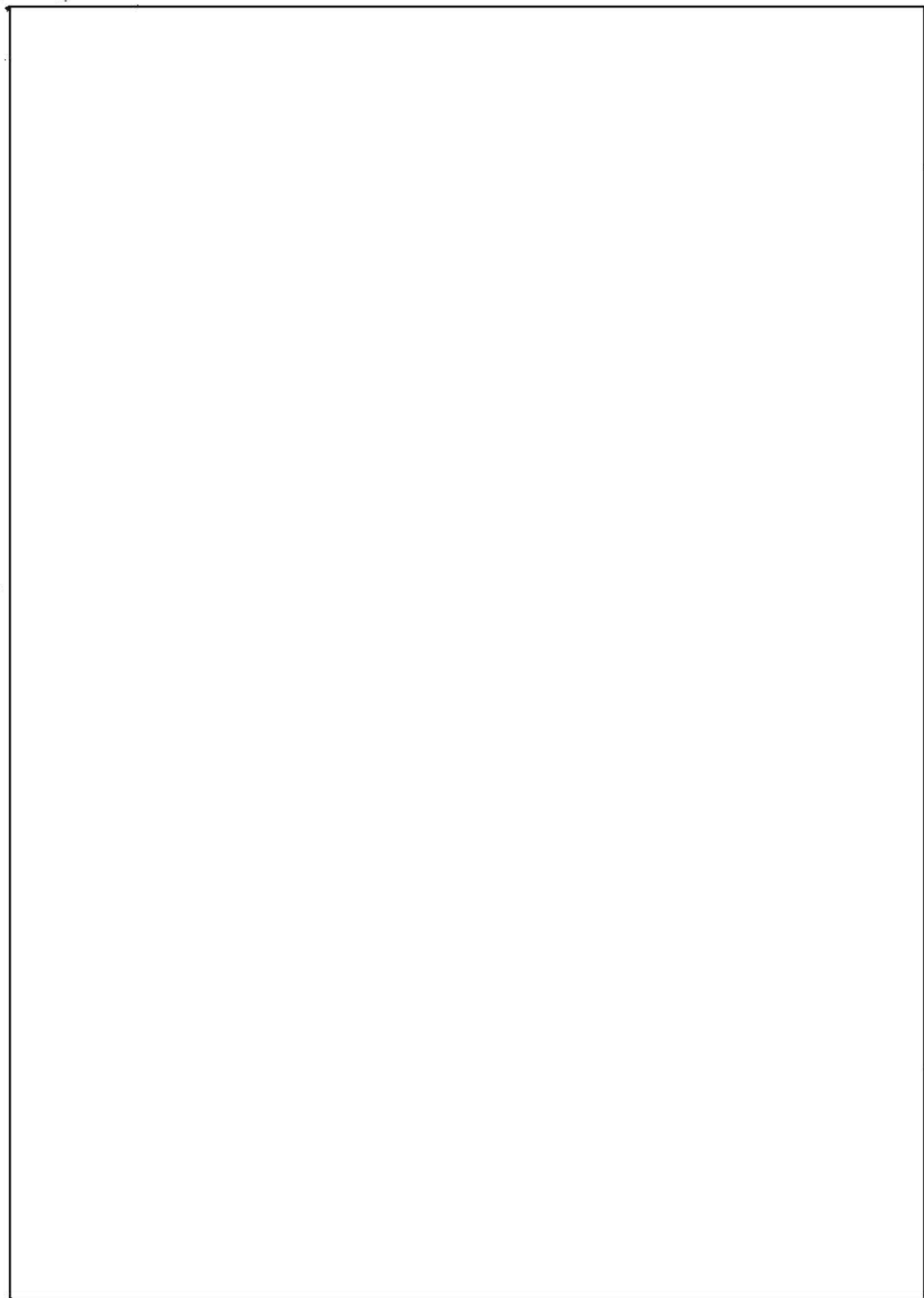
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1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p70.
2. Ibid. p71.
3. Ibid. p71.

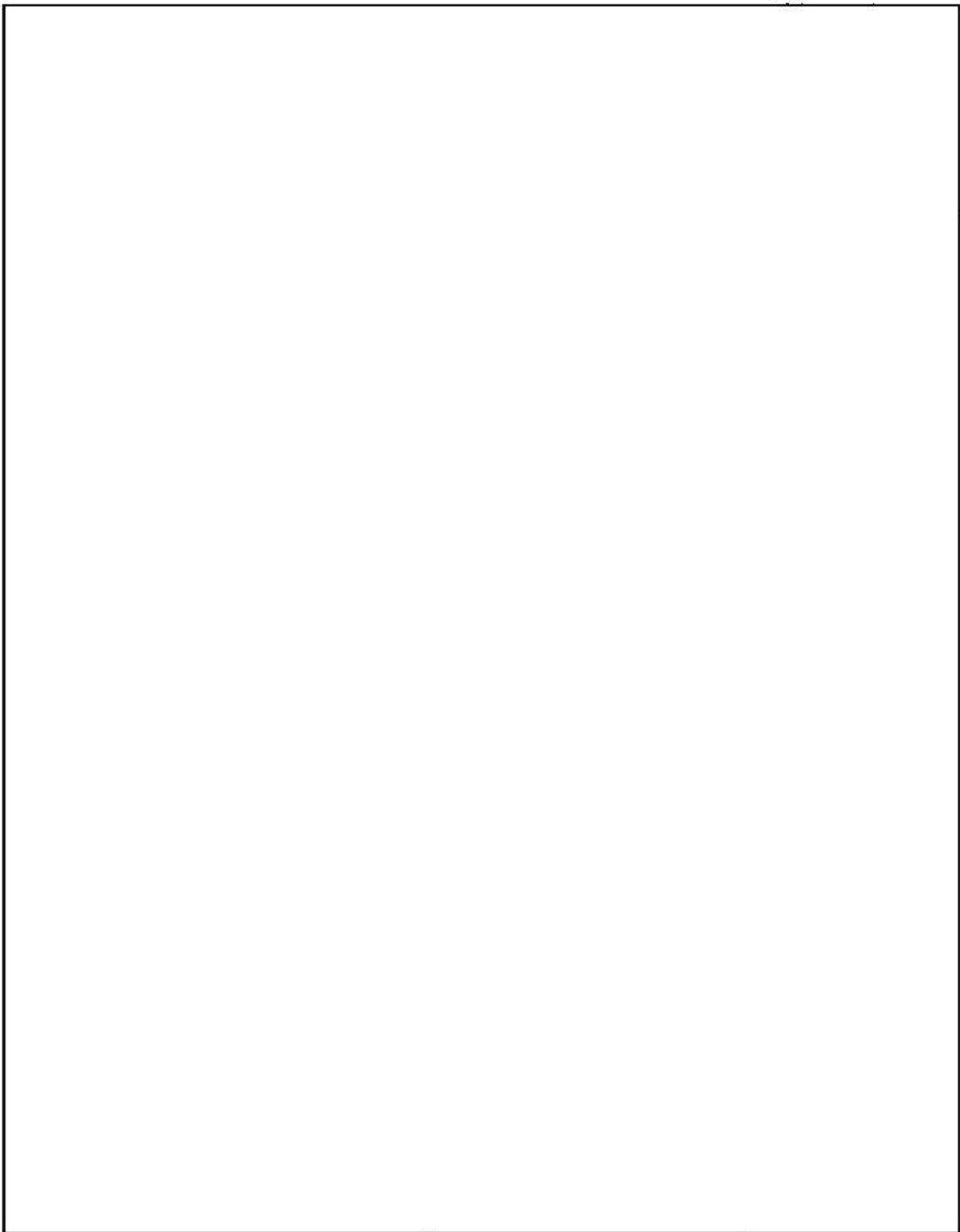
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1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p72.
2. Ibid. p72.

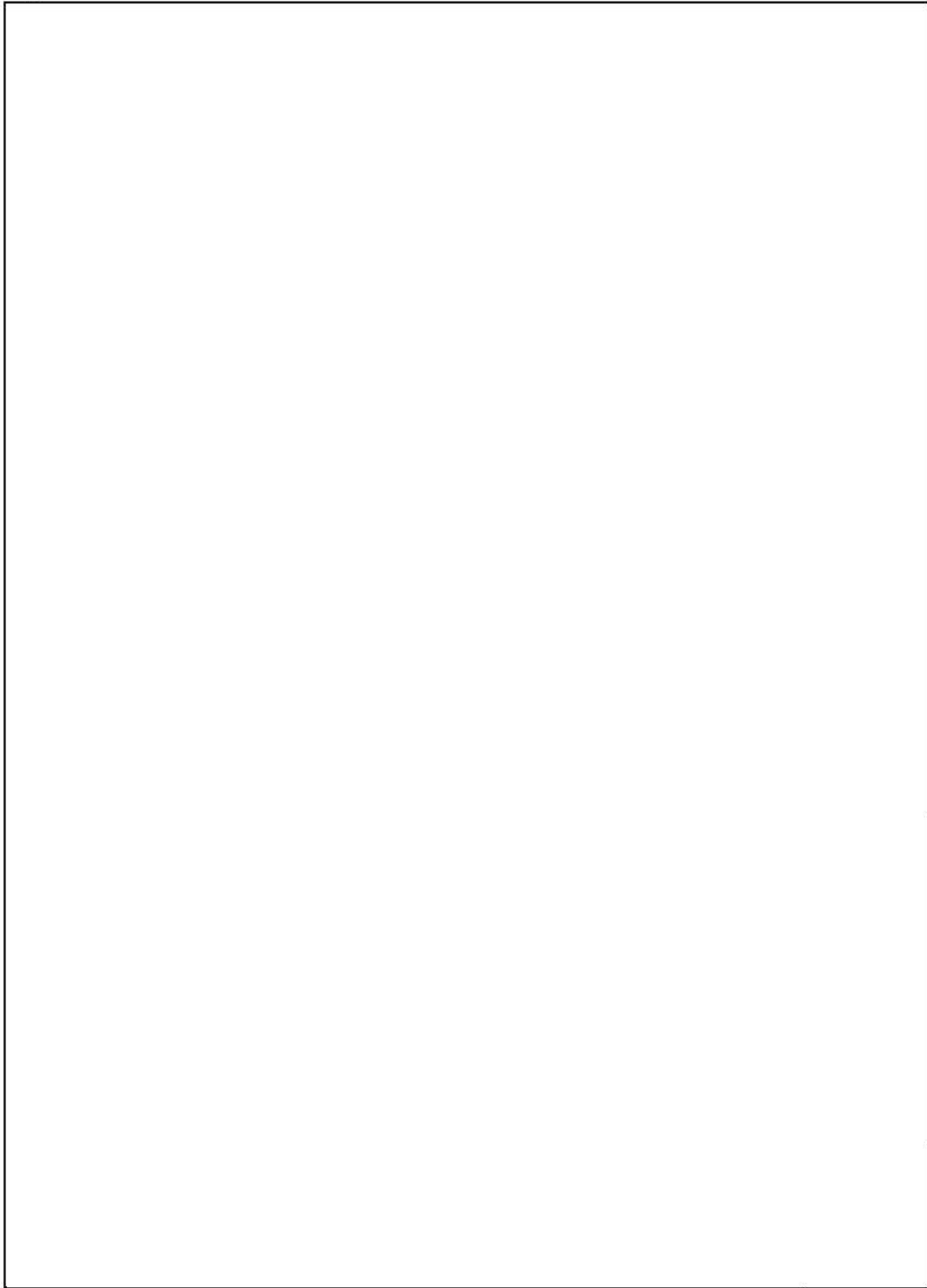
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1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p73.
 2. Ibid. p73.

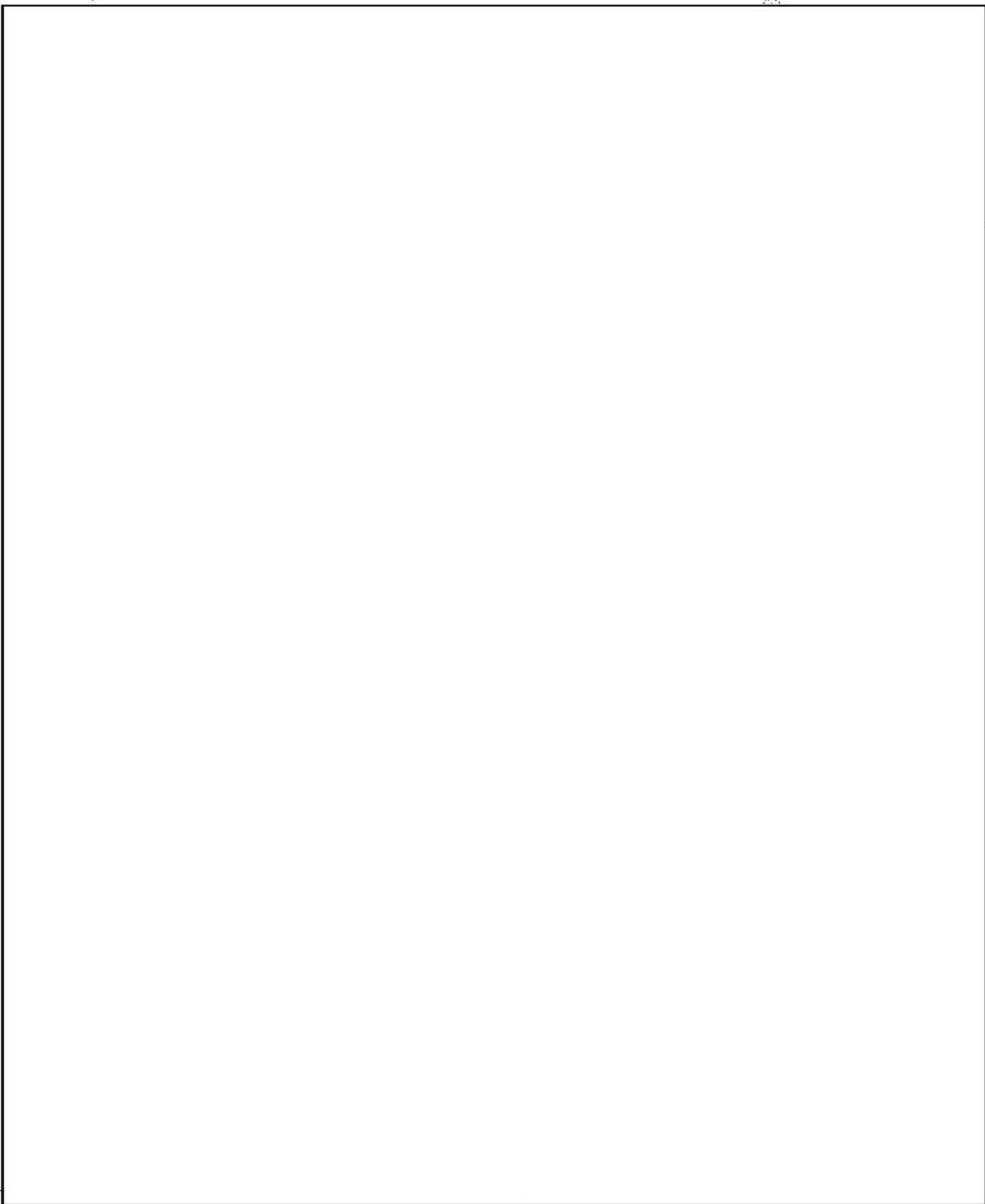
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1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p74.

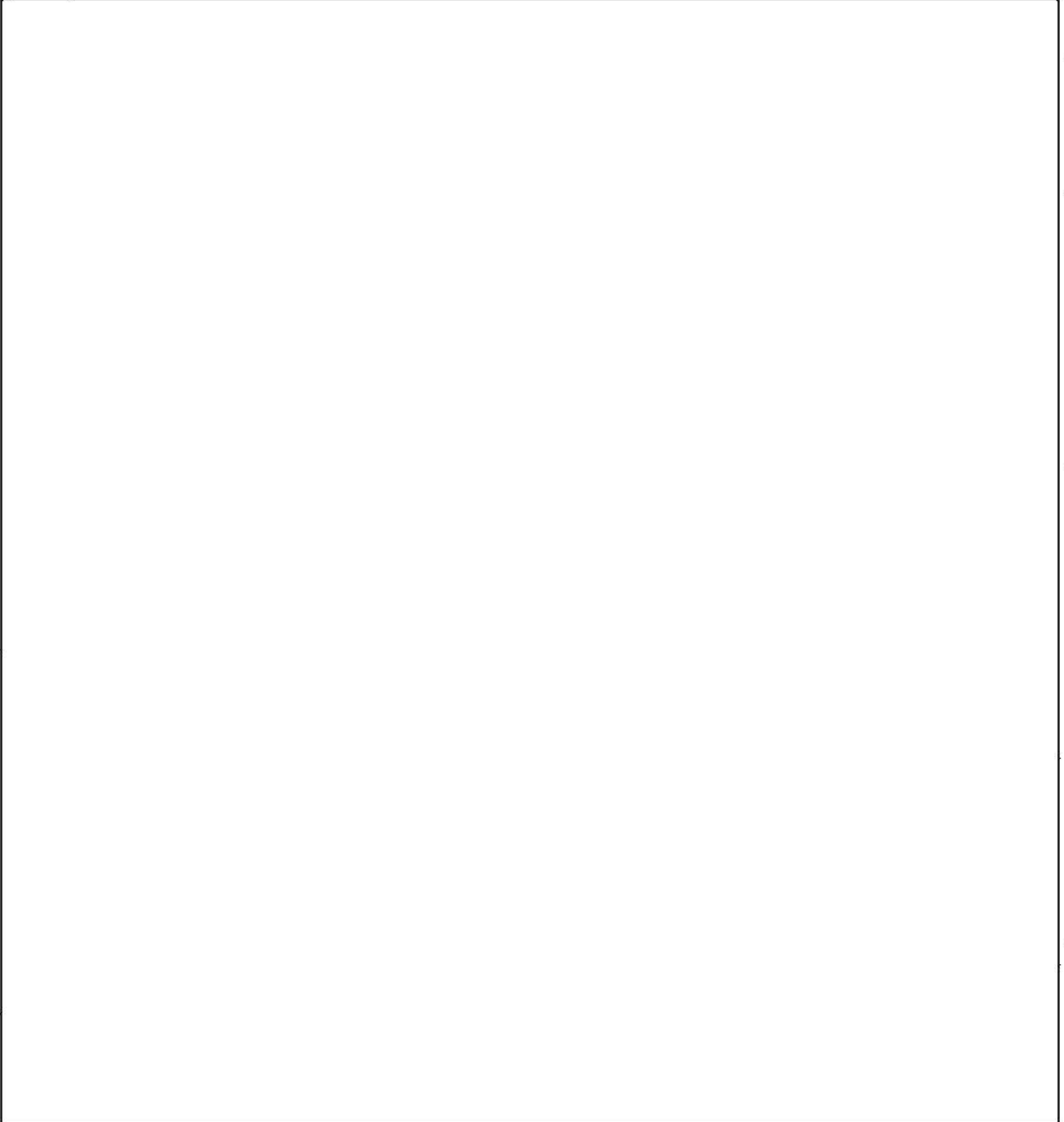
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In mid-December, a prognostic test was devised for all newly arrived translators. This test was intended to measure the individuals linguistic aptitude for either straight translation work or code breaking. At the end

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1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p75.
 2. Ibid. p76.

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of the fiscal year 104 men had taken the test.¹

In late 1953, Hq ASA Pacific was informed of anticipated large shipments of translators too great to be absorbed into the Voice Morse problem locally, or at the 501st CRG in Korea. It was then decided to assign the surplus translators to the low level voice intercept mission in order to keep these men associated with the Chinese language.

In the early part of 1954, a voice Morse intercept program was established at FS 8603 AAU in Okinawa. In order to train linguists for chatter intercept, a training program was initiated. In April 1954 a second test was established to measure voice intercept aptitude. Tape recordings from traffic intercepted at Okinawa and training tapes with spoken digits were used for this test.

On the basis of these tests, enlisted men with outstanding aptitude were retained as translators. It was found that a minimum of three weeks was needed for the [] course, followed by at least two weeks of translations and familiarization [] before it was possible to advance to the six week course in []. For linguists arriving directly from the Army Language School with on-the-job training at Arlington Hall Station, the ideal training program lasted for at least three months, in addition to ten days usually taken for orientation and testing. It was felt that intensive intensive training in [] and translation work would prove invaluable in the event of a renewal of hostilities, and, to a great degree, would reduce the time needed for initial exploitation of tactical traffic.²

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1. SAR, Hq ASA Pacific, fy 1954, 8621 AAU, p77.
2. Ibid. p78.

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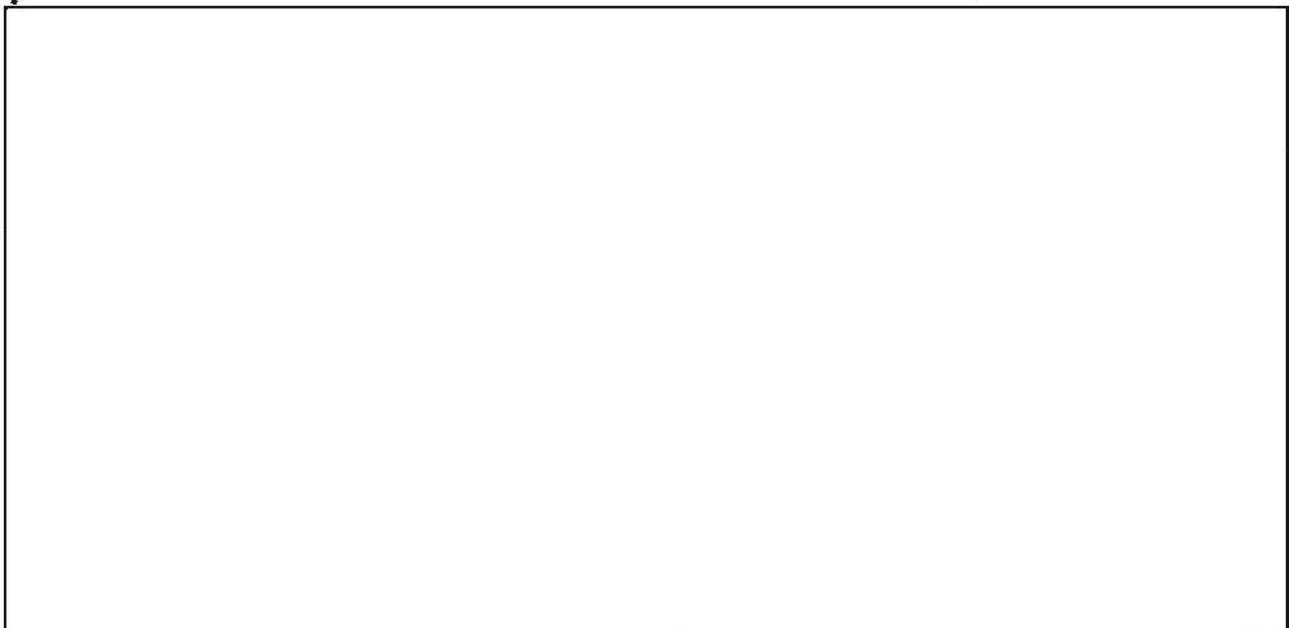
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The Administrative Subsection of the Chinese Processing Section consisted of 2-0 and 1 EM at the beginning of the report period; 2-0 and 2 EM at the end. The CCF OB Subsection of the Special Research Section was physically transferred and integrated into the Chinese Processing Section on 19 May 1954. Upon completion of the transfer, a closer coordination between TA and OB Subsections was accomplished which improved production.¹ The combined Subsection was redesignated the CC Intelligence and OB Subsection and, at the end of the report period, consisted of three enlisted men.²

Korean Section

Throughout the course of hostilities in Korea, the Korean Section, Intelligence Branch, Hq ASA Pacific, had the primary mission of providing close technical support to the 501st GRG in Korea. The major function of the section was cryptanalytic research on the North Korean (KC) problem,

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1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p79.
2. Ibid. p80.

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The major traffic analysis effort on the North Korean problem was carried out at the 501st CRG.



The Korean Section, ASA Pacific, provided direct support to field stations through brief studies and limited research.²

Until 19 July 1953, North Korean traffic processing functions were conducted at both the 501st CRG, (on traffic received from ROK Group M and Flight A, 15th RSM) and 330th CRG. On the same date, technical sections from the latter unit were merged with corresponding sections of the 501st CRG.

On 26 May 1954, Korean intelligence production and OB was added to the section, and enlisted personnel transferred from the former Special Research Section of Intelligence Branch. This move made it possible to furnish maximum support to the COMINT production effort.³

All technical personnel who arrived for assignment to the Korean problem were given apprentice training prior to further assignment to the 501st CRG or retention at ASA Pacific. Training periods varied from one week to four weeks depending on the type of personnel and the amount of training

1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p80.
2. Ibid. p81.
3. Ibid. p81.

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received in the ZI. Trainees processed during the year included trans-
lators, cryptanalysts and traffic analysts.

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At the beginning of the report period, [redacted] were
assigned to the section. At the end of the period, [redacted]

[redacted]

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1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p82.

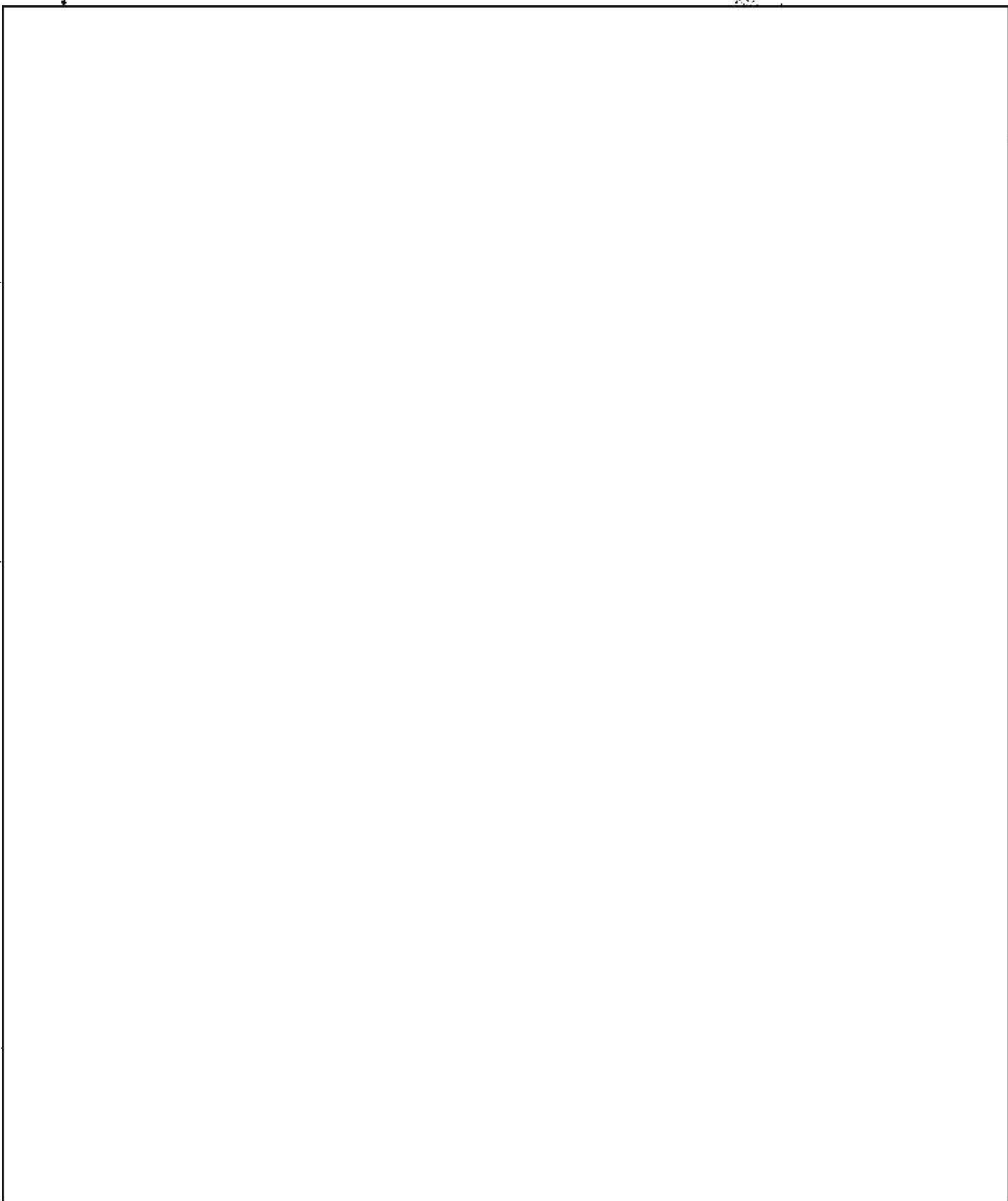
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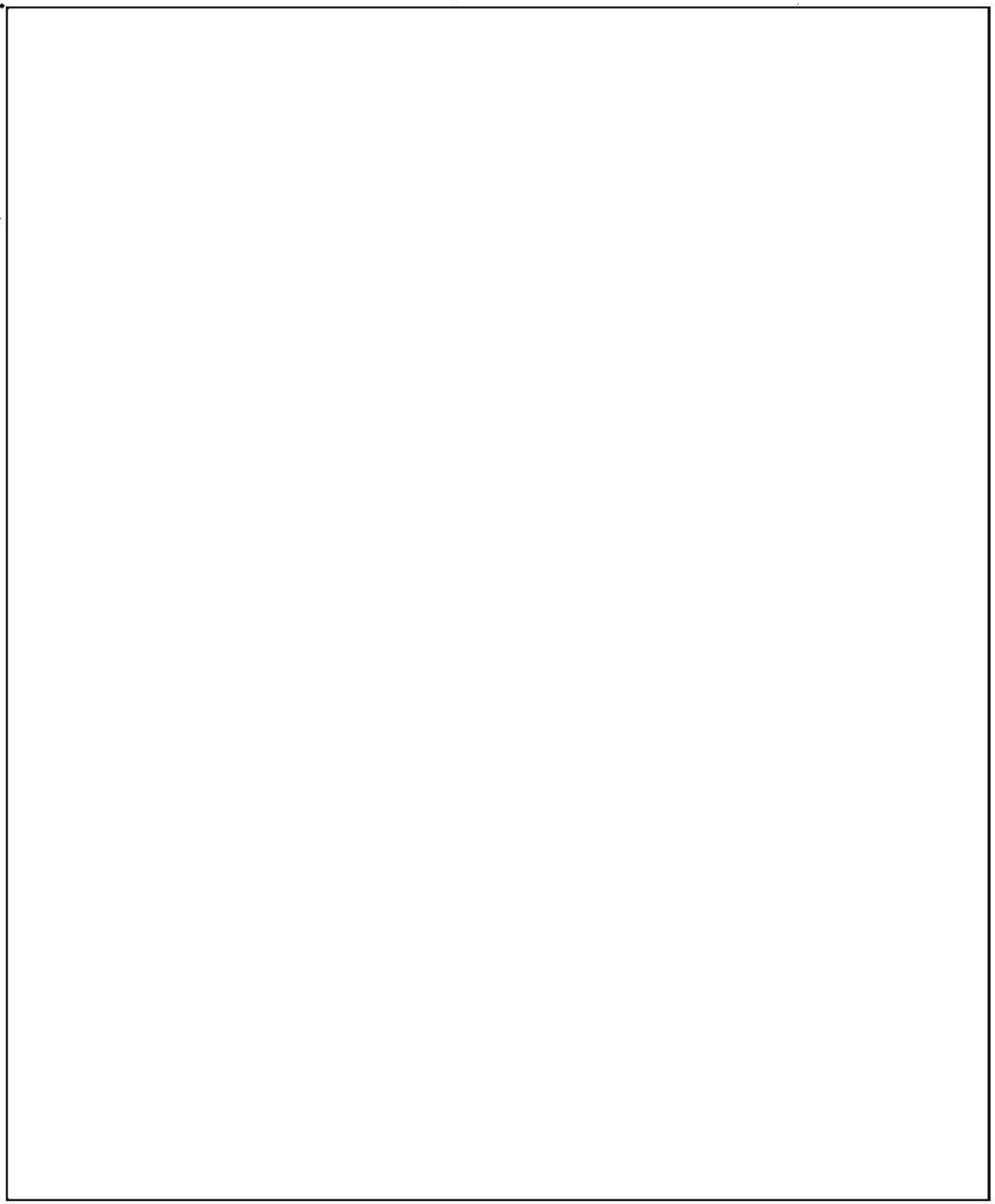
1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p83.
2. Ibid. p84.

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1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p85.
2. Ibid. p86.

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On 23 May 1954 and on 1 June 1954, the KC Technical Summary (TECSUM) was implemented for KC police and military traffic. Because of insufficient personnel, however, the Korean Section was not able to effect maximum utilization of the TECSUM.

Throughout the report period, the intelligence reproduction activity received COMINT information from all sources, conducted special research studies, and made contributions to the ASA Pacific COMINT Summary. Reports received from other intelligence agencies were examined and pertinent information was extracted for use in various studies. Source-material used were translations published by various COMINT centers.²

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1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p86.
 2. Ibid. p87.

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OB information was extracted from all COMINT as well as non-COMINT reports and publications, and posted in the North Korean OB files.

Post-Korea activity of the Russian Section, Intelligence Branch, Hq ASA Pacific was two-fold and was devoted to the Russian Far Eastern Military Communications system. Technical support was provided to intercept stations engaged in Russian intercept so as to assist them in locating, obtaining and identifying added material. Concurrently, an effort was made to derive additional intelligence, either technical in nature or of the "end-product" intelligence type, for distribution to authorized consumers.¹

The Russian Section also analyzed radio traffic intercepted on Soviet Far Eastern Morse and Radio Printer communications networks. It traced the development of these networks and interpreted information derived from them to determine possible Soviet actions which might constitute a threat to the security of Japan or other areas of United States or United Nations interest.

The Radio Telephone Subsection developed networks which revealed items of military interest, particularly those of a tactical nature. It also reviewed transcripts of Russian language radio transmission which were intercepted by ASA Pacific field stations and performed local linguistic and communications analysis.

The strength of the section at the beginning of the fiscal year was

At the close of the report period, were assigned.²

A Summary of activities on each link follows:

Voroshilov-Soviet Military Mission in Korea

This link acted as a barometer of Soviet activities in the Maritime Military District and thus was of considerable interest

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1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p87.
2. Ibid. p88.

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throughout the report period. A total of [] over the Morse link and [] over the radio printer link, were passed. These were evenly distributed over the twelve months except for August when a total of [] were sent; [] on the Morse link and [] on the radio printer link.¹ This abnormal increase was attributed to the termination of hostilities in Korea and to the United Nations proposal concerning the exchange of prisoners of war. Of the [] msgs

Far Eastern Military District:

Sufficient evidence from communications analysis during the period June 1953 to April 1954 was accumulated to indicate that the Headquarters of the Commander-In-Chief, Forces of the Far East had been consolidated with the new Far Eastern Military District at Khabarovsk.³

[] were first noted on links within the Far East Military District in May 1954. This type was noted on only three links, but was expected to spread to more.

Radio Printer:

Russian radio printer analysis identified activity intercepted as to known assigned, unassigned, or unknown links. Special emphasis was placed on the study of traffic volumes, types of traffic, procedures, schedules and frequencies as a basis of intelligence and operational support for the field stations. Daily Russian service printer activity was forwarded in the form of a Daily Analysis Report (DARE).

Intercept facilities, in Japan and Korea, for Russian printer activity consisted of [] multi-channel (rock) position, [] single-channel positions, [] two-channel and [] multi-channel (rock) positions. In cutting areas under ASA Pacific control, there were

1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p89.
2. Ibid. p89.
3. Ibid. p90.

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[] single-channel positions, [] two-channel positions, and [] single-channel positions. As of June 1954, intercept facilities for Russian Printer activity consisted of three-two-channel and four multi-channel (rock) positions. In outlying areas, [] single-channel positions and [] two-channel positions maintained intercept coverages.¹

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Of highest priority was [] Several ZZB and ZZC references on parallel Morse links were observed, denoting possible Russian printer activity between the respective units. In most cases, however, no printer activity was observed. The reason for this was believed to be the extensive use of landlines whenever facilities exist with only overflow traffic being transmitted by radio.

Low Level Military Activity:

Soviet Low Level Military activity was reflected in radio telephone intercept on frequent occasions. In July, extensive infantry, armored, and artillery field exercises were noted.² Activity was noted on only two days during the month of August, none during September, and on only two days in October. Activity during March, April, May, and June was noted mainly in the [] area.

Activity during the year consisted mainly of tank units operating under simulated battle conditions with tanks, infantry, artillery, and in some instances machine guns and self-propelled weapons being mentioned within the opposing forces.³

On 1 August 1953, ASA Pacific Strategic DF facilities consisted of six DF units and three flash stations. The DF units and three stations were located at Chitose, Kyoto, and Kumamoto, Japan; Okinawa; Clark Air Force Base, Philippine Islands; and Tukto, Korea. Flash stations were located at Kyoto, Japan and Okinawa; with control at Hq ASA Pacific.⁴ A flash station was established at Chitose during August.

All units, both DF and flash stations, were controlled on an alert

1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p91.
2. Ibid. p92.
3. Ibid. p93.
4. Ibid. p52.

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system of control utilizing "multiple flash" tip-off operation. A radio report net, was employed to return bearings from DF units at Okinawa; Clark Air Force Base, PI; and Tukto, Korea. The ASA Pacific teletype net, a three-station loop, connected Chitose, Kyoto, and Kumanoto with ASA Pacific DF control for bearing report purposes, and flash net back-up.¹ In May 1954, the net was expanded to include the 327th CRC for flash of special missions.² The joint teletype net, a three station loop, connecting the control stations of the Army, Air Force, and Navy Pacific strategic DF nets, located at Tokyo, Shirol Air Force Base, and Kamiseya, was used for the passing of operational traffic concerned with joint DF operations.

During July, August, and September 1953, the DF net flashed approximately 4,400 missions monthly. A return of 34,599 bearings per month, from which about 862 fixes a month were obtained during the three-month period was realized. In October, flash stations were instructed to concentrate on targets contained in DF priority assignment lists with special emphasis on out-stations. This resulted in a drop to approximately 3,492 missions, 9,703 bearings, and 337 fixes a month from October on.³ This drop, although apparently excessive, was justified as 93 control stations and 80 out-stations were accurately located and identified in a manner readily usable to analysis sections. A total of 51 control stations and 64 out-stations were accurately located during the year.

DF plotting was conducted on a "flash plotting" basis. Results obtained on each mission were processed as a unit. Fixes were forwarded with target data and bearings via flash summary. In September 1953, a consolidation

1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p53.
2. Ibid. p54.
3. Ibid. p52.

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of bearings was limited to those targets whose identities could be traced through one or more call sign changes.¹

JOVE cryptosystem (AFSAG 1244, with slight modifications) was employed for the encipherment of flash missions. A special cryptosystem, employing a grill and special alphabet lists was used for the encipherment of tracking data, instead of AFSAG 1245 system, which was impracticable for use in multiple operations.²

COMUS cryptosystem was employed for the first time by the ASA Pacific DF net in September 1953, and by the Korean net in October. As this cryptosystem proved superior to other existing systems, it was assigned for joint use. DIANA cryptosystem was issued to the ASA Pacific DF net in September to facilitate encipherment of operational and procedural messages.³

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1. SAR, Hq ASA Pacific, 8621 AAU, fy 1954, p53.
2. Ibid. p54.
3. Ibid. p55.

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b. 327th Communications Reconnaissance Company, Fushimi Momoyama, Kyoto

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Throughout fy 1954, the operational mission of the 327th

CRC at Kyoto was primarily intercept and processing of electrically transmitted manual Morse communications. The intercept mission was assigned and controlled by NSA Pacific.¹

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During the report period, the assigned manual Morse intercept mission increased steadily from [redacted] and was highly diversified with five different problems -- Chinese, Czechoslovakian, North Korean, Russian, and [redacted]. A breakdown of this activity follows:

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<u>Month</u>	<u>Yr</u>	<u>Total Posits</u>	<u>Chinese</u>	<u>Czech</u>	<u>North Korean</u>	<u>Russian</u>
Jul	53	13			2	8
Aug	53	13			2	8
Sept	53	17	5		1	8
Oct	53	19	7		1	8
Nov	53	18	7	1	2	4
Dec	53	18	3	1	4	4
Jan	54	24	5	1	5	5
Feb	54	28	6		6	5
Mar	54	28	4		5	5
Apr	54	28	4		5	*6
May	54	28	7		6	*6
Jun	54	29	8		6	*6

*Includes one position Category D

There was an increase in intercept personnel with the Operations Section beginning with [redacted] operators at the outset and ending with [redacted]. The rotation rate was low with a majority of assigned operators due to leave during the second quarter of fy 1955.² On 18 July 1953, the Operations

1. Ann. Rept, 327th CRC, fy 1954, p11.
2. Ibid. p12.

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Section moved from the FS 8612 site at Okuboto a renovated operations building within the company area.¹

Training of inexperienced operators proved problematic during the report period in that a new operator not only was required to expend at least thirty days toward initial "breaking in" upon manual Morse circuits, but also had to become familiar with each of the five problems assigned. Due to the diversified mission, and since each nationality had its own peculiar operating characteristics, an additional training period of approximately two weeks was required by operators for familiarization.²

Operator efficiency improved throughout the report period, and this was reflected in a gradual increase in group count and overall target coverage. Difficulty in proper coverage of assigned targets was greatly overcome by a newly constructed and oriented antenna field.

The Traffic Control Reports Section performed traffic analysis, cryptanalysis and translation throughout the year. Stress was placed upon traffic analysis which was regarded as the type best suited to the company.³

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Assigned personnel totaled

.....
were responsible for administration. were employed as
.....
trick personnel, with two assigned to each of the four tricks and responsible for sorting, filing, and serial numbering of traffic. Two clerks were responsible for maintaining TEXTA files, incoming and outgoing messages, reports, etc. Translators were primarily utilized as an aid in Korean intercept

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1. Ann Rept, 327th CRC, fy 1954, pl1.
 2. Ibid. pl2.
 3. Ibid. pl3.

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activity. Remaining enlisted men were broken down into four subsections, representing the four target countries on assignment as follows: Russian -

Chinese - North Korean -

Daily reports were forwarded which included Russian RP TECSUM, Chinese-WM and WX TECSUM and DCR, North Korean -

In addition, monthly North Korean T/A reports, weekly T/A reports, periodic reports concerning the traffic intercepted on Category "DOG" position and any other reports pertaining to unusual occurrences or special analysis, were published.²

The Direction Finding Section consisted of assigned to each of the four "tricks". The only equipment used was two AFSAM 4'a's installed in the Manual Morse Section, connected by spiral four wire with the direction finding section of FS 8612. Though not actually working within ASA Pacific direction finding net, it was still possible to originate and send missions by processing them through FS 8612, who in turn, working within the ASA Pacific net, processed the mission.³

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c. Field Station 8610 AAU, Kyoto

Throughout fy 1954, FS 8610 remained assigned to ASA and under the operational control of NSA.⁴ Its mission was to intercept foreign communications, perform special identification techniques, submit raw data as well as technical reports, and to perform such other tasks necessary in the furtherance of the overall COMINT effort. The intercept mission

1. Ann Rept, 327th GRC, fy 1954, p14.
2. Ibid. p14.
3. Ibid. p16.
4. Ann Rept, FS 8610 AAU, fy 1954, p7.

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was divided into five sections to include manual Morse, radio printer, radio fingerprinting, radio telephone, and direction finding.

Installation of seven additional antennas was completed on 2 February 1954 and a considerable increase in effectiveness was realized. [] manual Morse positions were installed by 19 April 1954, and with the exception of ASAN 13 wiring, the non-Morse Section completed its installation requirements 15 July 1954.

Formerly, operator qualifications required 45 days of on-the-job training. However, with establishment of an intercept school by the station and construction of 10 student operator positions, this time was reduced to 15 days. Classes were normally on swings, with experienced operators as a student instructors. Training aids consisted of ink tapes, magnetic tapes containing raw traffic, magnetic tapes made by station operators on Russian type transmissions, and lectures on procedure employed by Russian and Chinese operators.¹

The primary manual Morse intercept mission at the beginning of the report period was Russian military; the specific target area the East Russian Maritime District. This continued through December 1953, at which time the entire mission was dropped.

During fy 1953 the station was given the maritime mission and all [] circuits, but difficulty was experienced during the report period in the



1. Ann Rept, FS 8610 AAU, fy 1954, pl4.
2. Ibid. pl2.

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good intercept from this area was not common to the station's facilities, the aforementioned activity was assumed to be [] (later identified as [] Intercept of this activity (somewhat alien because the azimuth of this station's antennae system is not close to this area) was possibly caused by atmospheric phenomena.

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Russian military Far East, Russian air warning, Russian [] Russian police, Russian Navy and Russian [] were added to the station's mission during the report period in place of [] positions which were dropped. In addition [] and three general search positions were continued.

In January 1954, general search operators intercepted some [] activity [] This resulted in a new position, which was still being covered at the end of the report period. This activity increased considerably during the Korean peace talks, and later, the Geneva Conference.

The increase of intercept and increase of a variety of circuits during the report period was accomplished by dropping the assigned [] position, and increasing general search from three to seven positions.²

Manual Morse positions steadily increased during the report period to [] full cover positions. The category "DOG" position assigned to the station in April 1954 was of great value for assigned circuits and for development. During April, May, and June 1954, the category "DOG" position was utilized to cover the increased activity in "jamming" and "screening."³

1. Ann Rept, FS 8610 AAU, fy 1954, pl3.
2. Ibid. pl3.
3. Ibid. pl4.

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The station's Radio Telephone Section was re-established on 26 June 1953 with the arrival of [] linguists from the Agency's Voice Intercept School at Fort Devens, Mass. Two manual Morse positions were utilized for training purposes pending installation of voice positions. With the arrival of an experienced voice intercept man, [] positions were requested from NSA. NSA concurred and the section became responsible for reporting. Further, additional positions were manned in November [], February 1954 [], March [], and April [], bringing total positions to [] assigned and manned at the end of the report period.

Due to the inexperience of radio telephone personnel, approximately three months was devoted to training transcribers and three weeks to training operators.¹ One man was trained to perform all voice analysis. A teletypewriter with a cyrillic conversion was installed for forwarding traffic and two men were trained as typists to maintain a high degree of validity and eliminate typing errors in transcripts forwarded by wire.²

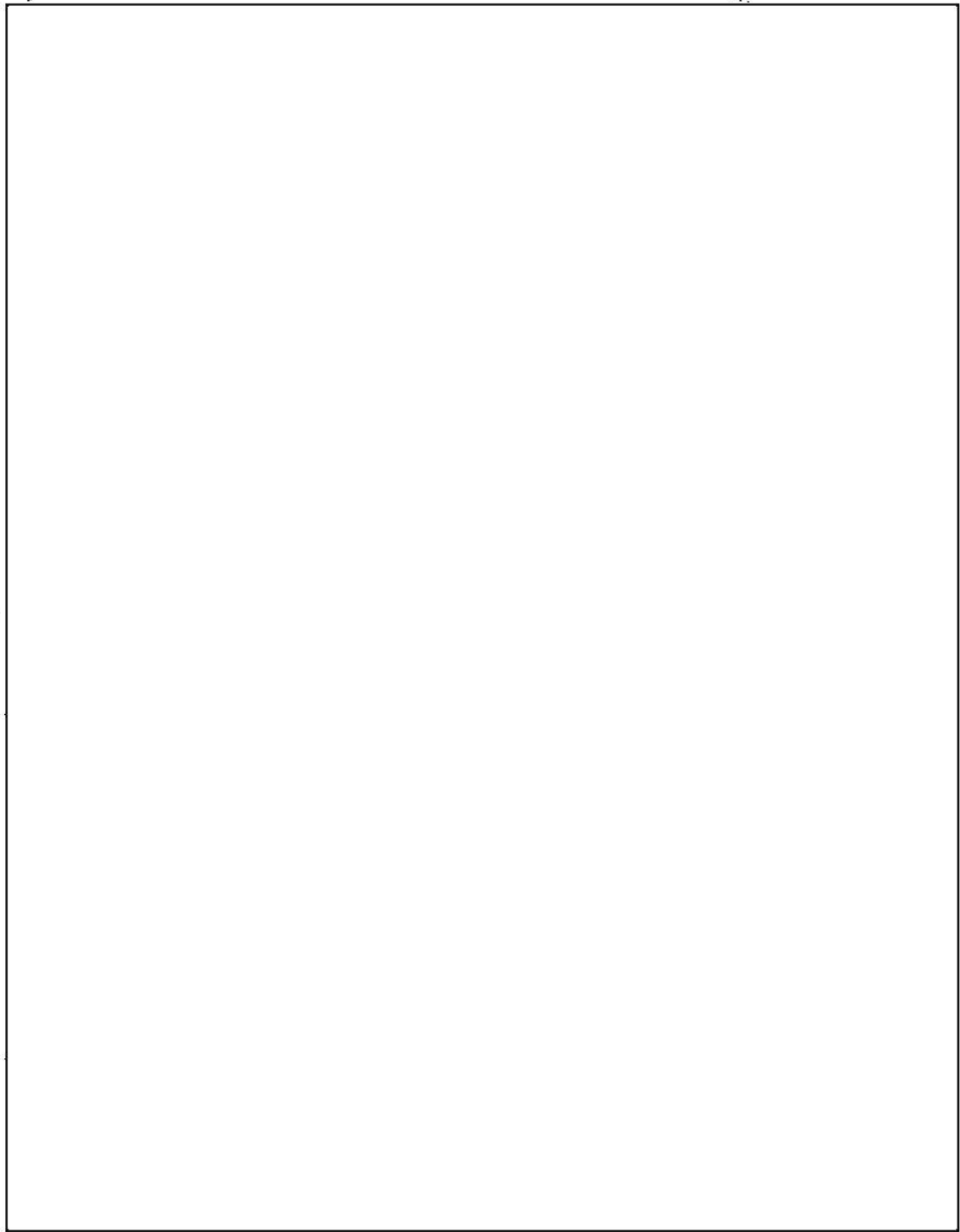
1. Ann Rept, FS 8610 AAU, fy 1954, pl5.
2. Ibid. pl6.

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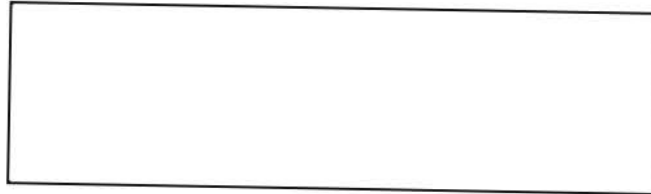
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1. Ann Rept, FS 8610 AAU, fy 1954, p16.
 2. Ibid. p17.

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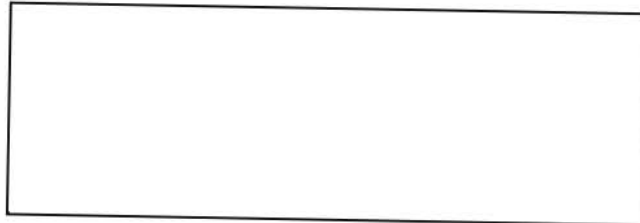
At the beginning of the report period, the station's Radio Printer Section had the following receiving and terminal equipment:¹



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Terminal equipment consisted of one ASAN-6, three ASAN-13BC, two ASAN-13BA, two AMPEX-400, three AMPEX S-3160, two AFSAV-D-38, and six RD-74 recorders.

At the end of the report period, the section had the following receiving equipment:



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Terminal equipment consisted of three ASAN-13BC, nine DEN-24-2, two AFSAV-D-38, two AMPEX 403 audio recorders, and four AMPEX S-3160 dual track audio recorders.

Throughout the year operators were trained in various phases of radio printer work, which included the Russian alphabet, basic words, traffic procedures, TEXTA cards, daily coverage report logs, and the international Morse Code.²

Traffic analysis aids were of great value to radio printer intercept operators. These included daily and monthly repeating schedules and complete service TEXTA cards, direction finding line bearing values, and other information of interest.

1. Ann Rept, FS 8610 AAU, fy 1954, pl7.

2. Ibid. pl8.

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A radio printer operator's manual was compiled and forwarded to ASA Pacific for publication and distribution to NSA and all interested parties in the Far East.

Radio printer intercept volume during the report period was very satisfactory with the scramble mission highly productive and showing a sharp increase in activity in the second and third quarters.

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missions and jammer signals were put on priority. The number of cases on priority progressed from 13 to 117; 39 of which were on priority as a convenience to the Traffic Analysis Section.¹

At the beginning of the report period the average for shots used per month was approximately 300. By the end, the average was roughly 730 shots.² A library for CW type transmissions was fairly complete, and libraries for FSK type transmissions and jammer signals were started.

The station's Traffic Analysis and Control Section commenced fy 1954 with a Manual Morse Analytical Subsection, a Non-Morse Analytical Subsection, and an RCA Scanning Subsection.

Cross reference filing and codeword control of the previous year was retained and, as a consequence, ready availability and accountability of reference material was maintained.

Newly assigned analytical personnel required an average of two months on-the-job training before becoming proficient in the specific problem assigned.³

1. Ann Rept, FS 8610 AAU, fy 1954, p19.
2. Ibid. p19.
3. Ibid. p22.

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The functions of packaging and forwarding of intercept material was transferred to the Radio Printer Section due to the large amount of scramble material which required special handling.

In conjunction with the redesignation of the General Scanning Subsection (i.e. on 8 Feb 54 it became the Early Scanning Subsection) and the consequent modification of its mission, two linguists were added.

In May of 1954 the station initiated a more detailed phase of intercept support with the goal of establishing more effective liaison between traffic analysis and intercept. The purpose of this was to give the intercept operator everything that was known about the circuits he was copying. Attitude towards this program was positive and enthusiastic.¹

Traffic analysis was highlighted during the report period by accomplishment of the following:

The Radio Printer Analysis Section:

- (1) Recovered approximately forty-five monthly and daily repeating schedules.
- (2) Implemented an activity filing system cross referenced by date-time, frequency, and case notation.
- (3) Implemented a system of operator characteristics analysis which was in use at the close of the fiscal year.
- (4) Implemented a monthly non-Morse Traffic analysis journal which was later combined with a Morse traffic analysis journal. The combined publication was discontinued due to the lack of experienced personnel.
- (5) Lowered the percentage of unidentified radio printer transmissions, from 16% of all activity in July 1953 to 6.7% of all activity in June 1954.
- (6) Together with senior radio printer intercept operators, compiled a radio printer intercept operator's handbook.

1. Ann Rept, FS 8610 AAU, fy 1954, p23.

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- (1) Recovered the Maritime area schedule ROTA.
- (2) Recovered the Maritime area frequency ROTA.
- (3) Recovered and notated several temporary Far Eastern military links during a training exercise in July 1953.¹

(1) Instituted general scanning in the Far East in June 1953, and from June 1953 through January scanned a monthly average of msgs.

(2) Superseded general scanning with higher priority early scanning in February 1954. Section retained 238 criteria msgs and was commended for nine special priority msgs on guided missiles.²

During the report period, the direction finding section of FS 8610 in Japan consisted of direction finding control and a transmitter site located at Okubo, a site located near Kyoto and another located at Camp Wood, Kumamoto.

Receiving conditions during the fiscal year were generally good. The direction finding flash net employed frequencies kcs with excellent results.

Flash missions on the radio net decreased from March through June 1954 due to a change in tip-off requirements.³ Only targets assigned by NSA for direction finding priority and targets of local traffic analysis interest were eligible to be flashed.

The station's two sites returned approximately the same percentage of bearing returns during the entire year. (56 and 57% respectively)

The transmitter site was moved from Camp Momoyama to Camp Okubo in July 1953. Transmitter efficiency improved considerably.

1. Ann Rept, FS 8610 AAU, fy 1954, p24.
2. Ibid. p25.
3. Ibid. p20.

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On 25 September 1953, both the installation at Kyoto and the transmitter site were inundated as a result of a typhoon. Both sites were rendered completely inoperative for a period of one month. All cryptographic material was removed from the direction finding site, but the equipment remained submerged in approximately 12 feet of water for two weeks. Equipment was sent in for fifth echelon maintenance. The direction finding school located at Camp Okubo was discontinued in October due to equipment shortages. School equipment was installed at Kyoto during the same month. During June 1954, Camp Kyoto was under constant flood threat and consequently, all equipment was moved from the area twice during the month. Approximately five days operation time was lost.¹

In March 1954, a permanent type antenna (RC301) was installed at Camp Wood. Results improved considerably.

In May 1954, direction finding control was moved from its individual room to the Morse Intercept Section to better co-ordinate the two sections, and relieve one man per trick from a search position to be utilized elsewhere.

The volume of search bearings decreased sharply from May through June. The only bearings eligible for search were targets previously flashed on the ASA Pacific DF tip-off net during the same day.²

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1. Ann Rept, FS 8610 AAU, fy 1954, p21.
 2. Ibid. p22.

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a. Field Station 8612 AAU, Chitose

Operational sections of FS 8612 were engaged in plans and policies for the increase and implementation of new facilities at the start of fy 1954. Watch officers continued in the detailed supervision of sections, but this system was discontinued in August 1953, at which time a system of employing an operations duty officer was introduced. This plan enabled former watch officers to act as section heads in order to better support the intercept mission to obtain the greatest output possible with available personnel and equipment.

The ratio of incoming to outgoing personnel was favorable the entire period. Receiving conditions were considered good. Ionospheric conditions supported transmission of sky waves over the signal path to allow favorable intercept. Only for short periods did atmospheric conditions set a limit for radio reception. This, however, caused little noticeable loss of intercept. The usual seasonal variations in moisture content and temperature produced no noticeable changes in the minimum field intensity necessary for satisfactory reception of an intelligible signal, and at no time did any section experience extended periods of unintelligible signal reception.¹

Continued effectiveness of a work measurement program produced comprehensive results during the last quarter of the report period. This was accomplished by isolating spheres of operational endeavors. Work conditions were reported for definite periods, and qualifications of operational personnel catalogued. In turn, a report was completed of incidents that would

1. Ann Rept, FS 8612 AAU, fy 1954, p24.

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retard estimated or required output. Required tasks were measured with relation to the time a group took to complete a desired mission along with a survey of what was done during periods of inactivity. Complete figures of group productive capacities were tabulated. The program resulted in a redistribution of personnel to divide skill and apprentice trainees.¹ The conduct of the mission was changed in some cases and revised procedures adopted.

A new approach to the unit briefing was completed in March 1954. This resulted in a definite improvement. A series of charts and graphs were also completed.² The results greatly assisted staff members of higher headquarters in the technical task of making recommendations, and provided a fertile source of information to personnel not familiar with the problems at hand.

A wealth of information was obtained during July when this emergency intercept plan was put into effect. This plan involved intercept concerning a downed US aircraft, an occurrence which could have developed into an international incident. All search assignments were dropped and a consolidation made of remaining coverage to provide a maximum intercept effort on circuits believed related to the emergency incident. Coverage was concentrated on the

Throughout the report period the station's Manual Morse Section operated assigned positions, each manned by skilled operators. Training of student personnel was continued. This covered step by step procedures to be followed, and was, in all cases, necessary when new personnel were assigned.

1. Ann Rept, FS 8612 AAU, fy 1954, p25.
2. Ibid. p25.

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The desired coverage area continued to consist of those communications emanating from the [redacted] During periods of brisk radio traffic, intercept personnel were able to provide information leading to an understanding of the composition and commitment of Russian service activity, even though these targets employed a variety of artifices for the purpose of deception.¹ The desired targets within the scope of the assignment, were links associated with the military, military air force, and the general air situation reporting nets associated with the Soviet air defense organization.

The section took steps throughout the year to establish some basic procedures of [redacted] traffic. This was designed to provide an effort to minimize the effects of a major [redacted] change. However, the effort offered few opportunities for the establishment of any detailed facts.

Some possible jamming or screening activity was thought active during the last quarter of the report period. The observation of interfering signals was assigned as a definite part of the section's mission. Resulting analysis proved that some [redacted] service signals were assigned frequencies close to high powered propaganda transmitters taking part in the radio broadcasters war. By this [redacted] stratagem, several hours of intercept were lost.

A general search position was assigned in July 1953, to help maintain the knowledge of Morse activity not being derived from assigned cover. The position was successful in gaining coverage on new and additional nets, and in the recovery of targets lost due to insufficient intercept.² Two additional positions were added in August and December.

1. Ann Rept, FS 8612 AAU, fy 1954, p26.
2. Ibid. p27.

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One outstanding accomplishment was the efficient coverage given to a

[redacted]

during the period 22 July to 14 August. The distinguishing features of this exercise were the establishment of temporary radio links paralleling existing facilities, and the sending of practice traffic over these links. After the termination of the exercise, many changes were observed in the [redacted] Far East. The headquarters was believed changed to a new location and alterations made in the service of some subordinate control stations. Because of this, certain assigned cases became almost inoperative.¹ Several assignment changes were necessary as an aftermath.

Increased section efficiency was observed during September 1953, when the Reports and Control Section made available published informal compilations of technical information. This material served as a working aid in maintaining continuity of coverage.²

During November 1953, it was evidenced that the lack of intercept volume had made the recovery of complete net structures impossible in the Maritime Military District. A special effort to provide additional intercept produced only limited success. The mission was handicapped because the intercept operator was forced to maintain a greater concentration of effort toward the detection and preservation of continuity of the section's assignment. General search assignments were discontinued in March 1954 in favor of [redacted] coverage. Only limited volume of intercept was obtained. It was believed the targets were employing landline communications instead of radio.

1. Ann Rept, FS 8612 AAU, fy 1954, p28.

2. Ibid. p28.

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A non-service COMINT mission was received in January 1954. This was the first of its type assigned and consisted of several cases having interlocking schedules. The total number of assigned positions was increased to [] by this addition. The mission was discontinued in April and replaced by a Far East Military assignment.

Additional personnel assigned to the Radio Printer Section during the report period maintained continuous effort to successfully complete the intercept mission.¹ Student training enabled new operators to take their position with experienced men in almost record time. At no time were pressing personnel problems recorded. The assignment of experienced NCO's during the third and fourth quarters of the report period aided the section in keeping pace with the rapid movements of Russian printer activity.²

A dual-track tape recording process that provided a simultaneous recording and playback of two channels of the [] single channel radio printer system remained the most important assignment. This printer system employed [] The increase in [] activity throughout the year radically changed the tasks of printer intercept personnel.

During July 1953, an additional [] circuit was observed and monitored. Confirmation of the link was later received and a case number assigned. This increase in use of scrambler activity was again observed in November, when a single channel link employing the [] transmission introduced the [] This target soon became the first priority assignment of the section.

1. Ann Rept, FS 8612 AAU, fy 1954, p29.
2. Ibid. p30.

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The first appearance of a [] employed on two channel service transmissions was recorded in late June 1953. The development required lengthy experimentation by printer personnel to gain information that would be instrumental []. The target was placed in top priority, however, intercept results were inconclusive.

The new minaturized two channel demultiplexer units experienced their greatest activity in July 1953.¹ During one 24 hour period, a total of 90 circuits of the two channel variety were intercepted. This occurred during the [] training exercise held in the Far East during July and August 1953. Three more converter units were added in January 1954 to bring the total to six [].²

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In addition, assignment of [] communications links was received in October 1953. At first, the assignment was a search activity. A definite list of links to be covered was received later.³

The priority of intercept was changed during October to a listing of cases that replaced the old system of the assignment being issued in three blocks. With the new assignment, search activity was increased.

A printer was installed in November 1953 and used to convert two channel teleprinter tapes to page copy. This made possible increased scanning procedures by analysis personnel. A second printer was added in March 1954. Military and unidentified tapes were page printed and forwarded by courier.

In December, a special mission to intercept and identify [] commercial automatic Morse signals was received for which recording of trans-

1. Ann Rept, FS 8612 AAU, fy 1954, p30.
2. Ibid. p31.
3. Ibid. p32.

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mission speed and gaining of schedules was required. The assignment was somewhat flexible and placed in last priority. No outstanding results were obtained, although a few intercepts and identifications were possible. The assignment was discontinued in February 1954.

Although the assignment was at variance with operator experience, results were satisfactory.

Technological innovations adopted in solving printer intercept problems were conducted during the report period. Solution to some problems encountered appeared improbable at times, and created an intercept psychosis about the section. Reports of intercept results, however, were favorable and reflected the general effectiveness of operations.

Intercept of voice targets by the station's Voice Intercept Section continued throughout the report period with no major changes made in equipment.² Only slight changes were made in the assignment and these came as a result of intercept operators probing for soft spots on the intercept front, the scoring of valuable successes, and the ultimate assignment of new targets found. A total of positions were manned. Intercept volume was immeasurably better than that recorded in the previous fiscal year.

With the heavy turnover in personnel from January through March 1954, it appeared incomprehensible that the section could continue producing results

1. Ann Rept, FS 8612 AAU, fy 1954, p31.
2. Ibid. p32.

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and recording procedural aspects of [] voice transmissions in the coverage area. Nevertheless, no decline in intercept or processing resulted because of the loss of highly specialized technicians.

[] military intercept remained the highest coverage under surveillance.¹ Air defense, naval air, and all other aircraft, with the exception of targets attached to the [] constituted the assigned coverage.

A period of brief training assisted operators in identifying the particular traffic desired and insured disregard of undesired targets. A check by direction finder bearings supplemented the mission, and assured that all traffic singled out by an operator originated from the area assigned.

A ten day voice intercept test was completed in September 1953. The test took place near the small Japanese village of Makabetsu, in northern Hokkaido, where a fertile source of information was believed present. From the intercept picture, the results achieved were quite modest. As a result, no recommendations to introduce immediate reforms over present voice intercept facilities were made.

The station's Direction Finding Section, operating as an integral part of the operational mission, continued to carry out established procedures used in gaining bearing results throughout the report period.²

A noteworthy increase in results was obtained in August 1953. At this time, a new piece of equipment (AFSAM 4A) was installed to provide a compact electrically-operated cipher machine for on line encipherment and decipherment of bearing results.

1. Ann Rept, FS 8612 AAU, fy 1954, p32.
2. Ibid. p33.

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Three periodic antennas erected during the first quarter made possible a uniform signal reception over a complete band of frequencies. A hitherto unattained degree of communication reliability was achieved by this installation in the operation of the flash net.¹

The transmitter used for flash missions became defective during November 1953. Because maintenance personnel were unsuccessful in repairing the breakdown immediately, missions were relayed to the Tokyo installation for transmission. The relay was accomplished by the use of SIGNIN equipment. Emergency measures were taken to obtain the needed items of repair, and the radio service became operative after a ten day outage.

Site operation was interrupted during September 1953 when construction of a new building was begun. Because of difficulties encountered in the operation of the direction finding net without this station's service, the mission was continued, utilizing the old structure. The section was able to move in December. Operations commenced and were not interrupted again during the entire year.

A new design of the Adcock antenna system was made part of the site in December. The necessity of disassembling the antenna in event of high wind velocity was removed. The installation was mechanically superior to the replaced field model, while remaining electrically equal.²

The Sapporo Mission Detachment, formerly a part of the 356th CRC, had as its mission during the report period the intercept and evaluation of traffic from illegal Japanese radio stations and the keeping of all illicit activity under constant surveillance.³

1. Ann Rept, FS 8612 AAU, fy 1954, p33.
2. Ibid. p34.
3. Ibid. P35.

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Four station radio operators were placed on DS and served with the 6th District of the 441st CIC Det, located at Sapporo, Hokkaido. The detachment was forced to operate with three operators during March 1954; a fourth was assigned in late April. No technical difficulties were encountered in this highly specialized field.

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The station's Reports and Control Section performed studies on all intercepted traffic and operator chatter rolls during the report period. Technical support was furnished intercept operators in order that coverage could be kept at a high degree of continuity. The section was responsible for correlating intercept results in order to obtain an accurate picture of Morse, voice, and radio printer communications. At the beginning of the period, the section was subdivided into Radio Printer, Morse, and Voice Subsections. A special analytical function, which provided support for an Air Force mission, remained a daily activity. During July 1953, a new analytical group examined all chatter and traffic from an assigned general search mission. The group was no longer active when the general search assignment was discontinued in April 1954, but analysis of radio telephone activity became an integral part of the section's activities.¹

With the expansion of the station assignment, the functions of the analysis group gained steadily in importance. The system of completing necessary summaries of intercept was made part of the trick worker's task. Liaison between intercept and analysis improved, and an especially high yield of new targets was realized. Four new military air links were found along with 11 military, 7 air defense, and 2 naval.²

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1. Ann Rept, FS 8612 AAU, fy 1954, p35.
 2. Ibid. p36.

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Due to increased receipt of reference material from ASA Pacific and NSA, a system for forwarding, receipting and accounting of classified secret codeword publications was adopted during the report period. A new monthly report was also implemented which provided for a more complete appraisal of the intercept picture. This report surpassed previous efforts as it allowed for latitude to drive wedges at points not covered by normal message exchange. The report was discontinued in May, 1954 and a semi-monthly report submitted omitting analytical details.¹

The section was also responsible for the forwarding of intercept results to the authorized consumer. Through effective supervision and complete understanding of the mission, all types of intercept were formulated which allowed the station to establish an impressive record in COMINT during the year.²

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1. Ann Rept, FS 8612 AAU, fy 1954, p56.
 2. Ibid. p37

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2. Korea

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a. 501st Communications Reconnaissance Group, Seoul

Throughout fy 1954, the COMINT Branch of the 501st CRG was concerned with two major problems-- the Chinese Communist and the [redacted] [redacted] together with certain others on which less emphasis was placed. Specifically, the targets of interest were the [redacted] the People's Volunteer Army (Chinese), and the [redacted] [redacted] Activity on these targets was controlled through close supervision of and liaison with subordinate COMINT units in Korea. Intercept was conducted principally on manual Morse and voice Morse, and secondarily on low level voice nets.

At group headquarters, the COMINT Branch maintained intensive traffic analysis [redacted] the latter particularly on [redacted] [redacted] Successes in these fields were such as to enable providing COMINT of inestimable value to the Eighth US Army, through the office of the Special Security Representative.¹ In addition, a conspicuous accomplishment during the report period was the establishment and maintenance of good relations between the Intelligence Branch and Eighth Army representatives.²

At the start of fy 1954, the COMINT Branch continued its earlier organization which was divided into five general sections, viz: Chinese Communist (CC), North Korean (NK), Low Level Voice Intercept (LLVI), Integration, and Direction Finding (DF). The latter directly supported the Chinese and North Korean sections by furnishing them with such DF information as desired.

1. Ann Rept, 501st CRG, fy 1954, p28.

2. Ibid. p28.

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The Chinese and North Korean sections were made up of separate groups of personnel devoted to traffic analysis, cryptanalysis, and translation. The Integration Section (including North Korean and Chinese OB personnel) served as a receiving and consolidating agency for COMINT produced by North Korean and Chinese Sections and for information received through collateral sources. This section also developed reports for dissemination to intelligence consumers.¹

Although this organization produced good results, experience began to reveal that activities encompassed by the Integration Section were of such range and depth as to hinder efficient and timely operation. For this reason, the Integration Section was dissolved and its personnel assigned to various groups of the North Korean and Chinese Sections, and each of these sections reorganized into single, unified, major units.² In turn, the major sections became duly responsible for the preparation of intelligence reports for intra-agency dissemination. In place of the Integration Section, the office of the COMINT Section directly controlled the low level voice activity for both problems. Later, it was found that separation of the two sections resulted in some undue diversity of effort through lack of interchange of information. This was alleviated by the institution of a daily briefing session conducted by section officers (including low level voice), and attended by all COMINT Section officer personnel. The Special Security Representative also attended these meetings.³

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1. Ann Rept, 501st CRG, fy 1954, p29.
 2. Ibid. p29.
 3. Ibid. p30.

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Another change in organization was effected by the eliminated of the office of the Operations Officer and establishing the COMINT officer as the direct operational relationship with the Commanding Officer.

During active hostilities, intelligence reporting to the consumer was maintained on a daily basis. Shortly after the cessation thereof, this was replaced by a weekly intelligence summary, together with both spot and informal reports to the Special Security Representative on matters of immediate importance.¹

Operational strength of the 501st during the report period averaged [redacted]

North Korean Problem

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Specific problems of concern to the North Korean Section were North Korean military, naval and guerilla, [redacted]

[redacted] problems were transferred elsewhere within ASA Pacific and general emphasis placed on the North Korean military problem.

At the start of fy 1954, the North Korean Traffic Analysis Section, the North Korean Order of Battle Subsection, and the North Korean Cryptanalysis Subsection were separate entities, physically located apart from one another, with little stimulus or opportunity for either coordination of their individual efforts or integration of the results. To correct these deficiencies, the subsections were relocated and the entire effort placed under the control of a single OIG.

1. Ann Rept, 501st GRG, fy 1954, p30.
2. Ibid. p31.

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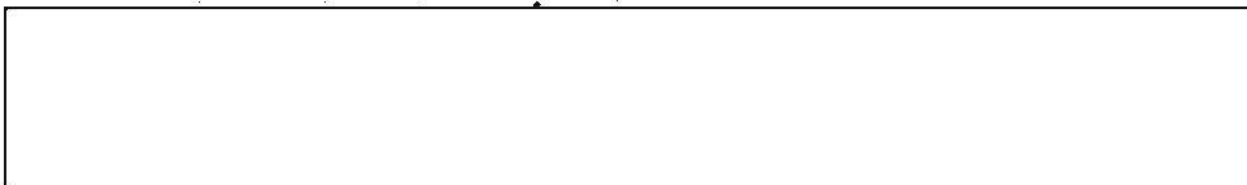
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year, section strengths (excluding officer personnel) were as follows:

Cryptanalysis, Translators, Traffic Analysis, Order of Battle,
 and Administration; 6. Reorganization made possible a concentrated effort

which resulted in the production of COMINT of a quality and quantity previously unattainable.

Toward the close of the report period, further means of improving North Korean COMINT were investigated. In the interest of obtaining better intercept coverage of certain cases and frequencies, test sites were established for positions of the 330th CRC near Samuil, the 329th CRC near Chipori, Kimpo, and Paengyong-do Island. Intercept results from the first and the last were encouraging. Establishment of additional positions at Paengyong-do Island was contemplated, but detailed investigation revealed that the effort required to surmount resulting logistic and courier problems would be relatively great. Decision on this was pending at the end of the fiscal year.



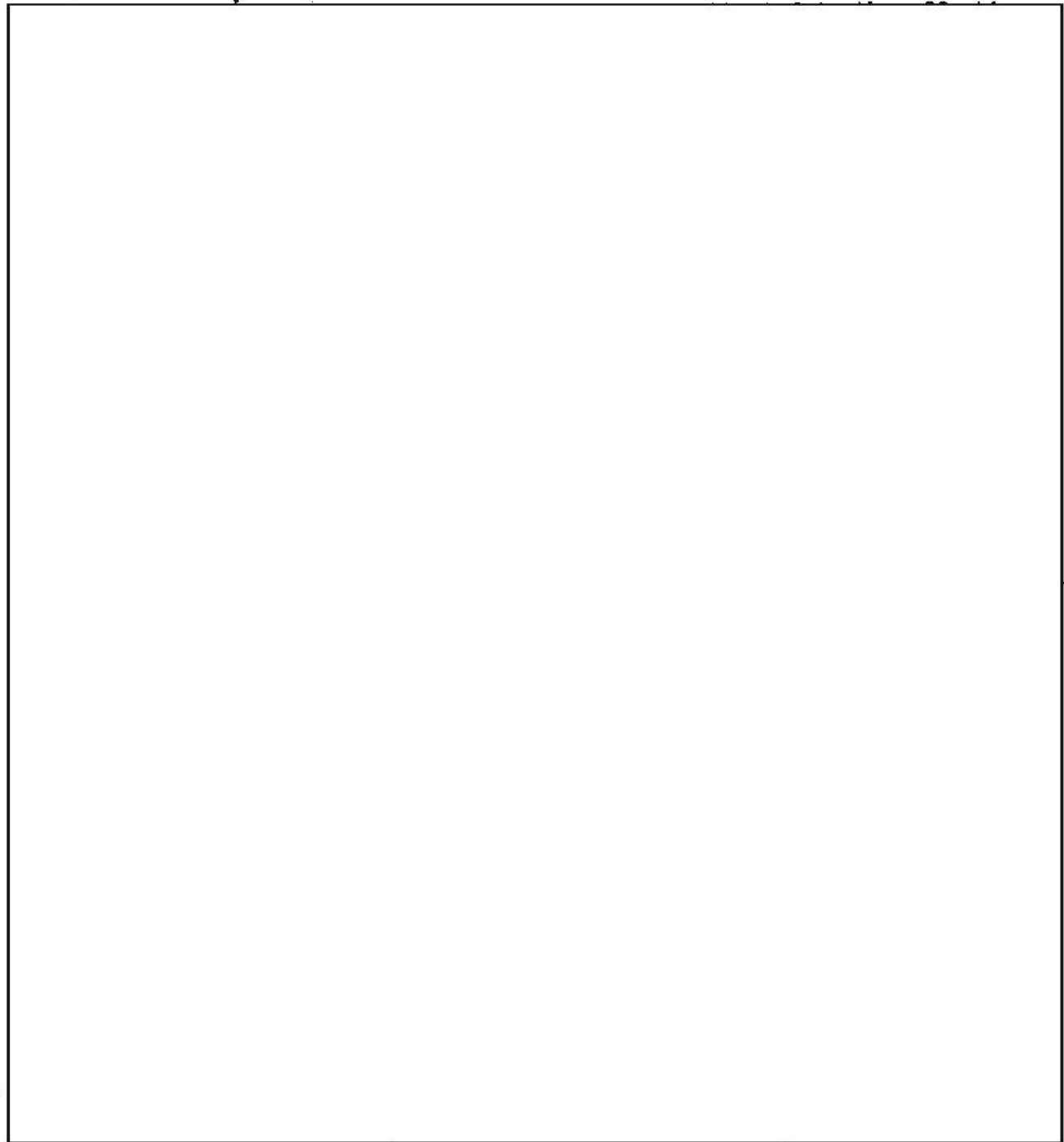
1. Ann Rept, 501st CRG, fy 1954, p32.
2. Ibid. p32.

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On 17 July 1953, the Traffic Analysis Subsection discontinued publishing the "Daily Traffic Analysis Symposium" and initiated a "Weekly Traffic Analysis

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- 1. Ann Rept, 501st CRG, fy 1954, p32.
 - 2. Ibid. p33.

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To better fulfill the primary mission of the section, a revision in the approach to the preparation of the North Korean portion of the "Weekly COMINT Summary" was inaugurated in March, 1954. By stimulation and encouragement of traffic analysis personnel, by re-acquainting them with traffic analysis techniques, by emphasizing initial traffic analysis at station level, by improving liaison between Order of Battle and traffic analysis personnel, and by other associated means, the traffic effort was brought to a point at which results were becoming apparent and AMELE material was beginning to assume proper significance in the production of COMINT with that established by FROTH.²

In May 1954, section personnel gave assistance to the 330th CRC in the implementation of its daily technical summary.³ On 26 June similar assistance was advanced to These documents combined with that of the section allowed consecutive-date forwarding of traffic (with minor exceptions) to ASA Pacific and NSA.

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Chinese Problem

The cessation of hostilities, soon after the beginning of the report period, caused several changes in the operations of the Chinese Communist Section. The abrupt decline in the voice problem necessitated switching most of the voice positions at the 329th CRC to manual Morse. As a result, through proper intercept control, the Chinese Communist manual Morse problem

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1. Ann Rept, 501st CRG, fy 1954, p33.
 2. Ibid. p34.
 3. Ibid. p35.

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started an expansion program. Inasmuch as, with the decline of readable voice traffic, the cryptanalysis effort was necessarily changed to one of scanning for exploitable characteristics, many of the personnel who had originally been gainfully employed in their technical speciality were now diverted to the traffic analysis phase of the problem.¹

Absence of FROTH material may actually have proven a boon, for it was well demonstrated throughout the report period that traffic analysis was capable of developing a coherent and accurate intelligence picture and was capable in several instances, of predicting in advance, the movements of large enemy units within and out of Korea. In every case, sufficient collateral evidence was eventually accumulated to substantiate these predictions to a moral certainty.

Personnel engaged in traffic analysis on the Chinese Communist manual Morse problem during the report period supplied the Eighth US Army and higher echelon units of ASA with a constant flow of information concerning the enemy in North Korea. This information increased, not only in volume and accuracy, but also in its importance to the UN effort in Korea.

At the start of fy 1954, continuity was being maintained on approximately forty-five active manual Morse nets. By the end of June 1954, this number had increased to approximately sixth-five.² All of these nets were of the high echelon type, and information derived from them concerned division level or higher. personnel were able

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1. Ann Rept, 501st CRG, fy 1954, p35.
2. Ibid. p36.

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to derive a large amount of intelligence from analysis of message externals alone.¹ For example, at the beginning of the report period manual Morse nets reflected the presence of twenty Chinese Communist Armies in Korea. By the end of the fiscal year, analysis indicated that eleven Chinese Communist Armies in Korea, nine having withdrawn to China. Where an army withdrew to China or displaced to rear areas, analysis of its communication patterns was found to be an invaluable source of information concerning the impending movement. Often this information was not available from any other source.²

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After the signing of the truce, the intelligence derived from intercept acquired an even greater importance. Prior to the signing of the truce, [redacted]

[redacted] traffic was available and often proved of tremendous value to the UN effort.³ Following the truce, however, this source of intelligence was seriously curtailed due to the disappearance of many of the low echelon radio nets. Agent reports had also been an important source of intelligence. After the cessation of hostilities, however, these were few in number, and often too vague to be of importance. The lack of POW reports was an additional factor which left COMINT as one of the most important and reliable sources of information about the [redacted]. Intelligence derived from manual

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Morse copy, therefore, proved to be of paramount importance in determination of strength, distribution, and movement of Chinese Communist units in North Korea.

Throughout the course of the report period, new station identities were

1. Ann Rept, 501st CRG, fy 1954, p36.
2. Ibid. p37.
3. Ibid. p38.

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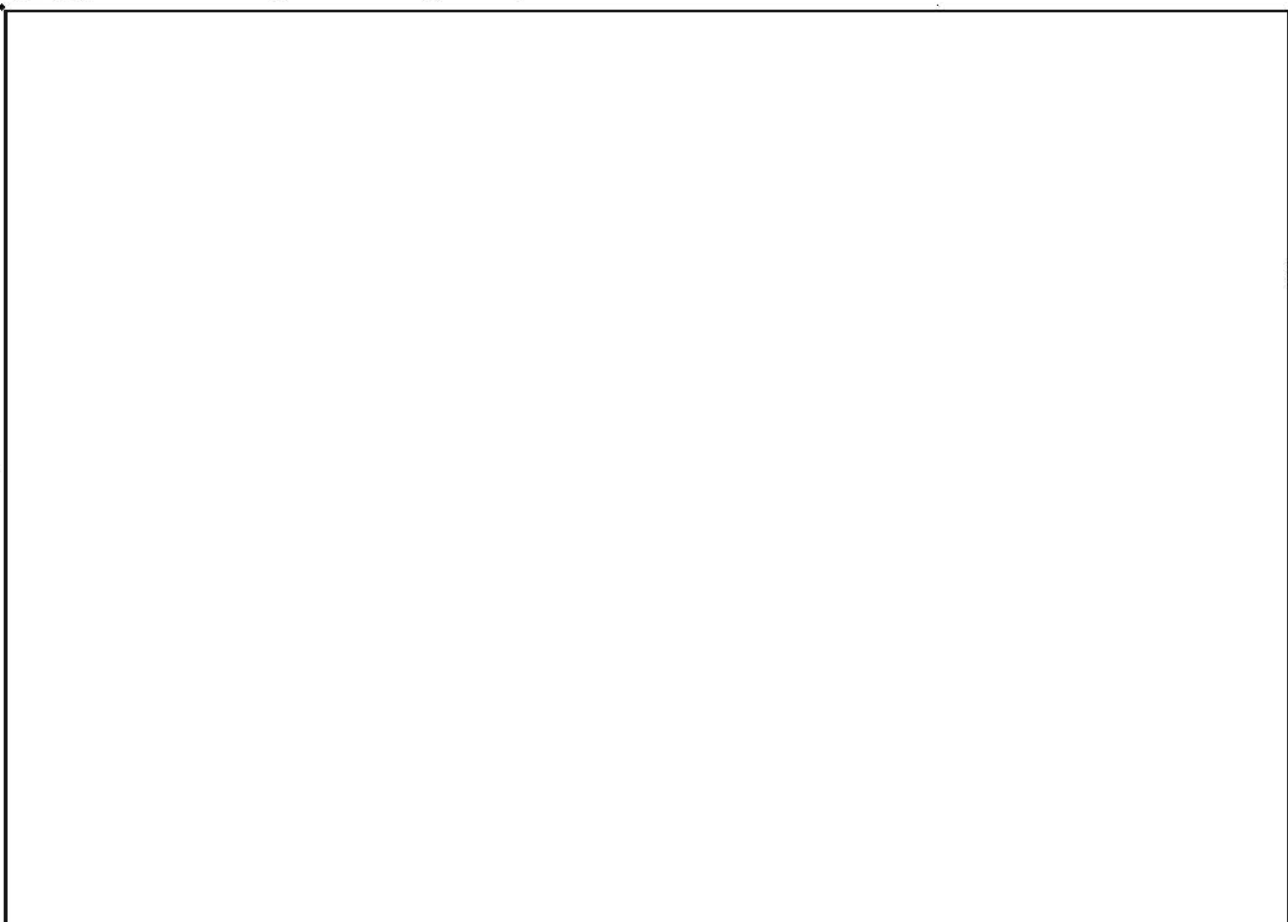
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made on nineteen Chinese Communist Infantry Divisions and four Corps. In addition, innumerable new identities were made on stations serving higher headquarters of the Chinese Forces in North Korea and Manchuria.¹

During April and May, 1954, when a large number of Chinese Communist units were replaced by North Korean forces, most of the important and accurate information concerning this significant move was derived from traffic analysis.

In early June 1953 a semi-major change in Chinese communications procedure and the system of callsign generation had occurred. This made maintenance of net continuity extremely difficult. By September, however, the system of

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1. Ann Rept, 501st CRG, fy 1954, p38.
2. Ibid. p39.
3. Ibid. p39.

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conjunction with this, came the institution of an intensified program at ASA Pacific to supplement analysis on the Chinese Problem through the use of IBM machines. As the report period came to a close, this program was still in the process of development; however it seemed evident that this source of added information would prove to be of considerable importance in analytical work.¹

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At the beginning of fy 1954, the Chinese Cryptanalysis Subsection of the 501st received the bulk of its intercepted traffic from the 329th CRC. From three sites, a total of [] positions monitored Chinese voice communications. Raw traffic was processed through a central traffic control center at the company. At that point, cryptanalysis personnel scanned the traffic to determine its value and the proper precedence to be given it. This insured rapid distribution of the critical messages not only to ASA sources, but to the consumer as well.

The abrupt decline in voice communications which followed the cease fire resulted in extensive search for exploitable manual Morse traffic by the 329th CRC. Only [] positions were considered necessary to provide adequate coverage of voice transmissions. The remaining positions intercepted large amounts of manual Morse, []

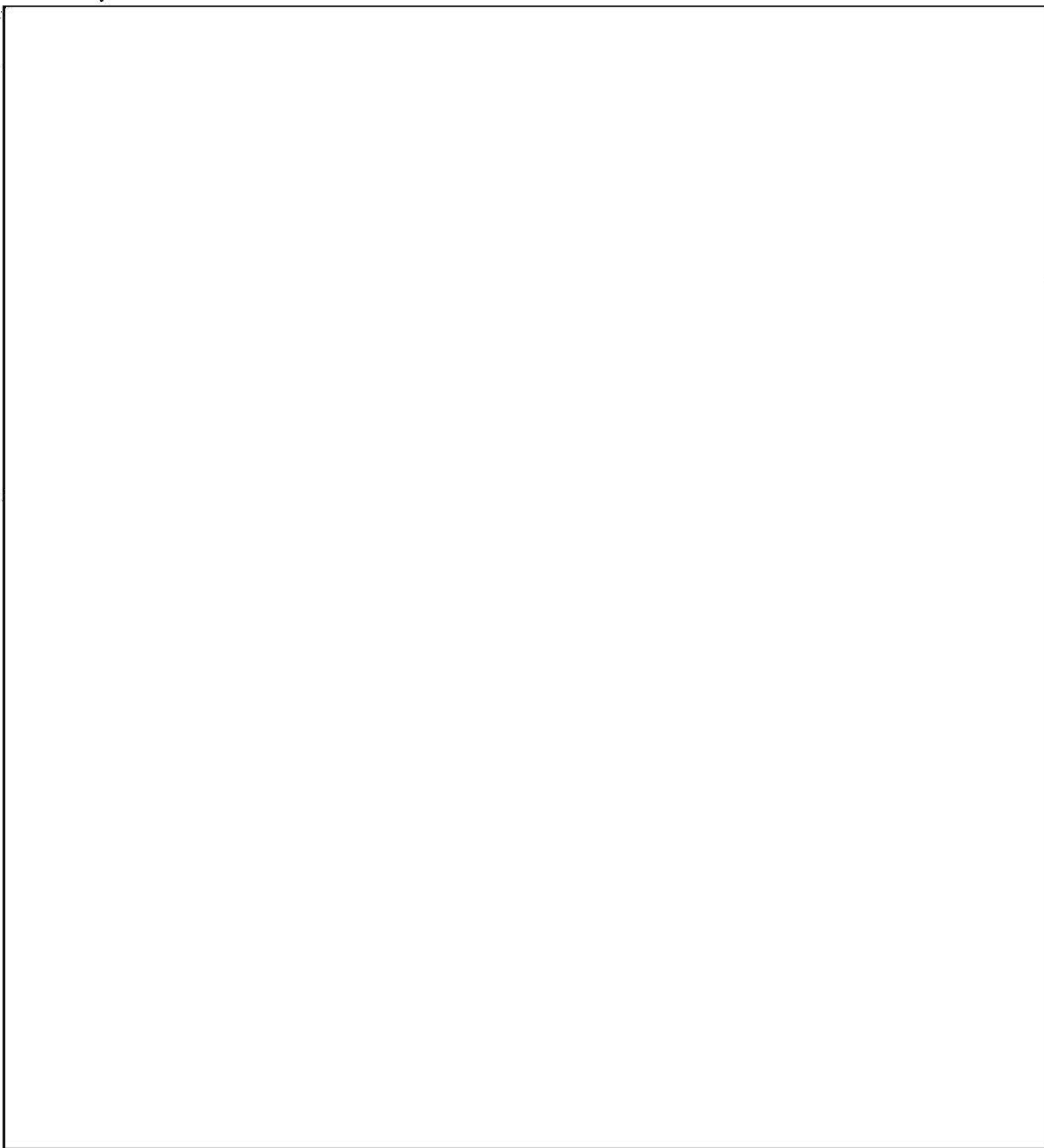
1. Ann Rept, 501st CRC, fy 1954, p40.
2. Ibid. p40.
3. Ibid. p41.

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1. Ann Rept, 501st CRG, fy 1954, p42.
2. Ibid. p42.
3. Ibid. p43.

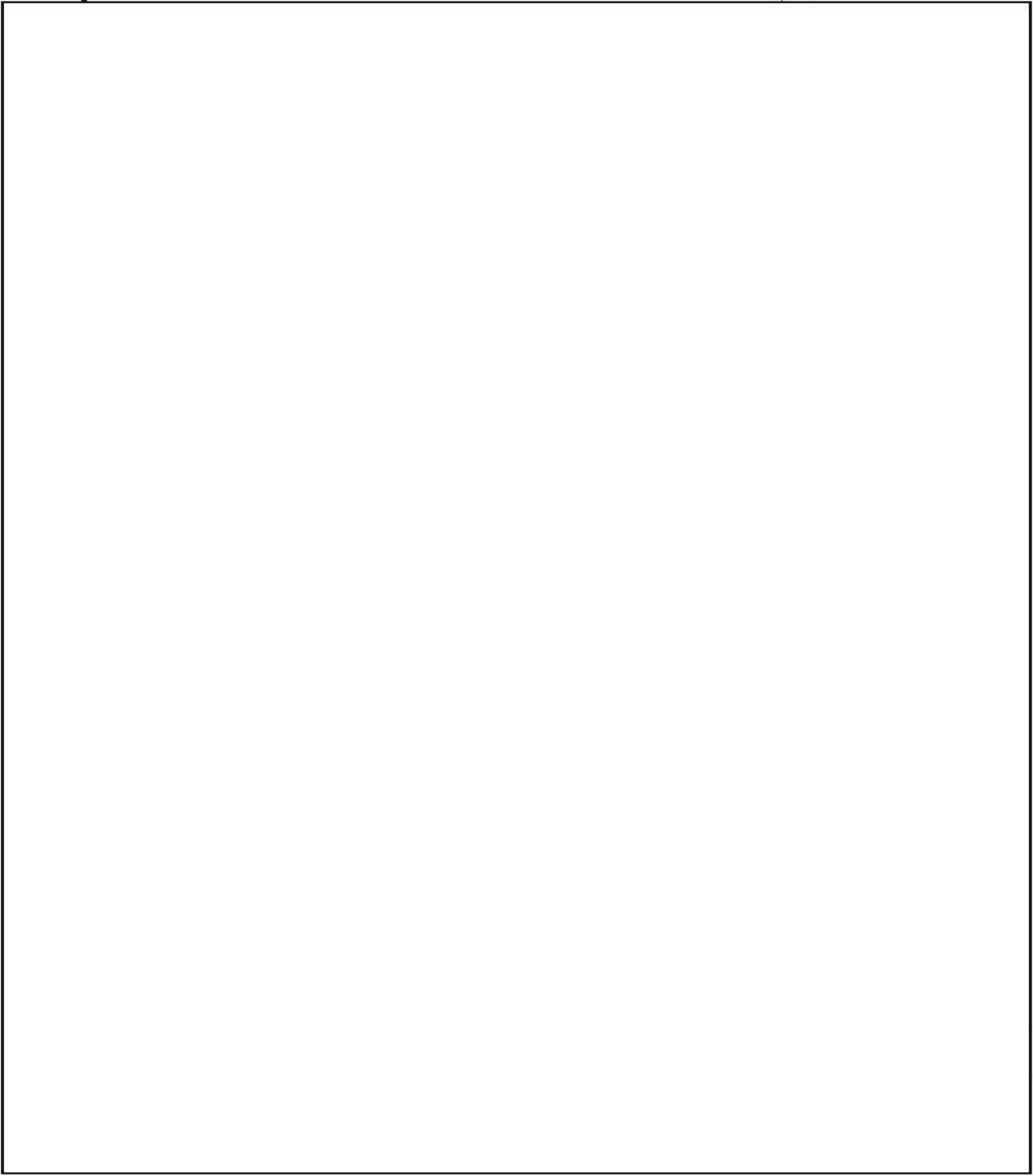
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1. Ann Rept, 501st GRG, fy 1954, p43.
2. Ibid. p43.

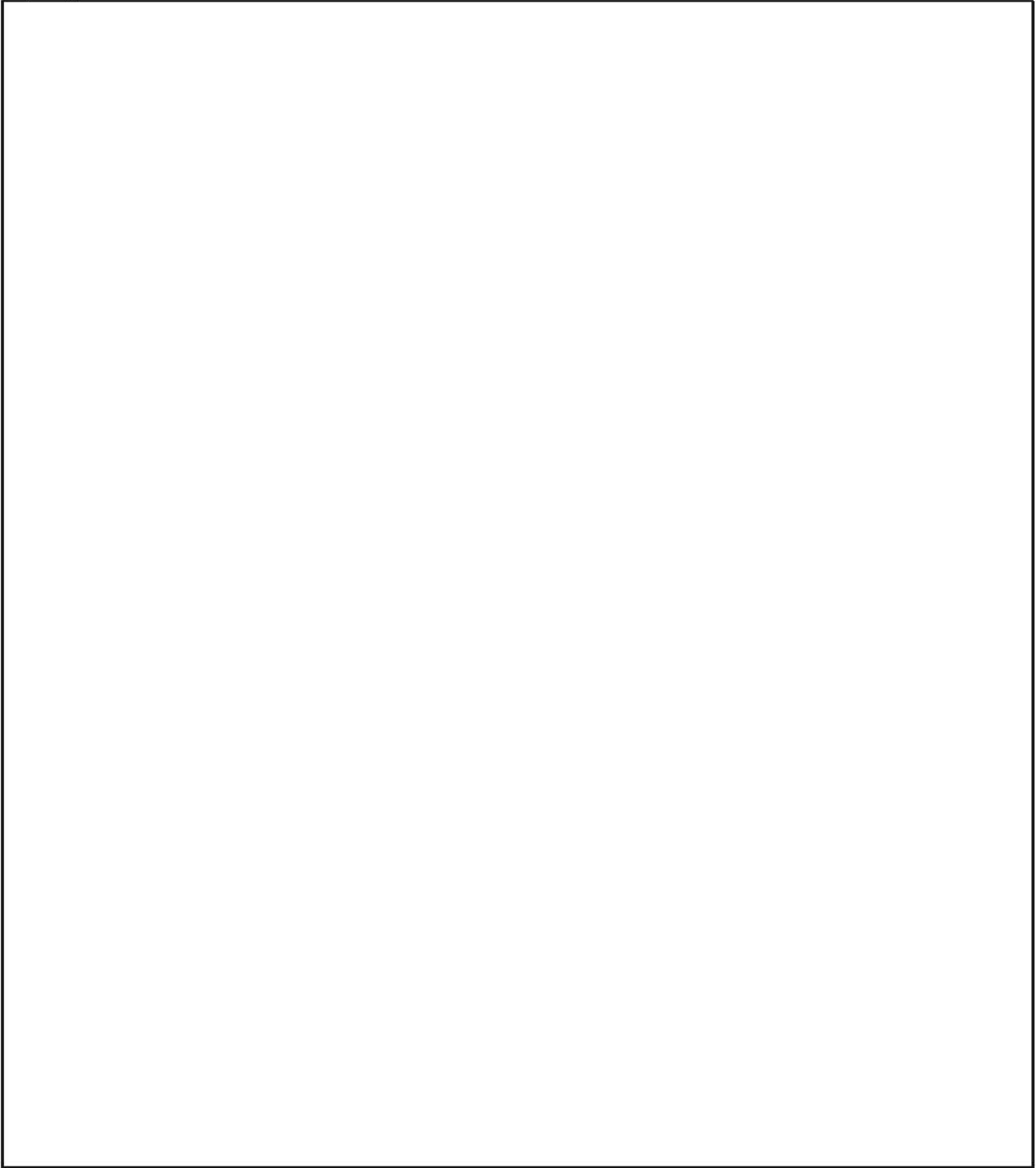
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1. Ann Rept, 501st CRG, fy 1954, p44.
2. Ibid. p44.
3. Ibid. p45.

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The cease fire agreement and the large scale redeployment of enemy forces during the latter half of the report period led to a marked reduction in the low level intercept effort.³

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1. Ann Rept, 501st CRG, fy 1954, p45.
 2. Ibid. p45.
 3. Ibid. p46.

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At the beginning of fy 1954 there were low level intercept teams in position along the main line of resistance, ten liaison detachments in support of front line divisions, and three battalions in support of corps. The cease fire agreement brought about a sharp decrease in traffic, and as a result, eight teams and one detachment were deactivated during the period 1 August to 30 September 1953. Traffic volume would have permitted deactivation of additional teams, however, because of the tenseness of the situation during negotiations for the POW exchange, further reduction was temporarily withheld. Shortly after the exchange, a large scale redeployment of enemy forces wherein many North Korean units replaced Chinese units on line. This led to a further decrease in traffic from North Korean units as they depended on radio communication to a much lesser extent than did the Chinese. Consequently, further reduction was called for, and by the end of May only ten teams, six detachments, and two battalions were in operation.¹

In keeping with the build-up of the South Korean Army and reduction in United States Forces in Korea, plans were being made for further reduction.

At the beginning of the report period, low level teams were continuing to intercept traffic of immediate tactical value. A typical example of intercept of this type was a situation that developed opposite teams of the 303d CRB on 25 July 1953. In that instance, traffic was intercepted which disclosed plans for an attack, including the time, size of force, objective, and route of approach. Information was immediately forwarded to the G2, 1st Marine Division and as a result, the attack was successfully repulsed.

1. Ann Rept, 501st CRG, fy 1954, p46.

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Active combat ended twenty-seven days after the start of fy 1954, and it became evident shortly after the cease fire agreement that the enemy was engaged in an intensive effort to protect his low level communication system.¹ On 23 December the results of his efforts became evident with the appearance of the "Song River Net," which extended across the entire front and was intercepted by all low level teams.

On 22 December 1953 there was a sharp increase in communications activity, apparently as a result of the impending POW exchange scheduled for 22 January 1954. During this period low level indicated that the enemy considered the situation critical, and it was apparent that a condition of alert existed. An indication of the state of alertness was an extremely large volume of traffic together with around-the-clock communications checking through 23 January. The Special Security Representative considered this information to be of utmost importance and asked for continual checking with battalions and immediate reporting of any sudden change in the situation. Low level voice intercept was apparently the sole source of information on this particular situation throughout the period of negotiations.²

On 2 April 1954, high level intercept began to give indication of a large scale redeployment of enemy forces on line. Shortly thereafter, low level voice intercept confirmed this redeployment, which involved an extension of boundaries that gave North Korean units on line a much wider frontage and the replacement of the 21st and 54th Chinese Armies by the 5th North Korean Corps.

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1. Ann Rept, 501st CRG, fy 1954, p47.
 2. Ibid. p48.

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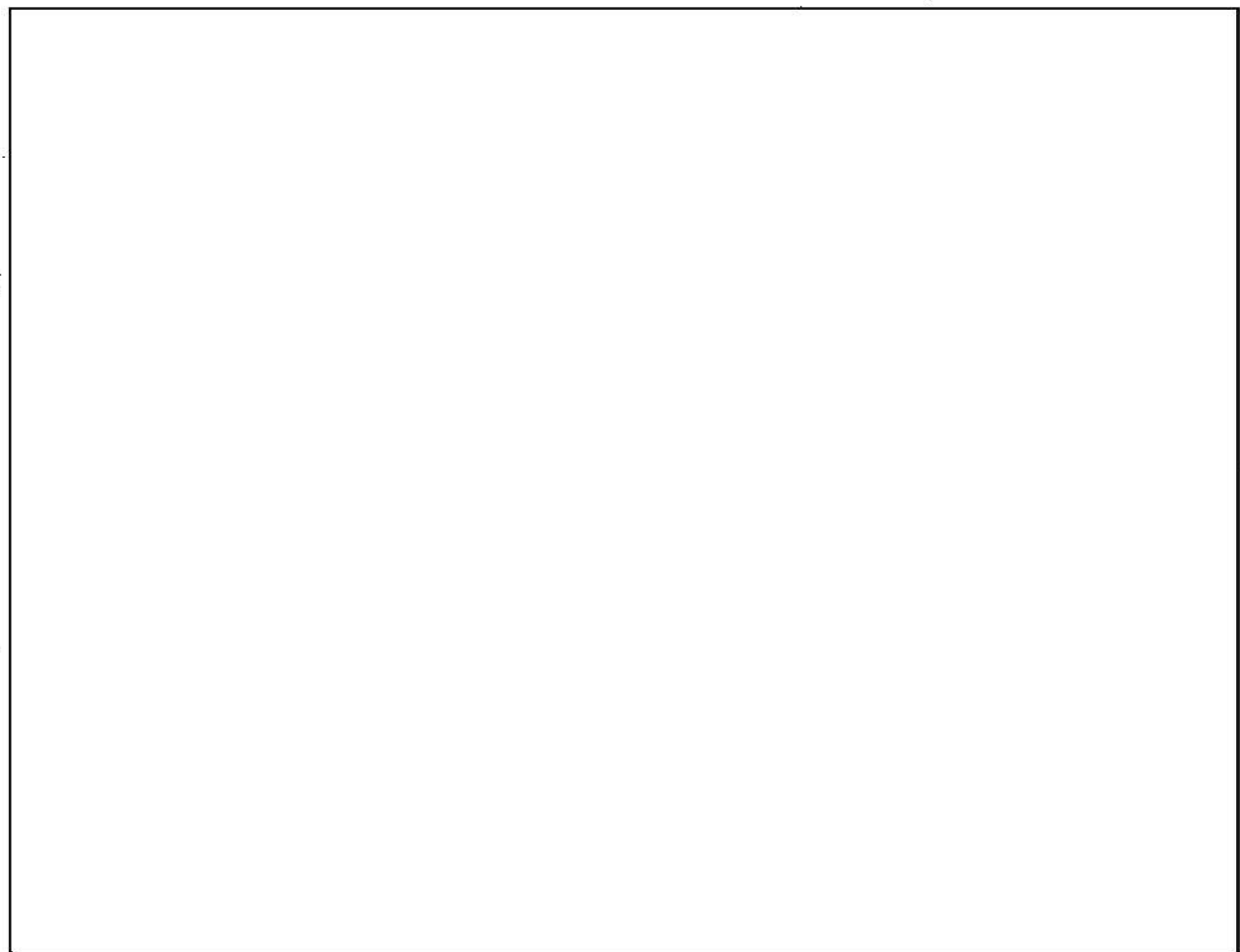
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On 20 April 1954, a low level team in position opposite the area where re-
 deployment was being effected for the first time to intercept [redacted]
 traffic and at the same time experience a decline in Chinese traffic. By
 7 May, it had become apparent from high level sources that replacement had
 been completed. Thereafter, traffic intercepted by the low level team was
 of [redacted] origin only, confirming the fact that replacement had been
 accomplished.

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1. Ann Rept, 501st GRG, fy 1954, p48.
2. Ibid. p49.

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It had become clearly evident at the close of the report period that low echelon units were using radio communications almost exclusively for operator training and equipment testing purposes. Chatter frequently disclosed that landline systems were being used for normal operations.

In May of 1953, radio sets AN/PRC 8, 9, and 10 were being experimented with in the hope of replacing the two radio sets then in use, the BC-683 and the BC-603. As of 1 July 1953, some AN/PRC sets had been put into operation and were proving quite successful. Use of dry cell batteries, rugged, simplicity of operation and maintenance, and coverage of frequencies most commonly used by enemy lower echelon units were among the marked features that made the sets particularly suitable.¹ Several of the old type receivers were still in operation at the beginning of the fiscal year; however, they were replaced by AN/PRC's as rapidly as they became available.²

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In September, [redacted] officers in the low level effort applied for release and three were due for rotation. As a consequence, it was necessary that each assigned officer be given responsibility for control and supervision of at least two detachments. By February 1954, officer strength had returned to normal, and assignments again were on the basis of one officer per detachment.

The almost complete turnover of personnel during the months of October and November fortunately occurred at a time when low level intercept activity was at low ebb. During this period, it became obvious that because of a lack of knowledge and familiarity with the problem on the part of newly assigned personnel, proper control was not being exercised at the detachments and

1. Ann Rept, 501st CRG, fy 1954, p49.

2. Ibid. p50.

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team sites. Conferences with all commanders and operations officers produced results, and by the beginning of December the low level problem was once again functioning smoothly.¹

At the start of calendar year 1954, in consonance with a policy previously promulgated by Hq ASA in reference to desirability of maintaining a large linguistic reserve pool, the first members of a promised contingent totaling [] plus by July 1954 were assigned to the low level voice intercept problem.² This was viewed to be the most logical assignment, in that it would enable specific MOS's to maintain contact with the language through daily association with Chinese National Department of Army Civilians (DAC's) and with the written traffic. By the end of the fiscal year a total of [] language men had been distributed among the low level voice teams and had, in a large measure, taken over the manning of the low level voice problem, relieving critically needed personnel for higher level operations. It also paid dividends in that it finally became possible to standardize the Romanization of characters and aid the T/A phase of the operation.³

In addition to the military personnel concerned with the low level effort, Chinese Nationalists and Korean personnel continued to be utilized therein. The former, recruited in Formosa by Korean Communications Zone personnel, were employed as DAC's for the intercept of Chinese transmissions, and the latter, recruited by Eighth Army as critical military specialists for intercept of North Korean transmissions. In these capacities, they were indispensable to the success of the effort.

In their employment, a problem was encountered in the disparity of pay

1. Ann Rept, 501st CRG, fy 1954, p51.
2. Ibid. p51.
3. Ibid. p52.

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scales between the two, for which there was no practical solution. In fact, DAC's working side-by-side with the specialists received salaries averaging \$250.00 per month more than the specialists. At the start of the report period, a total of 94 DAC's and 15 specialists were employed. By the end of the period the number of DAC's had decreased to 78 while the number of specialists remained at 15.¹ The decrease in DAC personnel can be accounted for by the number of teams deactivated.²

No decrease in the number of specialists occurred inasmuch as many Chinese elements on line were replaced by North Korean units, necessitating use of specialists at sites which had previously intercepted only Chinese transmissions.

Direction Finding

The dawn of fy 1954 marked the beginning of a new era for the Korean direction finding endeavor. The cessation of hostilities gave rise to a continuing dependence upon the products of direction finding, resulting in an extensive effort to increase the effectiveness of its activity. This was approached from a number of angles; first, there was the realization of the need for revision of the base line, then the reorientation of direction finding antennas, followed by the necessity for emphasizing maintenance and repair of equipment, revision of procedures for controlling the net, and finally, revamping the principles of evaluation of results obtained.³

At the beginning of the report period, the Korean direction finding net consisted of one flash circuit using multiple flash procedure, and one

1. Ann Rept, 501st CRG, fy 1954, p52.
2. Ibid. p53.
3. Ibid. p53.

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report circuit using standard communications procedures. These two circuits were retained throughout the year with changes being made only in net construction and operating procedures. Predominant among the changes in net procedure was the change to multiple flash. Along with the change in net procedures came a change in net construction, which involved the installation of keying lines between tip-off stations of the 326th and 330th CRC's¹ and direction finding control. These keying lines enabled tip-off stations to utilize the same transmitter as net control. The lines proved unsuccessful in view of the fact that group had no wire maintenance facilities which forced the net to rely on disinterested units to perform maintenance. Also, the distances involved required the placing of excessively high voltage on the lines in order to activate the relay system which was required. Due to continued difficulty, the use of keying lines was discontinued in April and May, 1954, and the effected tip-off stations reverted to the use of local transmitters.²

In November 1953, the JOVE cryptosystem was placed into effect on the Korean flash circuit, resulting in the ease of enciphering and deciphering due to simplicity of page and line designators. The COMUS cryptosystem was also tested during the period immediately following, and resulted in recommendations for it to replace the JOVE system on the basis of its superiority in speed, brevity of messages, and combination of tracking and report data on a single page. The COMUS system had not been approved for use in the Korean net at the close of the report period.³

1. Ann Rept, 501st CRG, fy 1954, p54.
2. Ibid. p55.
3. Ibid. p55.

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During February and March 1954, the direction finding antennas at all sites were reoriented using the principle of observing Polaris (North Star) with a transit and correcting the deviation to true north. The time and declination of Polaris at western elongation was obtained from the Topographical Survey Section of Eighth US Army. The reorientation was performed at group, using the same transit at each direction finding station.¹

In March and April 1954, crystals were obtained for use in all transmitters. Permanently assigned frequencies were also obtained, for use on the net. This was brought about in order to facilitate tuning of transmitting and receiving antennas to frequency. This innovation resulted in a continued increase in operating efficiency.

In April and May 1954, a team of operators was dispatched with instructions to take a radio set SCR-399 to various predetermined points along the demilitarized zone in Korea. This test indicated that the inland sites were quite accurate, with the coastal sites being somewhat erratic. The test also indicated that more emphasis had to be placed on operator training, in addition to extension of equipment maintenance.

Direction finding antennas were replaced at two sites. A new AN/CRD-2 antenna replaced the old SCR-291 antenna at Kwangson-ri, and a new RC-301 replaced the SFC-291 antenna at Paeng-yong-do.²

Direction finding transmission lines caused some trouble during the year. This was due to the fact that no impedance matching instruments were available in Korea for balancing the cables. Shunt resistors were difficult

1. Ann Rept, 501st CRG, fy 1954, p56.
2. Ibid. p56.

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to find and even more difficult to match up. These last items, along with the non-availability of other critical items of equipment peculiar to direction finding operations, caused the majority of the problems.

By far, the greatest single factor in improving the coordination and control of the net was the moving of direction finding control to group headquarters during June, 1953.¹

During the report period, structure of the DF net was as follows:

Control	Group Headquarters, Seoul
Tip-Off Stations	<ol style="list-style-type: none"> 1. Intercept Section, 326th CRC 2. Intercept Section, 330th CRC 3. Advance Intercept Site, 330th CRC 4. Intercept Section, 329th CRC (Deactivated Oct 53 - Reactivated at new location May 54)²
DF Sites	<ol style="list-style-type: none"> 1. Paeng-yong-do - Entire report period 2. Sucham-ni - Entire report period 3. Kwangson-ni - Until Nov 53 when transferred to 330th CRC and relocated at Tukto 4. Kwangson-ni - Entire report period 5. Chipo-ri - Entire report period 6. Yonchon - Entire report period 7. Punch Bowl Area - Until Sep 53 when transferred to 326th CRC, reestablished at Chanchon in Feb 54 8. Yangyang - Entire report period 9. Kyodong-ni - Until Apr 54 when it was deactivated³

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1. Ann Rept, 501st CRC, fy 1954, p59.
2. Ibid. p57.
3. Ibid. p58.

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b. 301st Communications Reconnaissance Battalion, Kwandae-Ri

Throughout fy 1954, the primary mission of the 301st CRE was that of providing direct low level tactical COMINT support to the X US Corps and its subordinate divisions. This consisted of the intercept of North Korean and Chinese Communist Forces radio and telephone communications, analysis of intercepted traffic, and dissemination of COMINT to authorized recipients.¹

Directly subordinate to the battalion, the 330th CRC provided high level strategic COMINT to the 501st CRG, and detachments of the 351st CRC carried out security monitoring of friendly communications in the X Corps sector.²

From intercept sites in the forward areas, traffic was forwarded to a battalion liaison detachment where limited analysis was performed.³ At this level, dissemination was made to G2 of the supported division. From here, traffic was forwarded to the battalion's Operations Section, where additional analysis was performed. The end product was then disseminated to G2, X US Corps on a day to day basis.

Although the mission of the battalion remained the same during the report period, operational aspects changed considerably upon the signing of the truce and assumption of control of the X Corps Sector by the First Republic of Korea Army (ROK).⁴

On 1 July 1953, the battalion was deployed as follows:

1. Ann Rept, 301st CRE, fy 1954, p34.
2. Ibid. p35.
3. Ibid. p34.
4. Ibid. p34.

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<u>UNIT</u>	<u>LOCATION</u>	<u>UNITS SUPPORTING</u>
Headquarters & Headquarters Detachment (Operations)	DT 199084 Kwandae-Ri	X US Corps
Liaison Detachment #1	DT 078295	7th & 20th ROK Divisions
USM 661-01	DT 043400 Hill 1220	
Liaison Detachment #2	DT 141269	40th & 45th US Infantry Divisions
USM 661-02	DT 183401 Sandbag Castle	
USM 661-03	DT 201387 Inchon Hill	
USM 661-05	DT 142402 Heartbreak Ridge	
Liaison Detachment #3	DT 364308	40th & 12th US Infantry Divisions
USM 661-04	DT 365488 Hill 751	

(Note: In cases where liaison detachments were supporting ROK Divisions, dissemination was made to G2 Advisor, Korean Military Advisory Group (KMAG)).¹

In general, this disposition continued until the truce was signed. During this period, USM 661-01, 03, and 04 were engaged in intercepting North Korean and Chinese Communist Forces radio communications while USM 661-02 and 05 were intercepting North Korean landline communications. On 14 July 1953, USM 661-05 became a test team, conducting tests in vicinity of Hill 1090, but this phase of operation was discontinued and the team deactivated. During the final phases of active combat COMINT supplied to supported units continued to be useful, and contributed in containing the final push by the enemy just prior to the truce.²

1. Ann Rept, 301st CRB, fy 1954, p35.

2. Ibid. p36.

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With the establishment of the demilitarized zone, it became necessary to re-establish the intercept teams due to their location in the zone. Commencing 28 July, USM 661-02 and 03 were closed out and, on the following day, USM 661-01 and 04 were closed out. New sites were established with USM 661-01 being relocated on Hill 1005, USM 661-03 on Hill 1304, (Punchbowl), and USM 661-04 on Hill 1031.¹

USM 661-02, the remaining intercept team, was deactivated at this time inasmuch as this type of activity was no longer possible. Concurrent with these moves, the role of support also changed with Liaison Detachment 1, supporting the 40th and 45th US Infantry Divisions, and Liaison Detachment 3 supporting the 20th and 12th ROK Infantry Divisions.

In August, two US Divisions on line (40th and 45th) were relieved by the 3d and 7th ROK Divisions. A re-evaluation of operations was made with the result that Liaison Detachments 1 and 2 were combined and designated as Liaison Detachment 1 supporting the 3d, 7th, and 20th ROK Divisions. Liaison Detachment 1 consisted of intercept team USM 661-01, (CC Forces) located at DT 076372 Hill 1005 and intercept team USM 661-03 (NK) located in the Punchbowl Area. Liaison Detachment 3 and its intercept team remained at its previous location.²

Immediately after ROK Divisions replaced the US Divisions on the line, plans were formulated for the deployment of three ROK Army Corps to control the ROK Divisions, with the X US Corps becoming a Corps Group. In conjunction with this plan, the battalion formulated a plan of support whereby

1. Ann Rept, 301st CRB, fy 1954, p36.
2. Ibid. p37.

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there would be a liaison detachment attached to the KMAG of each ROK Corps to support G2 Advisors. On 21 September, this plan was put into effect with the establishment of a new Liaison Detachment 1, less intercept team, being attached to II ROK Corps. The former Liaison Detachment 1 was re-designated as Liaison Detachment 2, supporting the III ROK Corps and Liaison Detachment 3 was attached to I ROK Corps.¹ The attachments of Liaison Detachment 3 necessitated moving the detachment and the intercept team to new locations. On 18 October 1953, the intercept team for Liaison Detachment 2 was established and designated as USM 661-01.

On 8 November, the battalion moved from its previous location adjacent to the 330th CRC to a site vacated by the 330th upon its deployment. Battalion operations were not affected by the move.²

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1. Ann Rept, 301st CRB, fy 1954, p38.
2. Ibid. p38.
3. Ibid. p39.

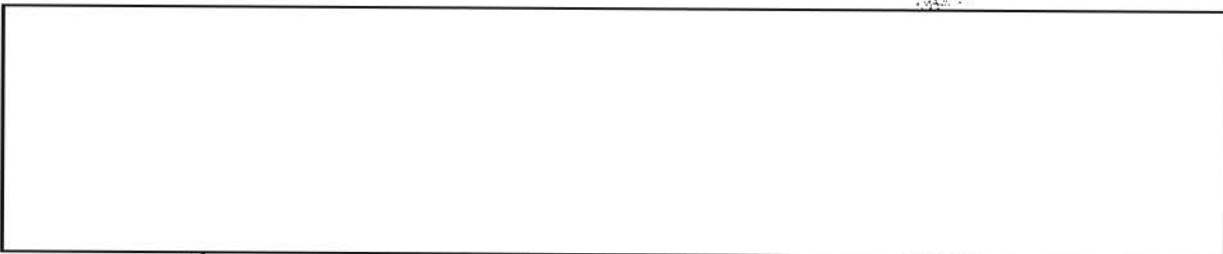
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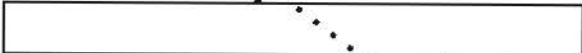
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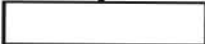
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This status continued until 23 March 1954, at which time Liaison Detachment 3 and its intercept team USM 661-04 were deactivated due to negligible intercept and the fact that during the winter months logistical support was hampered by the snows. Vehicle transport, for example, was not possible from 14 December 1953 until 1 March 1954 which resulted in supplying the team by helicopter on several occasions.¹ Also during this period, communications between the intercept site and the liaison detachment were difficult to maintain and for the most part the lines were out. Following deactivation, personnel and equipment were transferred to Liaison Detachment 2 to augment the 

In March 1954, planning commenced within the X US Corps (Group) for the phase out of the X US Corps and the assumption of control of the eastern sector of the front by the First ROK Field Army. In conjunction with this planning, an evaluation of the battalion's mission was made which resulted in a recommendation to 501st CRG that with the phase out of the X US Corps, that the 301st be deactivated. Prior to a decision on the recommendation, instructions were received to deactivate Liaison Detachment 1 and its 

 On 6 April, the detachment and its team were closed out, with personnel and equipment being transferred to Hq & Hq Det of the battalion.

1. Ann Rept, 301st CRG, fy 1954, p39.

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On 15 April, instructions were issued by the 501st CRG to inactivate the 301st CRB by 1 May, and transfer personnel and equipment of the remaining Liaison Detachment 2 to the 304th CRB.¹

The means to accomplish these instructions were put into effect, but on 19 April 1954 the 501st CRG directed that action be stopped on the inactivation pending instructions from higher headquarters.

On 1 May the First ROK Field Army assumed control over the eastern sector which was under operational control of the Eighth US Army. At this time, Detachment 1, KMAG Group, 8202 Army Unit replaced the X US Corps as the US element. Operationally, [redacted] support continued as before except direct liaison was made with the G2 Advisor, KMAG. On 1 May orders were published attaching the 301st CRB to Det 1, KMAG.

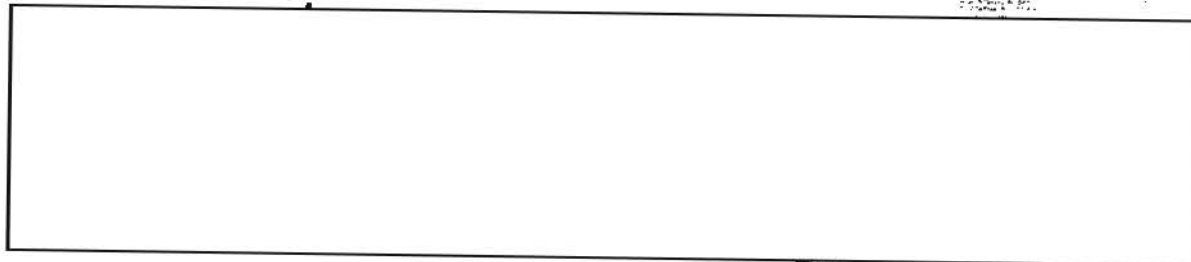
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Plans for inactivation continued to be held in abeyance until 9 May at which time instructions were received to: (1) reduce the battalion to cadre strength [redacted]; (2) retain all TOE equipment and special signal equipment authorized; (3) transfer personnel and equipment of Liaison Detachment 2 to the 304th CRB and (4) deploy the battalion to Seoul. Operations ceased officially on 12 May, and on 17 May the 301st CRB cleared Kwandae-Ri and moved to Seoul.²

During the period after the truce and until the battalion ceased operations, the operational efforts were directed on both North Korean and Chinese Communist problem. Employment of secure procedures and use of voice Morse and codes by the enemy reduced the success previously attained in the low

1. Ann Rept, 301st CRB, fy 1954, p40.
2. Ibid. p41.

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c. 303d Communications Reconnaissance Battalion, Uijongbu

At the beginning of fy 1954, the 303d CRB was in its thirtieth month of service in Korea. Headquarters was established within the I US Corps compound at Uijongbu. The battalion mission throughout the report period was continuous low level voice intercept support for the CG, I US Corps, and combat infantry divisions comprising the Corps.

With the end of hostilities, operations began to decline progressively. This necessitated deactivation and relocation of teams to exploit COMINT sources to the maximum. It also provided opportunity to improve the physical plants of all detachments.²

Organization of the battalion at the beginning of the report period was as follows:³

Hq & Hq Det was moved to a new area, 100 yards away on the perimeter of the I US Corps compound.

Liaison Detachments 1 & 2 -- in support of the First Marine Division. Detachment 1 was operating a forward operations section, designated Detachment 2, and three teams (4, 5, 6) in support of the 1st Marine Division which relieved the US 25th Infantry Division on 12 July 1953.⁴ Decreased traffic volume forced the closing of Team 4 on 2 August. Team 5 was closed on the same date, reopened briefly on 16 August, and finally deactivated on 30 August. Team 6 was shifted to a

1. Ann Rept, 301st CRB, fy 1954, p42.
2. Ann Rept, 303d CRB, fy 1954, p34.
3. Ibid. p35.
4. Ibid. p35.

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location which overlooked the Imjin River Valley and faced Chinese Communist Forces positions on the mountains in the distance. To facilitate administration of the detachment, Operations (Detachment 2) was moved back to the base site, and ceased to be a separate unit.

Liaison Detachment 3 -- in support of the First Commonwealth Division (redesignated Detachment 2). Detachment 3 was operating two teams (3, 9) at the cessation of hostilities from a base site a short distance away from Imjin River's "Pintail" bridge, near division command post.¹ Team 9 was moved to a more promising location on a hill commanding a large sector of the demilitarized zone. In May 1954 a long-thought-of plan was finally put into effect. The battalion's detachment located in the ROKA Division was amalgamated with the [] detachment at the latter's base line.

Liaison Detachment 4 -- in support of the 1st ROKA Division. (redesignated Detachment 3 and later deactivated) Detachment 4 entered this period with three teams (1, 8, 10), but found it necessary to shift and close teams at the beginning of the cease-fire. Two teams, 8 and 10, were deactivated on 2 August 1953. Furthermore, Team 1 was relocated.² Located as it was in a ROK Division, Detachment 4 experienced the most difficulty among all the units of the battalion in obtaining logistic support. To alleviate these conditions without interrupting the operational effort, it was decided to amalgamate this detachment []. On 16 May 1954, this unit was deactivated and personnel transferred to the neighboring detachment, which took over their responsibilities for liaison with the Korean Military Advisory Group.

Liaison Detachment 5 -- in support of the US 7th Infantry Division (redesignated Detachment 4). Elements of the CCF artillery located the US 7th Infantry Division's Command Post in early June 1953 and began to shell it accurately. Detachment 5 located very near the divisional command post also came under bombardment when a shell all but destroyed a squad tent. Fortunately, there were no casualties. On 15 July 1953, the base site was moved to a less vulnerable position. On 2 August, Teams 7 and 2 were moved to improve intercept.³ Shortly afterward, the US 25th Infantry Division rotated with the US 7th Infantry Division and Detachment 5 set up liaison with the new division. The 7th Division came back on line seven months

1. Ann Rept, 303d CRB, fy 1954, p36.
2. Ibid. p37.
3. Ibid. p38.

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later and liaison was reestablished. At this time, the 25th, acting as Corp's blocking division, requested that they still be supplied with pertinent COMINT even though "off line". Detachment 5 and Hq Detachment continued operational support of this division.

Because of the deactivations that occurred during the year, the numerical designations of bunkers and base sites became illogical. Thus, on 18 November 1953, Liaison Detachment 3 was changed to Liaison Detachment 2, Liaison Detachment 4 was changed to Liaison Detachment 3, and later deactivated; and Liaison Detachment 5 was redesignated Liaison Detachment 4.¹

At the close of the report period, the battalion was organized as follows: Hq & Hq Detachment, Liaison Detachment 1 operating Team 1, Liaison Detachment 2 operating Teams 3 and 4 and Liaison Detachment 4, operating Teams 5 and 6. Four "on line" divisions, the blocking division, and Hq I US Corps were all operationally supported.²

At the beginning of fy 1954, the 303d CRB was still furnishing Chinese Communist Forces (CCF) troop disposition reports and casualty figures to 1st Republic of Korea Army Division as a result of the CCF division-sized attack against outposts on the main line of resistance. Although the attack culminated in the capture of the two positions, the ROKA Division forces, having anticipated the attack, and possessing prior knowledge of the exact CCF objectives as a result of low level radio intercept, were able to adequately defend the positions they wished to retain, while inflicting severe losses on the CCF assault waves. In this peculiar instance, not only was the CCF radio net build-up noted as a prelude to the attack, but throughout the action timely reports on CCF objectives, changes in CCF troop dispositions, and reports on the effectiveness of US counterfires were furnished friendly defenders.

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1. Ann Rept, 303d CRB, fy 1954, p39.
 2. Ibid. p39.

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The CCF assault on the 7th US Infantry Division's positions on PORKCHOP was the next major engagement in which the low level effort again proved its worth. Through the close cooperation of ASA personnel, the Division G2, and the Regimental S2's, the enemy was repeatedly denied the element of surprise and heavy casualties were inflicted by effective US artillery. Previous to this assault, a general radio activity build-up was noted in the area of the 199th and 200th CCF Regimental sectors.¹ The respective G2's of Corps and Division and Regimental S2's were so advised. In addition, to this general increase in traffic volume, an entirely new set of call signs were noted on the evening of 6 July 1953. Intercept personnel recognized the enemy operators as those formerly working opposite PORKCHOP. Throughout this build up, the CCF maintained excellent radio security, a trademark of the 23d CCF Army, but fortunately, they were reluctant ²

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During the actual engagement, tactical coverage was practically complete and much valuable information was relayed to commanders in the field. The knowledge of the limited area of reinforcement available to the CCF was of great advantage to the UN Forces. Only one practical avenue of approach was used. This was the Hasakaol Complex to Changgun-Gol on the western leg of the hill. Numerous transmissions mentioning CCF readiness to reinforce were sent immediately to division artillery which fired "time on target" barrages on the assembly area and on the approach itself. A heavy toll was taken of the CCF attack forces. This was confirmed by the many messages that stated

1. Ann Rept, 303d CRB, fy 1954, p50.
2. Ibid. p51.

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casualties were heavy, due to effective UN artillery barrages.

On the night of 19 July 1953, the CCF attacked and successfully overran two friendly outposts, Berlin and East Berlin.¹ This was accomplished with two battalions of infantry and forty-five minutes after the "jump off" time. Prior to this limited-objective attack, the CCF radio nets operating in this area passed little traffic other than routine operational transmissions. The callsign count, used as a guide to the number of nets, and therefore units operating in the area, remained low. There was no suspicion at the time of CCF initiated activity in this area on the part of ASA personnel or other elements of the I US Corps G2. Collateral sources such as aerial observation reports, POW interrogations, and agent reports showed negative data concerning the area.

The unique feature of this action was in the follow-up, rather than in the prelude. Following a large volume of tactical traffic pertaining to any one particular action, the CCF habitually limited the number of their contacts and confined their transmissions to the minimum commensurate with the consolidation of their newly won positions.² After this Berlin action a new pattern was in evidence. Although the traffic volume did show a slight drop, the size of the CCF radio nets remained unusually large. This indicated that the CCF units which had participated in the assault remained in the area for possible continued action. Furthermore, CCF observation of UN positions and movements picked up considerable, and nightly evidences of CCF reconnaissance patrolling and other movements in the area were intercepted. Recognizing this continued CCF radio activity concentration as an

1. Ann Rept, 303d CRB, fy 1954, p51.

2. Ibid. p52.

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indication of impending tactical activity, the ASA Liaison Det and Battalion Hq Det notified Divisional and Corps G2's of this situation.

The attack itself on the 7th Marine Regiment's MLR (main line of resistance) positions came on the night of the 24th of July. The CCF hit with a regiment forward of Berlin and with a battalion on HEDY and ESTER. Forewarned, the Marines successfully repulsed several CCF attacks, continuing for the next three days until the signing of the truce agreement.

Throughout the action it was apparent that the CCF had suffered very heavy casualties resulting in an inability to fulfill their missions due to a shortage of both officers and men. Moreover, US mortar artillery, and tank barrages, particularly the latter, were extremely effective; mortar fire hindered observation by CCF artillery field observers; UN artillery broke up several proposed attacks along known avenues of approach designated by familiar phase lines, and UN tank fire did extensive damage to CCF positions and troop concentrations.¹ Reports such as this were typical of the type of interception that proved invaluable to friendly commanders as the action progressed. All indications from radio intercept pointed toward a costly CCF setback, in terms of men and material in the attack.²

With the signing of the armistice low level intercept experienced a sharp decrease in both volume and callsign count. Although certain orders incidental to the CCF's fulfillment of the armistice agreement terms were heard on this date, the anticipated decline commenced one day later as tactical radios were removed from the demilitarized zone and greater reliance

1. Ann Rept, 303d CRB, fy 1954, p53.

2. Ibid. p54.

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was placed on landline communication due to the cessation of air and artillery interdiction. Once the necessary withdrawal had taken place, the CCF began their routine brief communications checking which characterized the traffic. Observations of UN aerial and ground activity, particularly in the Chungshan-ni sector, and occasional tactical infantry and artillery maneuvers continued to be heard, but not in great volume.

When the Eighth Army began abandonment of the main line of resistance, and construction of new main line battle positions, the 303d CRB assumed a surveillance mission. Although the intercept was primarily routine in nature, several exceptional situations developed to break the pattern of traffic. In January, two Canadian soldiers crossed the demilitarized zone and were captured by the CCF.¹ After taking the prisoners, the CCF transmitted the names, ranks, and organizations to which the pair belonged. These messages were intercepted by the liaison team in support of the 1st British Commonwealth Division and were relayed immediately to the Commonwealth G2. The troop muster which was subsequently held, revealed that the two men, whose personal data the intercept operator had copied perfectly, were indeed missing and proceedings were initiated to bring about their recovery. Although this incident was of itself a minor development, it illustrated to the divisions of which the battalion was then in support that the intercept teams were performing their surveillance mission thoroughly, and that up-to-date, up-to-the-minute intelligence information would continue to be supplied to them immediately upon interception.²

1. Ann Rept, 303d CRB, fy 1954, p54.

2. Ibid. p55.

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During the critical period of the POW exchange, a mobile site was instituted at Liaison Det 1, to cover all voice transmissions emanating from within and about the POW compounds at "Indian Village." This traffic was forwarded directly to the 501st CRG for analysis at Eighth Army level. Copies were also retained by the battalion for incorporation in the daily intelligence summary for corps and division support. Although the volume was never high, the content of the intercept justified the special assignment.¹ When it became obvious to all concerned that the prisoner explanations were turning into a psychological defeat for the North Korean (NK) and CCF, they began to report on the exact numbers of Chinese and Koreans who desired or rejected repatriation and on the effectiveness of their psychological warfare broadcasting to the men in the compounds. This, incidentally, was the only occasion on which the CCF and the NK Forces made direct radio contact. Representatives of each nation were stationed at both the transmitting and receiving sites and Chinese and Korean were spoken alternately, necessitating the use of both Chinese DA Civilians and Korean Critical Military Specialists on the intercept radios. At the conclusion of the explanation period the site was discontinued, but the numeral designation, Team 2, remained open for future special assignments of this nature.

One other unusual development during the period of relative inactivity which marked the post-armistice interception was the appearance of what was familiarly known as the Holiday net. This extremely large and complex net,

1. Ann Rept, 303d CRB, fy 1954, p55.

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comprising eighty-six stations at its peak, was intercepted on 24 December 1953, continuing through 2 January 1954. Callsigns were generated on a major city and major river name system.¹ In addition to the unusual number of stations involved, the fact that the net was heard by all battalions across the Eighth Army front, an extraordinary range for frequency modulation radios, was highly irregular. The exact mission on the CCF station involved was never fully determined, because of the strictly routine nature of their traffic, but the possibility of this being a one-time CCF check of point to point communication across their front was indicated several times.² Little more than reconstruction of the CCF net diagram was accomplished at battalion level, but it provided an excellent traffic analysis exercise for all those working in operations at the time, many of whom had never had previous experience with complex net structures common to a war time situation.

Along with routine preparation of the daily intelligence summary-- occasionally containing evidences of CCF violations of the demilitarized zone and their locations--the Operations Section also prepared several special reports at the request of Group Hq and of I US Corps G2. After the cessation of hostilities, certain personnel who were familiar with wartime low level voice intercept (LLVI) operations were requested to prepare a handbook of specific cases studied on actions with which they were familiar, and in which LLVI played a prominent role, presumably for the training of future analysts in this field. This brochure was prepared

1. Ann Rept, 303d CRB, fy 1954, p56.

2. Ibid. p56.

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and forwarded in several copies through ASA channels. At a later date, a special study on CCF low level radio net continuity from wartime to post-armistice operations was written at the request of the I US Corps G2. In these observations it was found that little continuity existed, and that only one net definitely maintained their callsigns and contacts substantially intact throughout the post-armistice period.¹ The battalion continued its normal operation while maintaining on file a sufficient source of material to provide complete analytical support to combat elements of which it was in support, and to higher ASA headquarters.

The Battalion Hq Det, attached to and in support of I US Corps, maintained an operations section, subdivided into traffic analysis and translations subsections. This section was charged with the responsibility of preparing the battalion daily intelligence summary from the intercepted traffic received at the subordinate liaison detachments located with each division comprising the corps. At the battalion level, the daily intercept was analyzed and broken down into the various enemy nets producing the traffic. All intelligence information divulged by enemy operators was recorded in the appropriate subdivision of each net write-up; the several write-ups were then summarized in a resume of the day's intercept activity which served as the cover sheet for the daily intelligence summary distributed to the corps and division G2's.

The Liaison Detachments, operating from one to three intercept sites or teams on the main line of resistance, each had an operations section parallel-

1. Ann Rept, 303d CRB, fy 1954, p57.

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ing on a smaller scale that of the battalion headquarters.¹ The operations section, which analyzed and wrote up the traffic produced by their teams alone for the G2's information, was located at the detachment base site. This area also served as living quarters for the men of the several teams. The bunkers teams, comprising three DA civilian translators recruited from Formosa and one enlisted man, operated in the following manner. One DA civilian operated the AN/PRC-9 radio (frequency range 27-39 mcs) on a twenty-four hour search mission, continually dialing until a readable copy in the language transmitted, either Chinese or Korean, that which was heard. When the enemy operator closed down or when his signal became unreadable, the DA civilian would then put into English, immediately above the Chinese characters, his translation of the intercepted message or conversation.² Another DA civilian would operate simultaneously the AN/PRC-8 (frequency range 20-28 mcs) and the AN/PRC-10 (frequency range 38-55 mcs) radios in the same manner. The much greater productivity of the median range AN/PRC-9 radio explained its sole operation by one DA civilian whereas the higher and lower range radios, which produced less, could be handled adequately at one position. A third DA civilian remained in reserve, assuming the search mission at the end of the first eight-hour shift. The enlisted trick chief was charged with the security and supervision of the bunker and with the responsibility of immediate relay, upon intercept, of important messages to the Liaison Detachment base site. In this manner, up-to-the-minute radio coverage of

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1. Ann Rept, 303d CRB, fy 1954, p58.
 2. Ibid. p59.

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tactical situations was provided commanders in the field through their respective G2's.¹

At the conclusion of the traffic day tricks were changed and intercept taken by vehicle courier to the liaison detachment. One copy of the traffic was retained by the detachment operations section allowing review by military translations. The remaining four copies were forwarded, again by vehicle courier, to the battalion headquarters. In this manner all G2 sections from division to army level were provided with complete analytical support.

Although the usual procedure was to operate the intercept radios from bunkers on the reverse slopes along the main line of resistance, whenever possible mobile sites in 3/4 ton trucks were put in operation in an attempt to test locations for reserve bunkers and to determine whether the intercept from any site could be improved through relocation.²

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d. 304th Communications Reconnaissance Battalion, Topyong-ni

Throughout fy 1954, the operational mission of the 304th CRB entailed the intercept, analysis, and dissemination of COMINT derived from low level voice transmissions of the Chinese Communist Forces.³ The battalion was located approximately fifty miles north of Seoul and eight miles north of the 38th Parallel. Being only three miles from the IX US Corps (group), quick and efficient liaison was maintained between the two units.⁴

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1. Ann Rept, 303d CRB, fy 1954, p59.
 2. Ibid. p60.
 3. Ann Rept, 304th CRB, fy 1954, p4.
 4. Ibid. p7.

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Following the ceasefire in Korea, the 304th CRB remained in direct support of the IX US Corps. On 12 May 1954, when the 301st CRB moved to Seoul, the battalion began to provide low level support [redacted]

[redacted] Intercepted information was passed on to properly briefed and indoctrinated personnel. Organizational structure for accomplishing this support consisted of an operations section, three liaison detachments, and five intercept teams.

The Operations Section of the 304th was located in the same quonset hut as the battalion command post, about three miles from IX US Corps (group) Command Post. All information of immediate tactical value was relayed from the intercept teams through the liaison detachments to battalion operations and was then analyzed and immediately disseminated to the 501st CRG and the ACofS, G2, IX US Corps (Gp).¹

Operationally, the high point of the year was the Kumsong offensive in July 1953. During this period, battalion intercept teams were most successful in obtaining information concerning impending enemy attacks and the location and disposition of enemy forces.

The main line of resistance was penetrated by enemy forces in the Kumsong-Kumwha sector on 13 July 1953 and Liaison Detachment 2, intercept team USM 664-02, USM-664-03, and USM 664-05 were forced to carry out their destruction and evacuation plans.² Until the battle lines were stabilized, Liaison Detachment 2 operated two mobile intercept teams utilizing two 3/4 ton trucks. The destruction plan was not completed because fast moving

1. Ann Rept, 304th CRB, fy 1954, pl2.

2. Ibid. pl6.

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enemy forces threatened to capture one of the teams. One [redacted]
[redacted] was not accounted for, and was declared compromised.

Other non-classified equipment and personal belongings were lost because of the rapid evacuation of these units. This loss resulted in several claims against the US Government by DA civilians.

Following the armistice, operational traffic was principally concerned with maneuvers, communication checks, and the training of operators. Until 6 February 1954, the AN/GRC-9 produced practically no traffic. On that day intercept team USM 664-02 began intercepting a net which was believed to be an air warning net and one of the longest intercepted by the battalion. Near the end of the fiscal year, many Chinese Communist Divisions opposite the IX US Corps (Gp) sector were replaced by North Korean Divisions. This necessitated the assignment of additional Critical Military Specialists.¹

Low level voice intercept teams of the battalion, except mobile teams, were all located in well-constructed bunkers which provided maximum protection to team personnel. All bunkers were located on high ground on the main battle positions or just to the rear of the positions.

Each trick of the battalion's low level teams was composed of two trick chiefs, three DA civilians who were native Chinese recruited from Formosa, and one Critical Military Specialist who was a native Korean. Under the supervision of the trick chiefs, indigenous personnel were assigned a radio on which to search for enemy transmissions. When traffic of immediate tactical value was passed by direct telephone to a detachment liaison officer who evaluated the information and notified battalion and indoctrinated G2 per-

1. Ann Rept, 304th CRB, fy 1954, p17.

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sonnel of the organizations concerned.¹

Most of the battalion's liaison detachments were located in the division or corps command post to which the detachment was in direct support. These normally consisted of a liaison officer and two enlisted men, both of whom were radio traffic analysts.² Additional personnel, such as telephone wire repairmen and mechanics were assigned, when available, to facilitate operations of communications and vehicles.

The liaison officer, in addition to supervising and coordinating activities of the intercept teams and detachment activities, maintained daily liaison with the ACoFS, G2 of the division or corps being supported.

Liaison Detachments of the 304th supported divisions subordinate to IX US Corps (group) throughout the report period, except Liaison Detachment 3 which supported III ROK Corps, a subordinate organization of the First ROK Army.³ When Liaison Detachment 2, 301st CRB, was transferred to the 304th, a problem arose regarding courier service. As the distance between detachment and battalion was approximately 109 road miles, it was impossible to use a vehicle courier and still meet courier schedules of higher headquarters. To solve this problem, the 501st CRG sent an airplane and assigned a pilot and an aircraft mechanic 26 April 1954. This enabled battalion to perform its own courier service as well as deliver and pick up material for detachments of the 326th CRC and the 330th CRC.⁴

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1. Ann Rept, 304th CRB, fy 1954, p17.
 2. Ibid. p18.
 3. Ibid. p19.
 4. Ibid. p20.

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On 1 July 1953, the battalion had under its operational control four liaison detachments and six intercept teams. Disposition was as follows:

- Liaison Det #1 - In direct support of 3d US Infantry Division¹
USM 664-03
- Liaison Det #2 - In direct support of Capitol ROK Division
USM 664-01
USM 664-02
USM 664-05
- Liaison Det #3 - In direct support of 2d ROK Infantry Division
USM 664-06
- Liaison Det #4 - In direct support of 2d US Infantry Division
USM 664-04

Numerous liaison detachment changes were made throughout the year and, as of 30 June 1954, the organization of the liaison detachments was as follows:²

- Liaison Det #1 - In direct support of V ROK Corps
USM 664-02
USM 664-03
- Liaison Det #2 - In direct support of 3d US Infantry Division
USM 664-01
- Liaison Det #3 - In direct support of III ROK Corps
USM 664-04
USM 664-05

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- e. 326th Communications Reconnaissance Company, Ha Wol Gok Dong

Throughout fy 1954, the primary mission of the 326th CRC was the interception of Chinese CW radio transmissions, including not only initial intercept but analysis, accounting and forwarding of intercepted raw traffic to authorized consumers.

The Intercept Section carried out intercept and recording of both identified and unidentified Chinese Communist military hand-sent Morse stations.

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1. Ann Rept, 304th CRB, fy 1954, pl7.
 2. Ibid. pl8.
 3. Ibid. pl9.
 4. Ibid. p20.

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Unidentified stations were copied and recorded on general and directed search positions while the entire assignment for the section was governed by the Traffic Analysis Section.

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During the report period, the Intercept Section continually manned [] positions. This decreased to [] positions during periods of acute operator shortage. At these times, as few as [] intercept operators were called upon to man all positions and perform company details as well.¹ This shortage was relieved in May 1954, and allowed a change from a three trick to a four trick working schedule. At the close of the report period operators worked six days on and two days off. Operator strength was [] including [] supervisors.

On 8 September 1953, the company was directed by ASA Pacific to establish an UHF/VHF search team. Designated USM-30-Dog, later USM-30-Jig, its primary mission was to record any signals on UHF/VHF bands peculiar to the UN effort in Korea by means of an Ampex 400 with 375 voltage regulator. This site continually moved about Korea coming into the company only for rest and maintenance approximately once a month. Results of this mission were not completely known at the close of the report period.

Because of the cease fire order resulting in the closing down of many enemy tactical voice stations, a portion of the company's mission was shifted to the 329th CRC.² On 28 September, a [] intercept team was sent to the 329th CRC for the purpose of explaining the method of operation of the Chinese Communist military CW nets to operational personnel of the 329th. The team returned to the company 8 October.

1. Ann Rept, 326th CRC, fy 1954, p21.
2. Ibid. p22.

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On 6 October, the intercept school of the 326th was discontinued. In its place, newly assigned personnel were provided mission briefing, placed on a trick, and worked on position with an experienced operator. This training required approximately three weeks. By then, the operator was capable of identifying enemy transmitters, had good knowledge of enemy capability, and was able to operate duplex alone.

On 30 October 1953, the first assignment of stations working outside of Korea was passed down from NSA to the company. These stations were [] [] commercial hand sent type traffic. The mission was to locate and intercept any military information passed on these links. At the close of the report period, the assignment was carried on two positions.

From 17-31 March 1954, tests were conducted in recording People's Volunteer Army nets for manual operator analysis [] (MOA/RFP) purposes. Recording tapes were forwarded to the Navy and proved satisfactory. On 19 April, the project was added to the company's assignment, and, at the close of the report period, the MOA special project, in addition to the [] search positions brought the total of intercept positions carried to the company to a total of thirty.¹

On 20 February 1954, enemy stations underwent a major callsign change which was based on a complete change of system and frequency rotas. Also, a slight change of net structure was detected. It was particularly significant in this case that the company was able to recover 90% of the net

1. Ann Rept, 326th CRC, fy 1954, p24.

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structure and 100% of the callsign system through operator efficiency and effective traffic analysis.¹

Equipment within the Intercept Section during the report period consisted of BC 1004's, BC 779's, BC 794's (all super-pro receivers), R-274/FRR receivers, SCR211 frequency meter, CU-52's (coupling unit), MC-88's, RA-94 power supply for the super-pros, antenna patchboard system (home made), and a console position for the trick chief (home made).

In late May, 1954 a completely new antenna system was installed. Three sloping V antennas and three beverage antennas were constructed.² The old antenna system was kept intact while testing of the new field was undertaken. It was found that the beverages were not suitable for the mission; consequently, they were replaced by two double doublet antennas which proved highly satisfactory. The antenna field, at the close of the report period, consisted of three sloping V's, two double doublets, and one doublet.

Throughout the report period, the Traffic Analysis Section of the company performed analytic studies on pertinent traffic and maintained TEXTA and other technical data required for local intercept on all Chinese Communist targets in Korea. Similar duties were carried out on a secondary basis for targets elsewhere as assigned by NSA, ASA Pacific, and the 501st CRG.³

Of prime importance was the upholding of strict continuity of Chinese Communist Forces [redacted] nets. To fulfill this, it was necessary to employ basic analytic methods and processes and maintain close liaison with the 501st CRG. Problems of proving

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1. Ann Rept, 326th CRG, fy 1954, p26.
2. Ibid. p25.
3. Ibid. p28.

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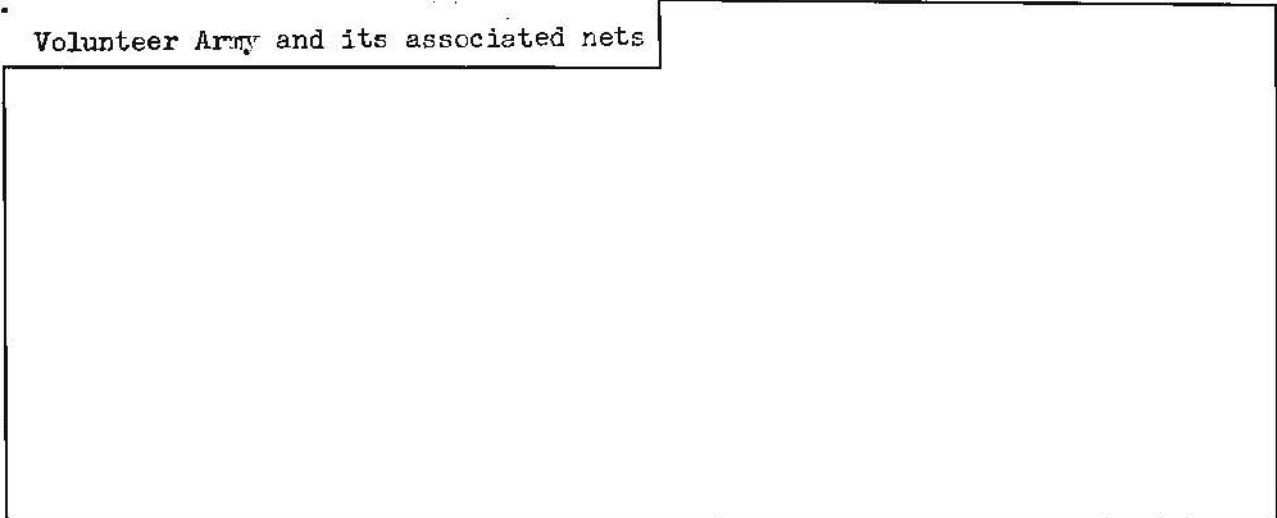
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co-location, order of call-up, identity and special study was not conducted until the latter part of the report period.

Under the callsign generation system employed by the Chinese Communist Forces, case continuity was quickly and efficiently established from period to period until February 1954. On this date at 1100Z hours, the Peoples' Volunteer Army and its associated nets

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On 1 April 1954, the section underwent a transition in duties. This resulted from the new policy of decentralization which initiated full scale analysis at company level. Under the new system, raw traffic was processed, analyzed and recorded in the company. Authority to assign temporary RAD numbers and to make case notations was also granted.

On callsigns change periods, a complete net diagram with net workings to be made was required by the 501st CRG. This diagram was eventually published in the daily T/A Variorum (DTAV). A previous system for logging IBM information was replaced by a form for diarizing the traffic chatter roll.² In reporting methods, NSA directed the initiation of the Daily Technical Summary (TECSUM).

1. Ann Rept, 326th CRC, fy 1954, p31.
2. Ibid. p32.

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At the end of fy 1954, three basic sub-divisions of the Traffic Analysis Section namely controls, analysis and trick comprised the general organization.¹ Assigned personnel totaled [redacted]² Four tricks [redacted] were employed 24 hours a day to produce diarized traffic, maintain current net diagrams at intercept positions, and provide information in aiding the intercept operator to insure maximum coverage.

The Cryptanalysis Section of the 326th was transferred to the 501st CRG during the report period.³

The 326th administratively controlled and provided logistic support for three direction finding sites during the report period. In addition, one tip-off position in the Intercept Section and a transmitter site located approximately two miles north of the company area was maintained. Operational control remained with the 501st CRG.

The DF mission of the company was primarily that of determining the direction of arrival of a radio wave by use of the AN/TRD-4 (Prototype) Set with the RC-291 antenna system. Targets were assigned sites by use of a "tip-off" or flash" position located in the Intercept Section. The sites, in turn, forwarded results to the 501st CRG by radio.

On 15 November 1953, one DF site (USM 30-C) was transferred to the 330th CRC along with most of the equipment. On 25 November, the transmitter site operating four miles north of the company area as the "tip-off" position was discontinued because of pilferage by the Koreans and because of continuous firing of ammunition around the site which was believed to be a harassing move on the part of the Koreans to force the site to move.

1. Ann Rept, 326th CRC, fy 1954, p33.
2. Ibid. p32.
3. Ibid. p34.

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It was decided that the risk was too great to leave the site at its location.¹ To compensate for the loss, a keying line was installed to the 501st CRG transmitter which was actually a landline. This system worked satisfactorily until inclement weather set in and put lines out for as long as 72 hours at a time.

On 16 December 1953, a test mission utilizing company direction finding personnel was sent into the Chun Chon area for purposes of testing signal readability to find a suitable location for USM 30-C. The new location (four miles north of Chun Chon) was selected on 17 December and action initiated to acquire real estate. Approval for obtaining the property was received on 29 January from Eighth Army and final approval granted by the 501st CRG 3 February.

On the same day, men and equipment departed for the new site. Check bearings were taken on 17 February 1954. Numerous setbacks, such as old and worn out equipment and a shortage of critical parts kept the site inoperative until 31 March when it commenced continuous operation.

On 29 April 1954, permission was given to establish another transmitter site, which was set up in the motor pool of the 74th Trucking Company, two miles north of the company location. The site was in operation at the close of the report period.²

On 13-14 June, the DF site on Paeng Yong Do Island (USM 30-A) went out of operation pending installation of new antenna. Replacement of RC 291

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1. Ann Rept, 326th CRC, fy 1954, p27.
 2. Ibid. p28.

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with RC 301 (fixed station type) antenna, resulted in increased proficiency; last reports indicated 95% usable bearings.¹

Considerable difficulty was encountered in providing the site on Paeng Yong Do Island as withdrawal of UNPIX Forces limited the number of planes and ships frequenting the area. On the other hand, logistical support to the sites at Tosa-Ri and Chun Chon offered no major problem.²

[REF: VOL. I P. 112]

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1. Ann Rept, 326th CRC, fy 1954, p29.
 2. Ibid. p30.

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f. 329th Communications Reconnaissance Co, Chai-li

Throughout fy 1954, the operational mission of the 329th CRC was the interception of Chinese Communist voice-Morse and the voice traffic on [] positions, and Chinese Communist CW traffic on [] positions. [] voice positions were operated at Kwanin-Myon, Korea, and [] voice positions were located at a test site within the same area. The remaining [] positions were located within the company proper. All positions were installed in shelters, HO-17, mounted on 2½ ton trucks.

A noticeable drop in voice-Morse traffic following the ceasefire, necessitated a directed search on five positions to ascertain if Chinese Communist CW nets could be developed. During August, 1953, the mission was changed to more search and development of Chinese CW circuits due to continued decrease in the intercept of voice and voice-Morse traffic.¹ Two additional positions were sent to the company's test site thereby reducing the number at the company to eighteen.

Further changes occurred in September. Two positions were assigned the task of monitoring the [] circuits on a search and development basis. No results were obtained. The company's test site was returned to main operations on 19 September and its four positions incorporated. In October, the [] circuit [] was monitored on two positions. A BC-1016 recorder was obtained from ASA Pacific to record high speed signals.

1. Ann Rept, 329th CRC, fy 1954, p20.
2. Ibid. p21.

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voice and voice-Morse positions continued to report light activity. On 2 November, a test unit was established for the purpose of determining whether voice Morse or voice circuits of the Chinese Communist Forces could be intercepted at various locations in the UN Forces area. This unit, consisting of shelters HO-17 on 2½ ton trucks, tested five locations during the period 2 November 1953 to 26 January 1954.⁴ A site was selected and plans formulated to set up the voice problem there as soon as possible. On 22 February 1954, the company's advance detachment was re-established with four double positions working on the Chinese Communist voice and voice-Morse problem. On 24 March, four more double positions were moved from main operations to the advance detachment thus consolidating voice and voice-Morse positions.

Traffic analysis underwent a radical change in April with the arrival of additional traffic analysts. Whereas an average of enlisted men had processed the company's traffic, it was now possible to send trained T/A

1. Ann Rept, 329th CRC, fy 1954, p22.
2. Ibid. p23.
3. Ibid. p24.
4. Ibid. p22.

EO 3.3(h)(2)
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personnel specifically adept at Chinese Communist voice techniques to the advance detachment and other T/A nets.¹ An immediate increase in the development of links was noted which brought about improved intercept and a decrease in gross volume.²

The company operated [] direction finder (DF) sites during the report period. These were located at Karnebi, Chipo-ri and Yonchon. The Yonchon site was inactive from mid-July until early October, 1953 during which time its equipment was overhauled and operator personnel received refresher training.

All [] sites- actually part of the Korean DF net- were controlled by the 501st CRG. Each site utilized a prototype of DF set AN/TRD-4 which consisted of AN/CRD-2, MC-551 bearing indicator kit and other modifications made by ASA. A radio set SCR-399, operated by remote control from the DF hut, was used to maintain communication in the Report-Administrative Net. The site at Chipo-ri had an additional SCR-399 for operation of the company tip-off net operated by remote control from Chai-li. Another SCR-399 was operated by the advance detachment for operating the tip-off link for voice and voice-Morse circuits.¹

Each site averaged [] operators during the report period who combined duties of both communications operators and DF operators. All were trained in dual duties and rotated periodically.²

All [] sites operated successfully during the year with standing as follows, up to the end of May 1954:

1. Ann Rept, 329th CRC, fy 1954, p25.
2. Ibid. p25.

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- Site 4, Karnebi - In first position six times, second once, third once, fifth twice, and eighth once.
- Site 5, Chipori - In second position twice, third position three times, fourth position twice, and fifth twice.
- Site 6, Yonchon - In second position three times, third position four times, fourth position twice, and fifth twice.

Outside of difficulty in obtaining replacement parts for the equipment, very little trouble was encountered. Personnel were usually furnished at high enough level to keep sites operating adequately.¹

The antenna system within the main company operations area was of a fixed type being installed on 60 foot wooden telephone poles with 20 to 35 foot stub poles and three Korean power towers, 100 feet high.² Fifteen antennas were in the antenna array giving a coverage of 210 degrees. Basically, the antennas were spread out from three 60-foot poles in a symmetrical system to the various stub poles, except for two long wires which used three Korean power towers. Both open wire and co-axial feeder lines terminated in multicouplers CU-119 in the continuous wave intercept room. Plans were readied during the report period to substitute multicouplers CU-52 for CU-119's as soon as possible.

The advance detachment antenna system at Kwanin-Myon, consisted of eleven doublets cut from 1.5 megacycles to 5.0 megacycles erected on a triangular pattern formed by three 60-foot poles. No multicouplers were used, however, future plans called for their use.³

REF: VOL I P. 49

1. Ann Rept, 329th CRC, fy 1954, p25.
2. Ibid. p26.
3. Ibid. p27.

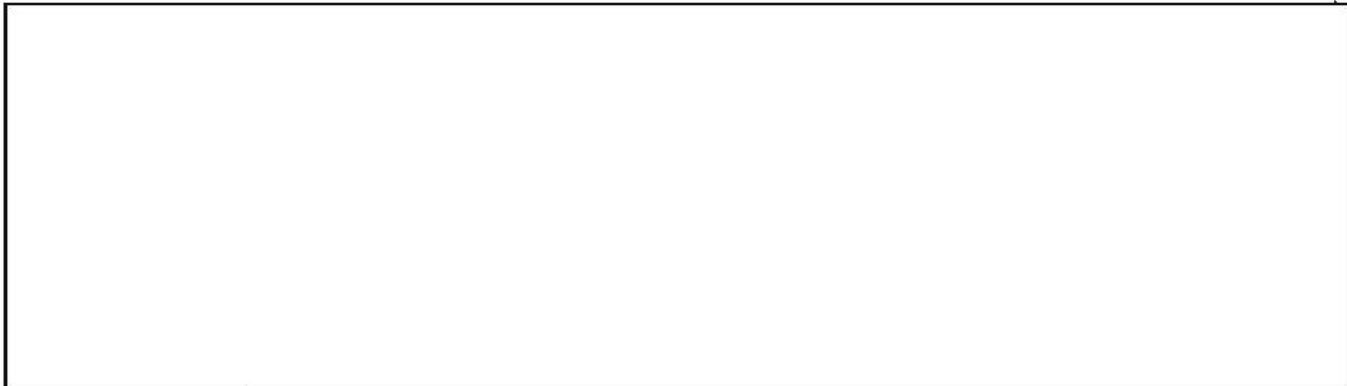
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g. 330th Communications Reconnaissance Co, Seoul



The principal operational activity of the company was conducted in four sections viz: radio intercept, traffic analysis, cryptanalysis, radio direction finding and translation. Both the Cryptanalysis and Translation Sections, however, were placed on detached service with the 501st CRC at the start of the fiscal year.³

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EO 3.3(h)(2)

At the start of the report period, the company had [] positions some of which were operating double, part single. Of these, [] were located within the company and [] were at Hungsang, site of detachment "D". The positions at Hungsang were relocated with the 326th CRC effective 21 July 1953.⁴ Eventually, detachment "D" rejoined the company at Seoul, thereby raising the total number of operating positions to 30.⁵

Prior to the cease fire, all company positions were assigned to North Korean cases. Immediately thereafter, four positions were assigned to cover



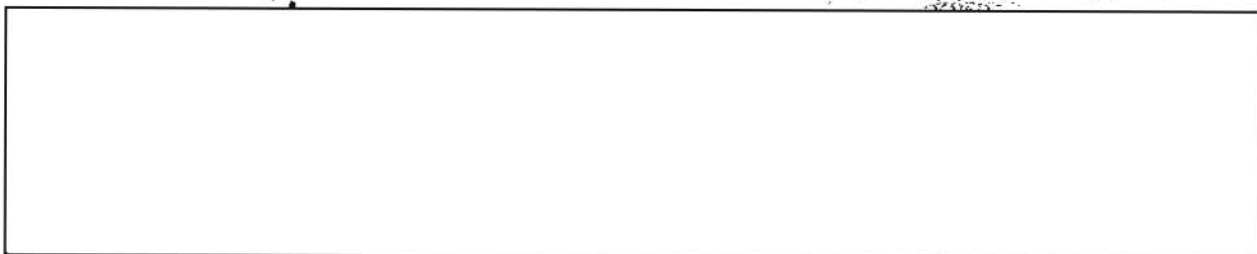
In

1. Ann Rept, 330th CRC, fy 1954, p22;
2. Ibid. p22.
3. Ibid. p22.
4. Ibid. p22.
5. Ibid. p23.

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Considerable effort was expended during the report period to picking up lower frequencies which were extremely difficult to cover in the X Corps area. Various teams were sent out and positions set up. Experimentation was also conducted with antennas. Among the areas tested was Pusan and Chai-li, site of the 329th CRC. Reception at the latter was good particularly on lower frequencies. Because of this, two positions were set up there. Another test team operated on Paengyong-do Island to try and pick up the North Korean Political Security Net.¹ Results were successful and two positions were moved to Kimpo on the mainland, plus one on the island itself. Positions at both Chai-li and Kimpo were logistically supported by the 329th CRC.²

Likewise, successful was the company's on the job training program. During most of the year new operators were trained with older operators. In ten to thirty days, the men were assigned to tricks and assumed positions as operators. In April 1954, this training was broadened to include lectures and practice copy of tapes of North Korean traffic.³

Although the mission and personnel of the Traffic Analysis Section was unstable during the year, assigned personnel were able to coordinate their efforts with radio intercept personnel. A slight increase in personnel

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1. Ann Rept, 330th CRC, fy 1954, p24.
 2. Ibid. p25.
 3. Ibid. p24.

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occurred in April 1954 at which time men arrived in the section from low level teams. This raised total T/A personnel from four to twenty.¹

Training schedules were set up whereby the men worked on a rotative basis logging, numbering and identifying traffic. Effective 1 June 1954, preparation of a TECSUM on North Korean traffic commenced.

One advantage in having increased personnel was the fact that it was now possible to send out T/A men to all test sites to obtain a much better picture of what they were doing and failing to do. It also assured much better coverage of the assigned mission.

At the close of the report period, two DF sites were in operation by the company. During the year, there had been four. These were located as follows:

- Site A - Punch Bowl area.
- Site B - East coast of Yang Yang.
- Site C - 30 miles north of Yang Yang on the east coast.
- Site D - Just east of Seoul near company location.

Site A was deactivated on 16 September 1954, with all men and equipment rejoining the company. Site C was deactivated 1 April 1954. Although site D was operated by company personnel and received administrative support from the same, it was part of the DF net of ASA Pacific, and received operational support from that Hq rather than the 501st CRG.

Supply was the principal problem of the sites during the report period. This was due to their location away from the company. Transporting supplies

1. Ann Rept, 330th CRG, fy 1954, p24.

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was also difficult, and attributable to weather which did not always allow trucks to travel.¹ A problem the sites on the east coast had to contend with was the movement of the ROK army alongside the sites disrupting operation, violating security regulations, and normal activities between the company and KMAG for maintaining continued clearance of the site area.²

[REF: VOL. 2 P. 721]

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1. Ann Rept, 330th CRC, fy 1954, p27.
 2. Ibid. p28.

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3. OKINAWA

a. Field Station 8603 AAU, Sobe

Throughout fy 1954, FS 8603 AAU remained under the operational control of NSA. Of particular import during the report period was the move of this station from its temporary location at Futema to permanent facilities at Sobe during the period August–November 1953.¹

Although the new location offered an ideal location for intercept of foreign military transmissions, one problem contended with was the presence of GLOBECOM (Globe Communications), a transmitter of the US Air Force, which was located within the station's antenna farm. Exhaustive tests proved conclusively that the transmitter interfered with operating efficiency of the station. This factor was taken into consideration during the planning stages of the move, with the understanding that GLOBECOM would move to another location in September 1953. It was expected at the end of the report period that the move would take place in September 1954.²

COMINT operations at Sobe during the report period were conducted by five specific sections viz: non-Morse, Automatic Morse, Manual Morse, Direction Finding, and Traffic Analysis.

Non-Morse Section

The non-Morse Section was activated in October of 1953. Installation of equipment was not complete at that time, but the section was able to begin work on the initial problems of planning, organization, and determining which signals could be heard. Trick supervisors conducted twenty-four hour search

1. Ann Rept, FS 8603 AAU, fy 1954, p14.

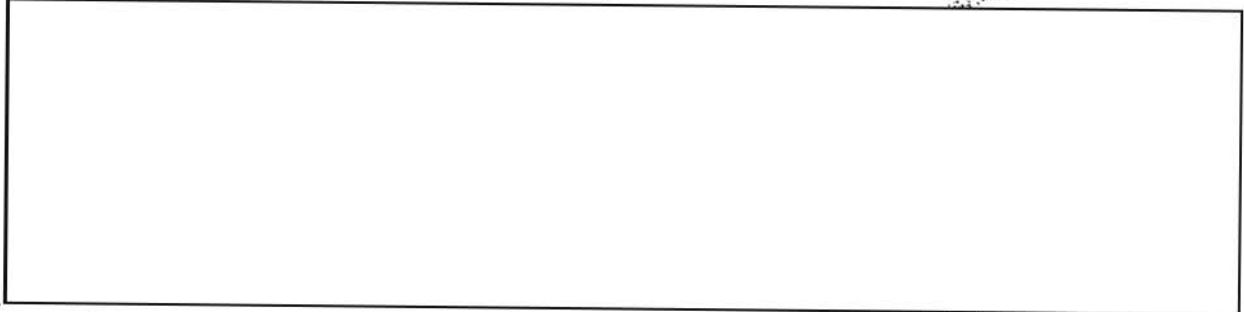
2. Ibid. p19.

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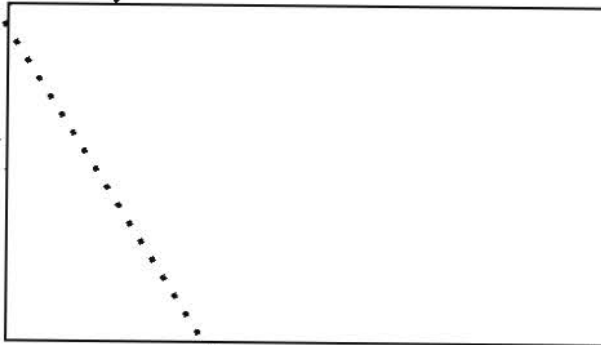
and recorded their findings. A complete search log was prepared. Other operators spent the remainder of the installation period in training and familiarization.¹



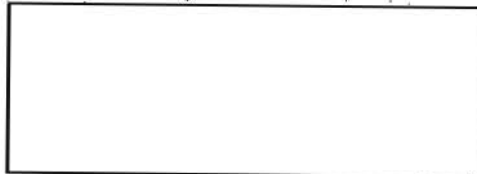
EO 3.3(h)(2)
P.L. 86-36

Traffic volume was small in the early weeks of operation. Only [redacted] men were employed at the outset of operational activity. As the need for more complete coverage presented itself, [redacted] operators were added. By late December, the section was well established.

New assignments were added in January 1954. These included:



A special assignment involved complete transcription of the following links:



1. Ann Rept, FS 8603 AAU, fy 1954, p81.

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The assignment also included expansion on the Russian [] search problem. In the months that followed less emphasis was placed on non-priority signal copy, and greater concentration on Russian []

A special project was assigned in May. The problem concerned search and problem development of [] Non-Morse personnel conducted an investigation of [] with the intention of accounting of single channel printers and analyzing the type of traffic passed on these circuits.

At the end of the report period considerable progress had taken place in both volume, quality of traffic, and overall efficiency. Technical training was introduced into the section with particular stress on instruction in Morse Code.

Within the Special Identification Section, a radio fingerprinting unit DEN 17-2 was installed. The equipment was designed to receive radio frequency signals, detect them, and display their modulation characteristics amplitude and frequency for visual interpretation and/or photographic recording.

Frequency range of the equipment was determined in accordance with the radio receiver employed.² Display of the modulation characteristics for recording was made on the screen of a dual-gun cathode ray tube while a single-gun cathode ray tube served as a visual monitor.

The Radio Fingerprinting Section was made up of an NGOIC, [] operators, and [] analyst. Its personnel worked hand in hand with the Traffic Analysis and Manual Morse Sections maintaining data on assigned targets. As of June

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1. Ann Rept, FS 8603 AAU, fy 1954, p82.
 2. Ibid. p83.

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1954, DEN 17-2 was ready for immediate operation except for film and dark room equipment.¹

EO 3.3(h)(2)
P.L. 86-36Automatic Morse

The Automatic Morse Section began operation in July of 1953, but had no mission assignment until December. Early months of operation were devoted exclusively to training personnel in the use of equipment.

EO 3.3(h)(2)
P.L. 86-36

The initial mission assignment concerned [] [] positions were in operation and [] others were put in the final stages of readiness. No appreciable progress was made in message count until 7 December. The count leveled off until 12 December and then climbed steadily upward to a msg high of []² As of 31 December, the section was at full strength. [] men, headed by an NCOIC, fulfilled section requirements.

[] more positions were ready for use in January 1954. At this time, the mission was expanded to include [] and some modifications were made on the [] assignments. Message count on the shipping mission reached a high of [] msgs. The count on [] remained nil until 26 January when [] msgs were recorded. [] leaped to a msg count of 130 three days later.

By February all [] positions had been installed and were in operation. Each position included: 3 SC-88 and/or AR-88, 1 BC 1016 Tape Recorder, 1 Monitor Panel NX-986-FRC, and 1 Meyer KY-50/FRC. In addition, [] transcribing positions were installed.³

The [] mission was dropped in February and minor changes were adopted in other missions. In addition, the practice of piping automatic Morse

1. Ann Rept, FS 8603 AAU, fy 1954, p84.
2. Ibid. p85.
3. Ibid. p85.

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EO 3.3(h)(2)
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signals in from the Non-Morse Section was instigated. Message count for February reached a high of [] . The [] peak was [] msgs. CC links were not heard throughout the month.

During March there were no major changes in the [] and RS missions. Three RD/74 recorders were installed for the purpose of copying shipping signals which were sent manually. Message count for shipping hit a high of 210 on 11 March and a low of [] on 29 March.

In April, [] links were changed to [] . Tape reel assemblies were installed and one CV/72 FSK converter added, because [] links were using FSK signals for their transmissions.¹

Messages for shipping reached a high of 299 msgs on 30 April, [] reached a high of 167 on 13 April.² Group count went into effect 15 April and the month's total came to 258,705

The RS mission was dropped in June and minor changes were made on the [] missions. During the month, a system was arranged with Non-Morse Section for the purpose of installing two more patch lines to the Automatic Morse Section. The June high for shipping reached 289.

Manual Morse

On 1 July 1953, the Manual Morse Section consisted of twenty-one positions which were operating full time. The assignment called for [] positions [] ten positions [] one position [] two positions [] and one position [] search. The antenna system at Futema consisted of seven sloping "V" antennae and two double doublet antennae terminated at a patch-

1. Ann Rept, FS 8603 AAU, fy 1954, p86.
2. Ibid. p86.

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board which contained nine multicouplers. Personnel assigned were used as follows: four trick chiefs and [] operators, (five per position) assigned to four tricks. During July, there were 5,431 msgs intercepted.

In August, an additional position was added to bring the total to [] in all. A total of 6,002 msgs was intercepted over the month.¹

Operator strength increased to [] operators in September (5.2 per position), and a total of 6,314 msgs were intercepted. By October, [] positions had been completed at the new operations site at Sobe but were not yet serviceable since the antenna field was still in the process of installation. Operations continued at Futema, meanwhile, and a total of 5,988 msgs was intercepted during the month.²

A preliminary test was conducted at the Sobe site in November to evaluate receiving conditions. One rhombic antenna and a new type rack containing two Hammerlund Model SP-600 receivers, an operator's switching panel DWG-00-H-97, and a recorder outlet panel DWG-00-H-087 were employed. Results during the period 0800-1700 local time coupled with the noise level and man-made interference (QRM) showing up, indicated that conditions present would greatly impair the intercept mission at the new site. The QRM was later proven to have been caused by the USAF transmitter GLOBECOM situated in the Operations antenna field. The test indicated, however, that evening and night time reception was excellent, proving that only this daily interference caused by GLOBECOM would impair the accomplishment of the mission. An operational schedule resulted from the test which called for operation of the Sobe site

1. Ann Rept, FS 8603 AAU, fy 1954, p87.
2. Ibid. p88.

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from 1700-0800 and the Futema site from 0730-1730. This overlap of coverage prevented a loss of intercepted material during trick change.

On 28 November 1953, the entire Manual Morse Section moved to the new Soba site.¹ Only [] positions of the [] possible were manned since operators in excess of assigned positions were utilized in construction and installation of the antenna field. Operators sent to aid the construction crew were utilized on a rotating basis to prevent them from being away from their MOS for any length of time. Seven positions [], 11 positions [] one position [] two positions [], and one position [] search were operative. There was a total of [] operators, 6.2 per position, assigned to four tricks, and a total of 5,788 msgs was intercepted.

By December 1953, there were [] serviceable positions at Soba. There were 34 positions manned during January 1954 with [] positions covering [] positions [] positions, [] position, general search, and one position awaiting assignment. An administrative NCOIC of the section, a training NCOIC for schooling students, [] supervisors, and [] operators [] per position) were employed. 24,699 msgs were intercepted during the month, and a short term school lasting seven days was commenced for all newly assigned operators for specific training in the mission and formats peculiar to the station.²

Results showed conclusively that the school lent itself to the lessening of time needed for on-the-job training of apprentice Morse Code interceptors. Operators arriving directly from school at Fort Devens, Massachusetts were

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1. Ann Rept, FS 8603 AAU, fy 1954, p88.
 2. Ibid. p89.

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able to man a position in 20 days or less. Experienced operators transferring to the station from other units could usually man a position after attending the school for seven days.

In February, [] positions were manned and assigned. By March, this had increased to [] operators were employed [] per position) and a total of 21,639 msgs intercepted.

During April, [] positions were manned, [] supervisors were added, and the number of operators reached [] (4.4 per position). 23,024 msgs were intercepted.¹

At the end of the report period, [] positions were manned and assigned as follows: []

[] operators [] per position) assigned to the section. 26,964 msgs were intercepted during June.²

Direction Finding

From 1 July 1953 to 26 November 1953, the station's direction finding site was located at the Futema air strip. Equipment in use included one modified ANCRD-2, one SIGNIN, and an antenna array with ground counterpoise. This antenna array was very unsatisfactory since it had to be taken down whenever the slightest wind came up. Power was supplied by two PE 95's.

On 26 November 1953, the Direction Finding Section closed down at Futema and moved to the Yontan Air Strip at Sobe. The control operator remained at Futema operations during the day shift and sent tipoffs to the new site via SIGNIN. On-swing and mid-shift control was at Sobe.³

1. Ann Rept, FS 8603 AAU, fy 1954, p90.
2. Ibid. p91.
3. Ibid. p93.

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EO 3.3(h)(2)
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This system was continued until 28 November 1953, at which time the entire operation was moved to Sobe. At Futema, the manual Morse trick chief used an inter-office phone system to alert control for tipoffs. At Sobe, an intercom system was installed between each room supervisor and control. Equipment used at the Futema site was placed into use at Sobe.

On 1 September 1953, a test of the ~~comms~~ cryptographic system was placed in effect for the purpose of flashing missions to ASA Pacific DF control. This pattern continued until the pads in stock were exhausted. Since the time required to encipher and decipher tipoffs was decreased considerably, the test was considered a success. The system was put into effect on the joint mission, and pads were assigned to the Army, Navy, and Air Force.

Operation "Watchdog" went into effect in September. The purpose of this mission was to more accurately trace the movements of the Chinese Communist Air units. On certain cases it was desirable that the station get daily line bearings on outstations.¹

On 17 February 1954, an additional SIGNIN and scope was installed at the DF site. This equipment was primarily for the "Watchdog" mission and did help to obtain bearings by cutting the time lag between the intercept operator and the DF site. It was also used for obtaining line bearings on local targets when "Watchdog" targets were not on the air. A check was kept on this action and it was found that from 1 March to 19 March, an average of 168 bearings per day were taken on local targets along with the observation that Operation "Watchdog" was not affected in any way.² Operation

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1. Ann Rept, FS 8603 AAU, fy 1954, p94.
 2. Ibid. p95.

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"Watchdog" was dropped on 19 March, and the extra equipment was removed. Following this, the daily average of local bearings dropped to 26 for the same period of time.¹

On 14 April 1954, the ASA Pacific DF report net was discontinued, and all bearing reports were forwarded by teletype. The SIGNIN used between the control and the site was modified and redesignated AFSAM 4A on 20 May 1954.

Prior to 1 June 1954, and under direction of ASA Pacific, an indiscriminate search method was adopted to obtain bearings on local targets. This system, in use at the end of the report period, was one by which the assignment of search targets was controlled by flash missions. Targets for search missions were limited to those manual Morse transmitters which were identifiable by call sign and were cases.²

When a call sign change was expected on nets, the station was granted permission by ASA Pacific to take control of the entire DF net as an aid in re-establishing continuity. This was done twice; once in the latter part of May and again in late June. The plan was highly successful and resulted in the recovery of all nets in a minimum of time. The value of this technique was recognized quickly, and permission was granted to take control of the net whenever it would facilitate establishment of continuity for the Chinese Communist administrative air nets. This was done, however, because the air nets, were on daily changing calls and would require control for too long

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1. Ann Rept, FS 8603 AAU, fy 1954, p96.
 2. Ibid. p96.

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a period. Such a move was considered detrimental to missions of other stations in the net. Permission for the station to flash [] targets was expected to aid immeasurably in the mission.

Traffic Analysis

At the start of the report period the Traffic Analysis Section operated with [] men under the supervision of an officer. The section was analyzing 18 Chinese Communist (Third Field Army) Military cases, 10 Chinese Administrative Air cases, and three Naval cases. These cases were copied on [] positions.¹ All categories of intercept were reported electrically to higher headquarters.

Since there was a similarity of mission with regard to priority to targets, the station sought and established an exchange of intercept information with the 29th Radio Squadron Mobile.²

In September 1953 the station was operating [] positions at Futema. Several new categories were added, and targets increased. A complete breakdown of the mission was as follows:

Administrative Air	-	7 targets
Military (Third Army)	-	16 targets
Chinese Naval	-	3 targets, 1 search
Unnotated	-	2 targets

At Sobe, [] positions were put into operation. Extra positions were directed toward the intercept of Chinese Communist military traffic and Chinese Communist air defense. Assigned personnel totaled []³

In January, NSA granted the station access to TOP SECRET information

1. Ann Rept, FS 8603 AAU, fy 1954, p97.
2. Ibid. p98.
3. Ibid. p99.

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and technical support items. This aided analysts to better understand the Chinese Communist problem.

By February, manned positions had increased to [] Operation "Watchdog" was discontinued due to lack of continuity caused by Chinese Communist administrative air nets using daily changing callsigns.¹

During March, the station was operating [] positions. Cases from military, naval, and domestic commercial categories were added, and one position was established to copy the [] [] the general search mission being discontinued. Effective the first of the month, the tetragraph for the CHICOM problems was changed from the old [] was henceforth to be the single letter for all Chinese Communist activity.² A system similar to the Russian one for using the third letter of the tetragraph to indicate area location or special activity was set up as follows: []



At the end of fy 1954, [] men were assigned to the T/A Section, with [] intercept positions operating. All Russian [] links were given new designation. [] with link abbreviations was eliminated, and individual arbitrary trinomes were assigned each terminal location. All Russian [] links were renotated accordingly. Direction Finding control at ASA Pacific had initiated a new system for flashing intercepted stations' bearings throughout the net.³ This eliminated

1. Ann Rept, FS 8603 AAU, fy 1954, p100.
2. Ibid. p101.
3. Ibid. p102.

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local bearings, which were of no apparent value to the net as a whole. The station, however, depended on all locals as the only source of control identification in the administrative air problem. Locals were also a source of establishing continuities during military call sign changes. In view of this, permission was granted to the station to act as net control during a call sign change period, 24 hours of control being allotted.

Chinese Communist Military Analysis

The 3rd Field Army or East China Military Networks was intercepted and analyzed during the report period. From time to time, temporary assignments of the 1st Field Army in North China were made, but intercept of these nets was not too successful due to poor radio reception.

EO 3.3(h)(2)
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The main work was the recovery of these nets following call sign and frequency changes in such a way as to direct intercept along the most efficient lines. Nets that were not on NSA's mission and that were believed to be of interest were assigned to positions that had time to copy circuits without interfering with normal assignment. The following is a month-by-month account of outstanding problems and success:

1. Ann Rept, FS 8603 AAU, fy 1954, p103.

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July 1953: Military analysis was almost nil because of the implementation of the Technical Summary (TECSUM). Analysts were put to work on the TECSUM due to the lack of trained personnel; therefore, analysis was retarded. Highlight of the month was the appearance of routing indicators on the Nanking and associated nets, whereas

Cases assigned: There were 16 permanent NSA case notations, 12 station temporary case notations. Positions assigned: Ten; call sign changes: Occurred on the first, ninth, seventeenth, and twenty-fourth; network diagram: Stable, no changes.

August 1953: Military analysis was still slightly retarded but was cleared up by the latter part of the month by the addition of intercept operators in the status of report analysts, and the release of regular analysts for their jobs. Message routing indicators showed the possibility of one busy [redacted] outstation and one busy Hangchow-controlled outstation being co-located. This co-location was not yet firm, since there had never been msgs routed to these outstations and never an instance of a msg originating or being routed elsewhere with these indicators.¹

[redacted]

working on day call signs and frequencies for a period of only three days. At this time, there were many other nets operating on the same frequencies during the day as the Foochow nets. A possible reason for operating on night calls was that they were the only frequencies on which communications could be maintained. Another possibility was that these controls feared a possible call sign compromise which actually occurred frequently among these nets.² After the call sign change of 20 August 1953, they reverted to the use of day and night operations. Number of cases assigned: 18 permanent NSA cases and 20 station case notations; number of positions assigned: ten; call sign changes; occurred on 1, 8, 14, 20, 22, and 29 August 1953; network diagram: one

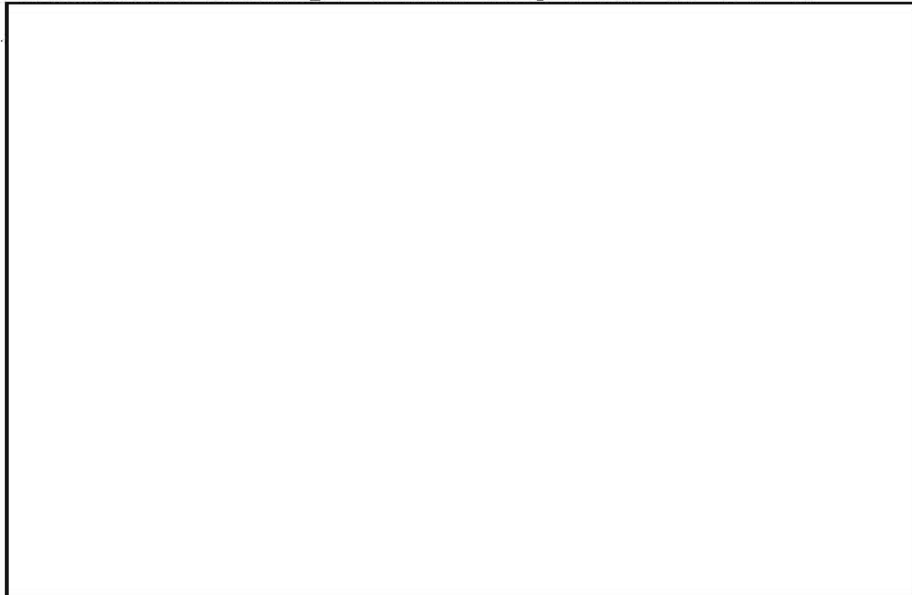
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1. Ann Rept, FS 8603 AAU, fy 1954, pl04.
2. Ibid. pl05.

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~~TOP SECRET~~~~EIDER~~EO 3.3(h)(2)
P.L. 86-36September 1953:

outstations was proven by intercept operators. An outstation operated with both net controls on the same frequency during the middle of the month. The station was sending and receiving a lot of traffic

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October 1953: This month marked the appearance of another net in the Shantung area working as sub-level under the net mentioned in September. The significance was particularly singular since these nets

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than previously proved through past experience. This type of net structure had not been previously apparent in the 3rd Field Army network, and its significance appeared in later months. NSA commented that this net was traceable to August activity, but it had not come to light at the station due to lack of search material.²

Beginning on 3 October, all case continuities were recovered, and all station temporary case numbers were sent to the 327th CRC, Kyoto, Japan where search positions were being utilized to search 3rd Field Army nets.³ Cases assigned: 18 NSA permanent cases and 13 USM-3 temporary cases; positions assigned: 13; network diagram: addition of another star complex as sub-structure in the Shantung area; addition of an unusual

1. Ann Rept, FS 8603 AAU, fy 1954, p105.
2. Ibid. p106.
3. Ibid. p106.

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free star operating in the general vicinity of Nanking, Shanghai-Hangchow.

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[REDACTED]

trolled nets. DF plots showed the station with the heaviest traffic to be located in the Chu San Islands; the second most active station was found to be located somewhere north of Nanking. One of the possibilities discussed was that the [REDACTED] controls might be located in Shanghai rather than Nanking, as had been previously thought. Analysis concurred due to the type of traffic and msg numbers normally employed by these nets not resembling the usual Nanking types. Another basis for agreement was the fact that local DF bearings taken from the station were usually 4 degrees to 6 degrees north of regular Nanking bearings. NSA indicated agreement in December. Cases assigned: 20 NSA permanent cases and 11 station temporary cases; positions assigned: 11; call sign changes: occurred on 2, 3, 4, 10, 16, 17, and 25 November; network diagram: free star showing possible connection with Nanking-controlled nets and [REDACTED] located probably in Shanghai rather than Nanking.¹

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December 1953: The free star net, as mentioned for October and November, was found to have definite co-location with two of the Nanking-controlled outstations. The busiest station of the net was found to be co-located with the other two station co-locations mentioned for August and September as being under Nanking and Hangchow controls. It was unusual to find the station so active on three distinctly different nets. That the station was under a certain shroud of security was indicated by its methods of operations, i.e., outstation on two nets and equal on the free star. Additional evidence was that DF plots in November had placed this station in the Chu San Islands off the coast south of Shanghai and north-west of Hangchow.²

The conclusion that co-location existed was brought about by the following activity: Following the standard msg number reversion on the first of the month, one of the Nanking controls could not make contact with one outstation due to atmospheric conditions. The control

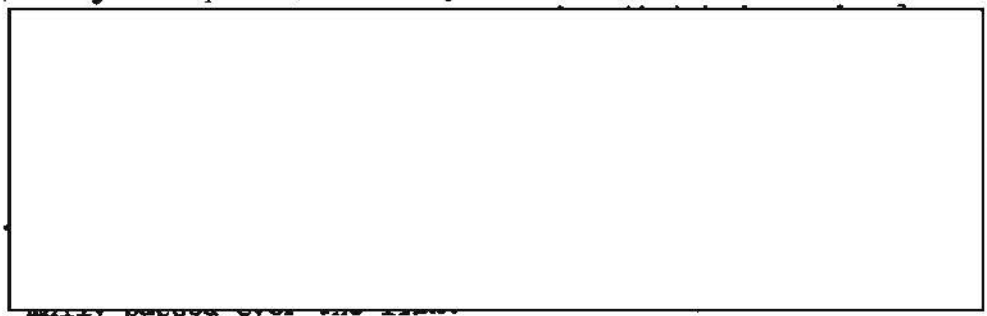
1. Ann Rept, FS 8603 AAU, fy 1954, pl07.
2. Ibid. pl08.

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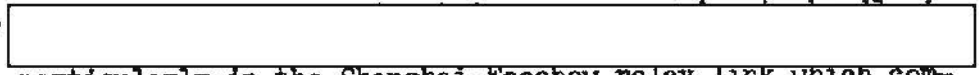
evidently had a msg of very high priority, for it was sent to another outstation. Within an hour, the busiest station of the free star had transmitted the msg to another station, concluding a relay that would normally have passed over only one link. The message that



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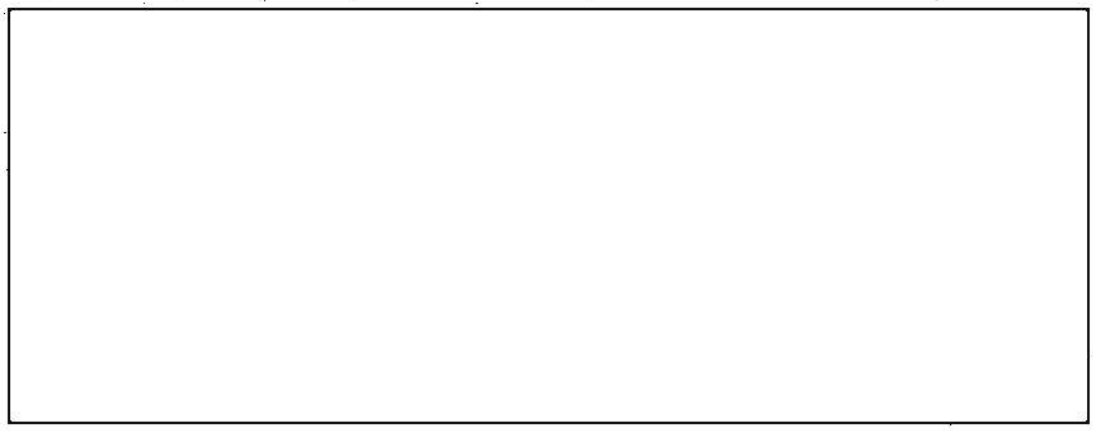
... The Foochow nets in this period evidently ran out of call sign allocation for they repeated calls used during May. The calls were equated to receive and transmit, day and night, to the same nets but not to the same stations. Four known major Nanking nets were renotated to comparable case numbers of the normal Nanking cases [redacted]. Case

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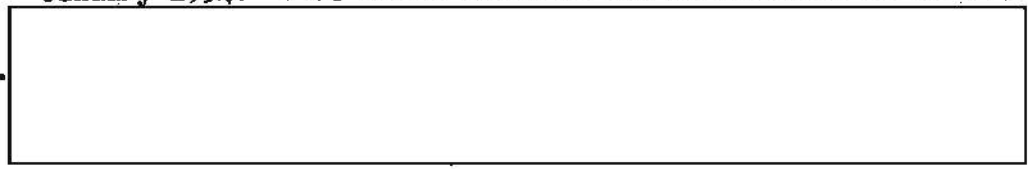


particularly in the Shanghai-Foochow relay link which completely stopped sending traffic. This link had formerly sent the heaviest volume of traffic received at the station.

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January 1954: This month revealed the co-location of other



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1. Ann Rept, FS 8603 AAU, fy 1954, p108.
2. Ibid. p109.
3. Ibid. p110.

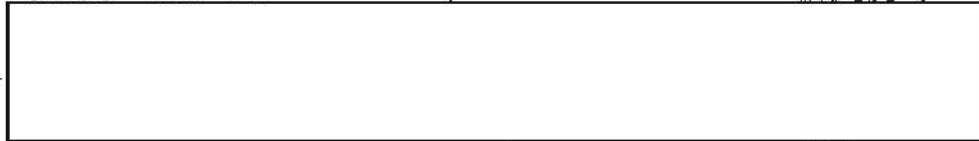
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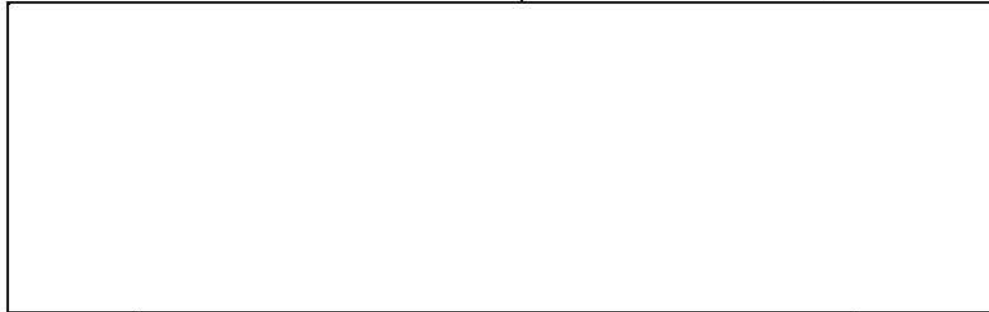
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the past had so much been accomplished toward the understanding of the stations as they operated on different nets. This work threw a whole new field of analysis open.



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Network Diagram: Co-location of all outstations on the free star with Nanking-controlled outstations and also with Shanghai-controlled outstations.



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1. Ann Rept, FS 8603 AAU, fy 1954, p111.
2. Ibid. p112.
3. Ibid. p112.

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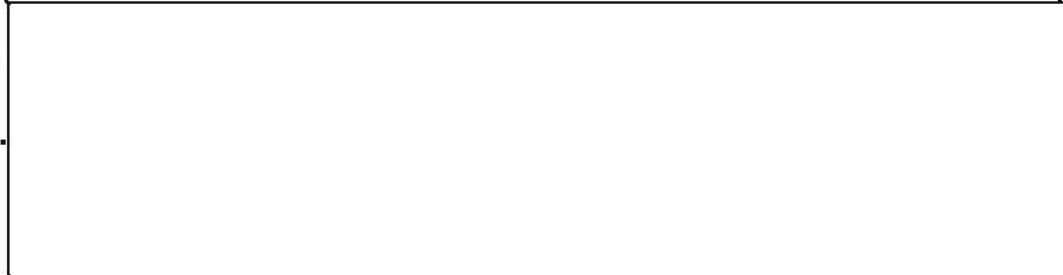
EO 3.3(h)(2)
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On 5 March 1954, the Foochow nets coordinated with the rest of the network, and the periods met and changed regularly from this time on. Unusual activity was discovered involving

1. Ann Rept, FS 8603 AAU, fy 1954, p113.
2. Ibid. p114.

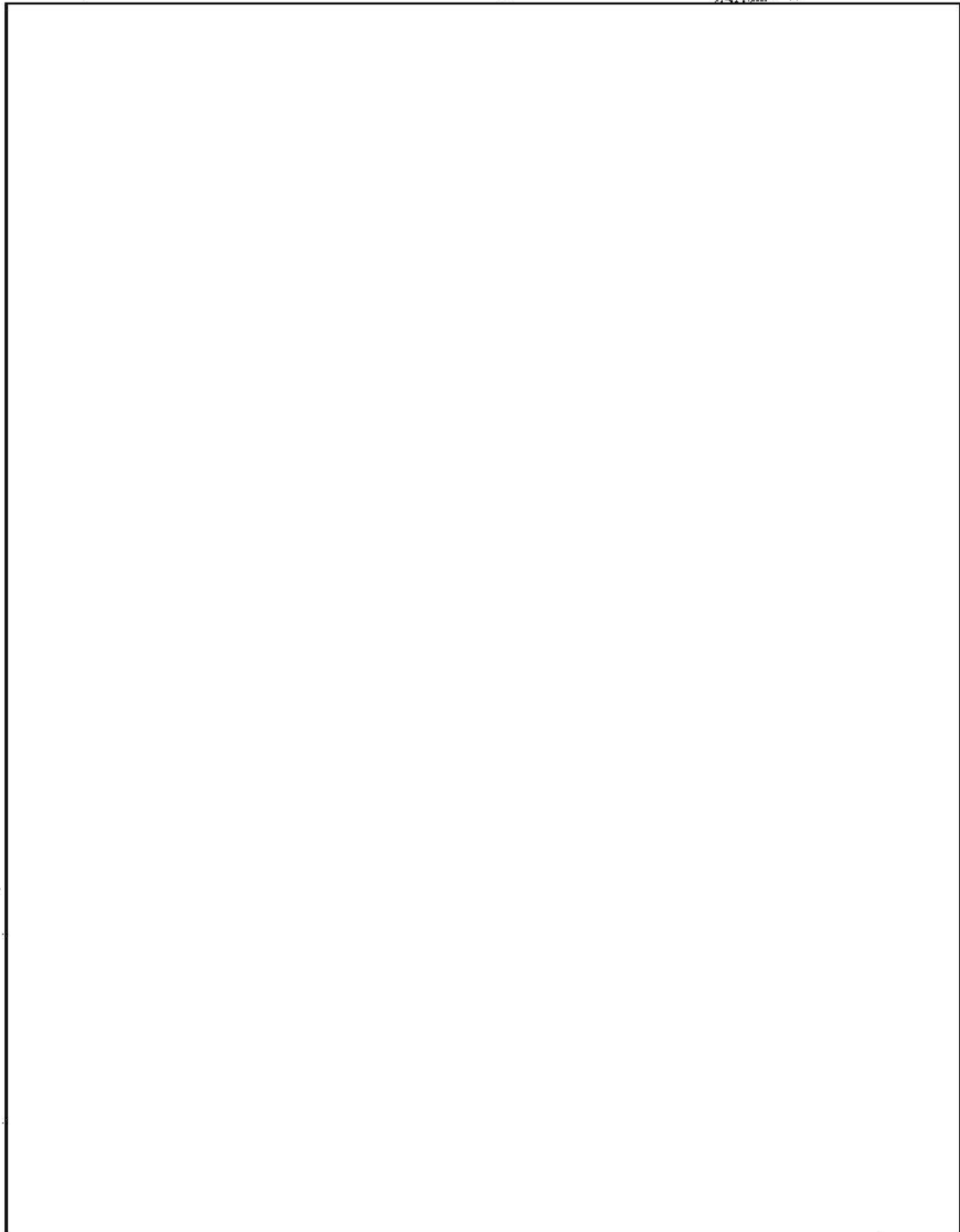
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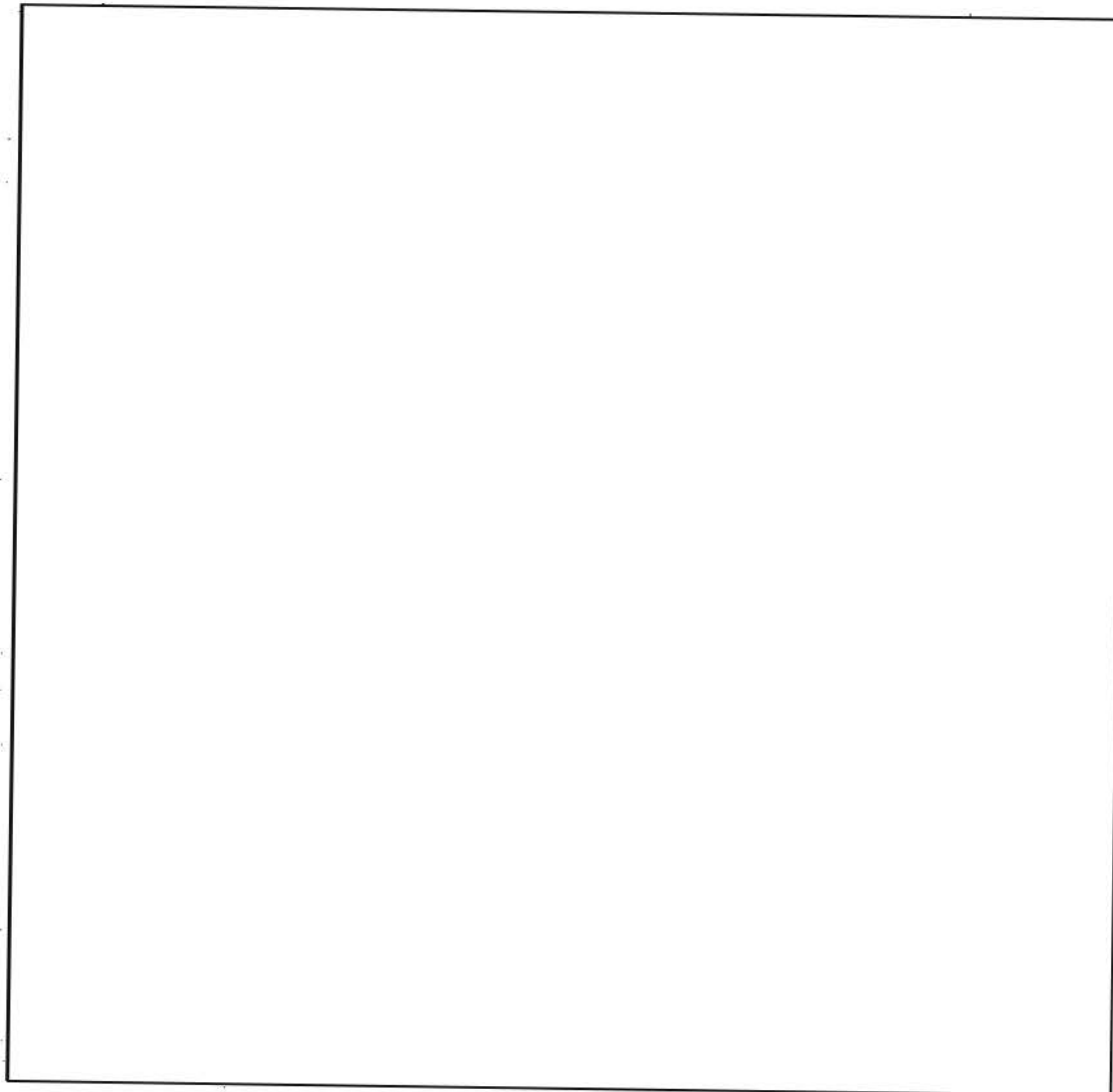
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1. Ann Rept, FS 8603 AAU, fy 1954, p116.
2. Ibid. p117.

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Between 17 May 1954 and 23 May 1954, the Nanking-controlled nets suddenly added four new outstations. Two of these had a high traffic volume, both to and from the controls. The other two stations had not passed or received traffic as the report period ended. One station never made contact and was dropped; the other was met on regular schedules. This sudden flurry of activity was explained by the fact that there was a clash between the Chinese Communists and the Chinese Nationalists in the Chu San Island chain on these dates.

1. Ann Rept, FS 8603 AAU, fy 1954, p118.
2. Ibid. p119.

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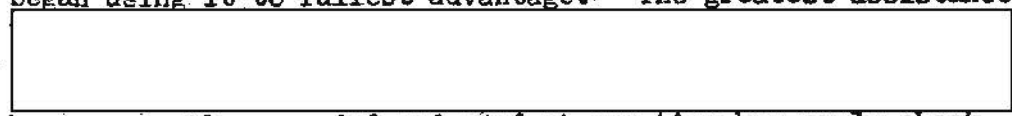
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The 15th of the month brought into effect the new TECSUM format "OB". With relatively little effort, report analysts began using it to fullest advantage.³ The greatest assistance

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be permanently recorded and used at any time by merely checking the old outgoing TECSUM, instead of constantly changing

1. Ann Rept, FS 8603 AAU, fy 1954, pl20.
2. Ibid. pl21.
3. Ibid. pl21.

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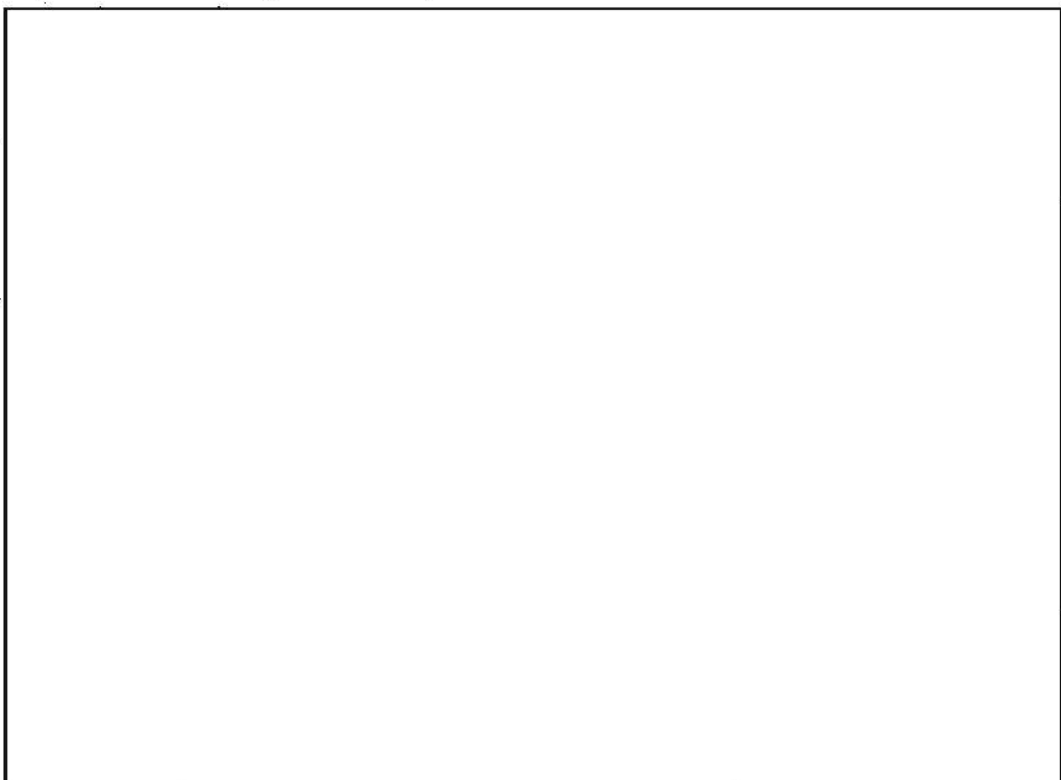
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traffic analysis and operator records.

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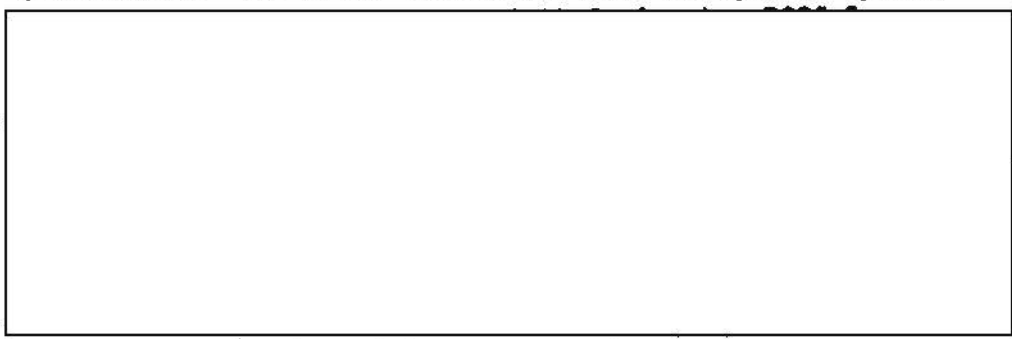


Chinese Communist Administrative Air Problem

The mission of the Chinese Communist Administrative Air Section was intercept and analysis of the Peking regional nets. The following data is a monthly account of progress made on the problem during the period 1 July 1953 through 1 July 1954.

July 1953: Ten nets were assigned as of 1 July 1953. A number of outstations were noted changing controls with no apparent change in the individual characteristics of the outstations. The cover number and unit designator system

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1. Ann Rept, FS 8603 AAU, fy 1954, pl22.

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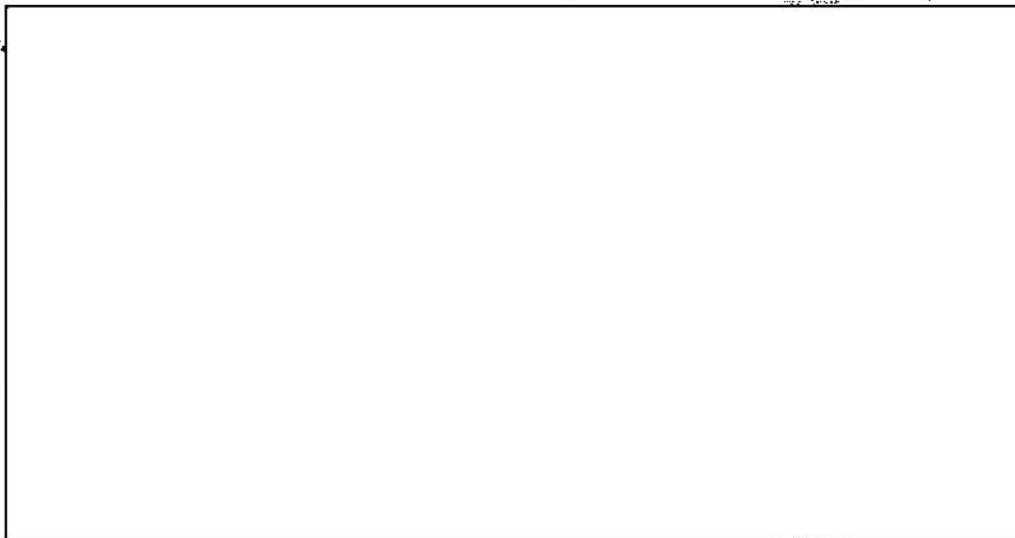
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to month these designators changed their order of consecutive numbering.¹

The whole Peking complex received msgs at the same time. Letter designators changed on the first of the month. Circular series msgs were the main source of identification of individual nets.

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[redacted] had four common outstations during this period.² [redacted] used letter-letter-figure designators. These indicators were used as address groups in the preamble of their msgs.

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1. Ann Rept, FS 8603 AAU, fy 1954, p123.
2. Ibid. p124.

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On the first of the month a new constant, "71" was used in GAT AIBC of all msgs sent in the Peking-complex. The unit cover number and unit designator system remained unchanged. Procedure system and number system remained the same.

During the month, a link between [redacted] and RAD A3 [redacted] was established through chatter. RAD A3 was the Nanking regional control.

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October 1953: Seven Peking administrative air nets were assigned. There were no call signs, frequency or procedure changes noted. The constant "71" was still being used.¹

RAD A53, located in Antung, an outstation of [redacted] was last heard on the fourth of the month. [redacted] lost one outstation on the fifteenth of the month and [redacted] gained one outstation on the 16th. Since both of these outstations had the same characteristics it was believed that they were the same.



1. Ann Rept, FS 8603 AAU, fy 1954, P125.
2. Ibid. p126.
3. Ibid. p126.

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A drop in the msg volume and active schedules with [redacted] outstation indicated a decline in the importance of the station or a shift of communications functions to a different set of call signs. [redacted] was believed to be a net which assumed some of the functions previously performed by R&D 417.

Chatlat noted on the traffic of [redacted] indicated a link between control of [redacted] and an outstation of [redacted].

December 1953: The number of positions on [redacted] assignment was increased to nine. An additional position was used for search and development of two [redacted] temporary cases believed to be Peking-controlled.

[redacted]
the 15th of the month. [redacted] was noted using the [redacted] msg number block. By this time the Traffic Analysis Section had been informed that the [redacted] number block was associated with "school nets."

The outstations of [redacted] were found to be outstations of [redacted] (Hankow) and the outstations of [redacted] were found to be outstations of [redacted] (Hankow). This was the first time that this was noted and it lasted through only one period.

[redacted]
Peking was calling him.

January 1954: Nine administrative nets were assigned. On [redacted]

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change, the [redacted] series number blocks disappeared. Since the established continuities depended largely upon these blocks, their disappearance seriously handicapped efforts to establish true case notations. This circular series was not seen again.

When Peking controls changed call signs, the Hankow controls did not, and the common outstations between [redacted] were no longer seen. [redacted] added one outstation which was possibly RAD A660, formerly an outstation of [redacted]

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During the month, a new unit designator series, [redacted] was heard. It was believed to be in the same series as the [redacted] designators, but was not identified as the outstation of any Peking net.

On the 18th of January, [redacted]

[redacted] received no traffic from the 15th of December through the January period, although it was in constant contact with the control of [redacted]. It was conceivable that all traffic passed between Peking and Lanchow for this period was passed over a special link. A possible notation of this link was [redacted]. After the call sign change on the 20th, [redacted] again received traffic. [redacted] remained active as late as 31 January 1954. Following the call sign change the D013 unit [redacted] did not reappear on [redacted].

On the 19th of the month [redacted] sent call sign chatter to RAD A632. These call signs appeared on an outstation of [redacted], which indicated a link between [redacted]

[redacted]

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1. Ann Rept, FS 8603 AAU, fy 1954, pl28.
2. Ibid. pl29.

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[redacted] were still recognizable because of the extensive lateral working between the outstations of [redacted] and the fact that the link between [redacted] and [redacted] was in constant use. At this time, call sign and net files were kept on all [redacted] cases which could be identified.

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[redacted]

[redacted]

The whole Peking complex continued to change call signs twice daily and also switched frequencies every five days.¹

The link between [redacted] was not heard after the 10th of the month. It was

[redacted]

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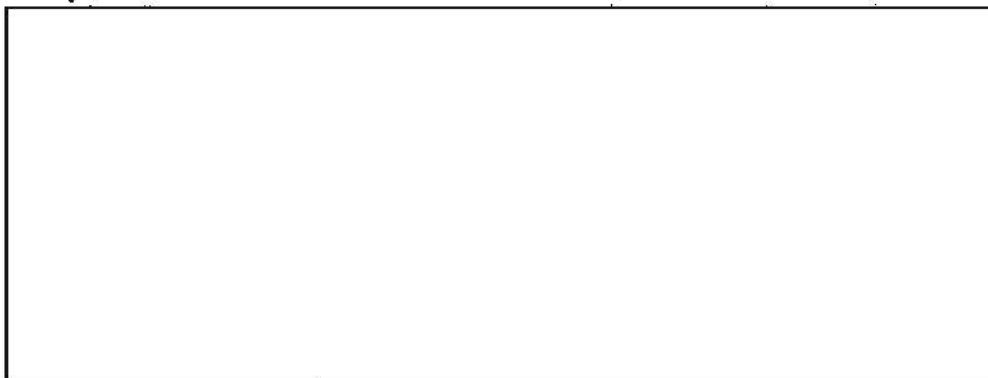
April 1954: During the first week of April, all administrative air complexes began to change call signs twice daily—once on day frequency and again on night frequency during every 24 hour period.

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[redacted]

A new [redacted] series appeared on the Peking-controlled nets. This block, though used in three different instances, did not appear to be a replacement for the missing [redacted]. One net in the Hankow area was also noted sending an [redacted] block circular series to three outstations. This block in no way resembled the [redacted] block sent by the Peking controls. It

- 1. Ann Rept, FS 8603 AAU, fy 1954, p130.
- 2. Ibid. p131.

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Two of the Peking controls were noted switching their [redacted] to call unidentified outstations. The [redacted] were used only when this switch occurred.

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On the 25th of the month, the Peking complex underwent a major procedure change. The procedure [redacted]

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[redacted] bore no resemblance to those used prior to March 1954.

All [redacted] operators were working straight shifts in May in order that they might better learn the operating procedures of the administrative air nets. It was felt that con-

June 1954: All Peking, Hankow, and some Nanking-controlled nets continued to change call signs daily—once on day frequency and a gain on night frequency. Shenyang-controlled nets continued to use one set of calls during the day and another set at night.² Some Nanking nets were noted not changing calls. Control and outstations continued to switch frequencies approximately every five days.

One Peking-controlled net was noted changing call signs in the middle of a schedule and sending traffic. The net then reverted to the original call signs to correct groups and sent chatter. There was no apparent reason for this change.³

1. Ann Rept, FS 8603 AAU, fy 1954, p131.
2. Ibid. p132.
3. Ibid. p133.

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The Peking-controlled nets no longer used [redacted]

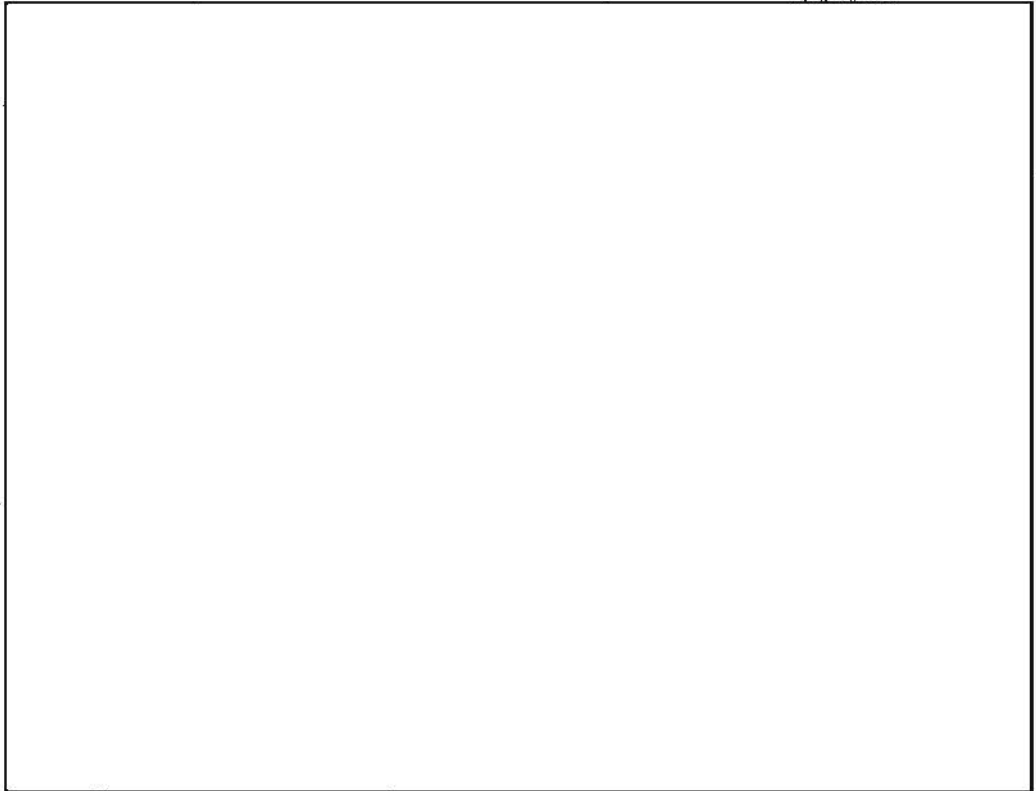
Circular series msgs, using other blocks throughout the month, increased greatly. The purpose of this was to provide for msgs previously sent by controls using the [redacted]

On 26 June, the Peking-controlled nets underwent major frequency change. [redacted] was detected sending [redacted] procedures signals in addition to [redacted] procedure. This suggested a net contact between administrative air and military since [redacted] bearing. This established the area of contact as Nanking area or possibly in the Chou-San Islands.

Chinese Communist Naval Analysis

The following is a month by month description of the work accomplished on this problem.

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I. Ann Rept, FS 8603 AAU, fy 1954, p133.

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August 1953: Three ASA temporary cases and one search position were assigned to the station. Beginning the first of August, the [] complex changed call signs daily until the seventeenth, with recoveries being effected daily. From

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[]

Study of traffic showed a system of [] and definite schedules for [] Work was begun on the priority indicators, but nothing certain was proven because of lack of intercept material. The complete schedules [] were sent to NSA.

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September 1953: The [] complex remained very stable this month with the period of call sign repetition the same as the previous month.

The mission assignment was held to a minimum for the first half of the month due to unknown operating frequencies, but after several days of search, a study showed that assigned

[]

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October 1953: On 15 October 1953, the entire [] complex

[]

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1. Ann Rept, FS 8603 AAU, fy 1954, p134.
2. Ibid. p134.

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[REDACTED]

January 1954: One additional position was added to the Naval intercept section. Four targets and two search positions were now assigned.

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[REDACTED] this month, but continued changing through the end of the month with a number of repeats. Until this time, most procedure and all msg

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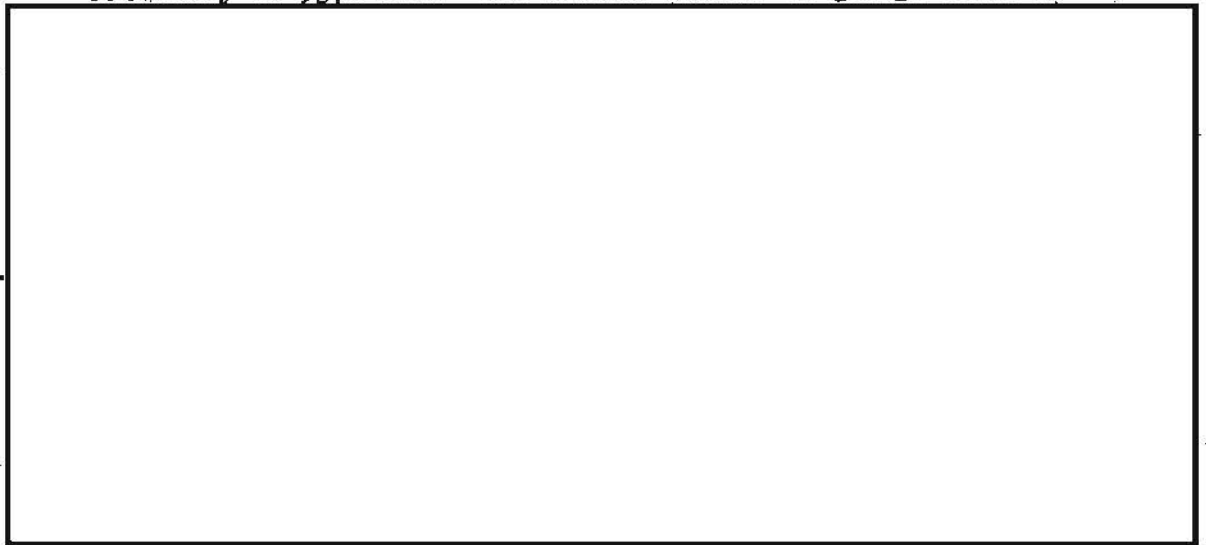
[REDACTED]

February 1954: The [REDACTED] complex remained constant with the calls beginning their period of repetition on the 17th. Work on an NR system was started at the station.

March 1954: The station was assigned 20 targets and 8 search positions.

Beginning 5 March 1954, three, four, and five element call signs were observed on the Peking nets. The majority of these calls were of the three letter type; however, a few were noted to be a combination of letters and numbers.

A [REDACTED] practice net was picked up 11 March 1954, on a frequency of 5378 kcs. The unusual amount of groups start-

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1. Ann Rept, FS 8603 AAU, fy 1954, pl36.
2. Ibid. pl37.
3. Ibid. pl38.

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May 1954: The [] complex changed calls and procedure through the 16th of the month. From the 17th through the end of the month, sequences used during the first half of the month were reused.

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Unusual activity was apparent in the Shanghai area from 14 May 1954 to 23 May 1954. Many calls that did not

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[]
This activity was apparently related to Chinese Communist and Chinese Nationalist clashes in the Chou-San area.

June 1954: The [] complex remained constant. The broadcast in the Shangtung area was very active sending grid traffic, and a detailed study was begun of the unusual type traffic and of frequencies and schedules.1

Russian Service Printer Analysis

When the Russian Service mission was reactivated in November 1953, the section was faced with two fundamental problems: first, the lack of personnel acquainted with Russian procedure, and second, practically no Russian reference material was on hand because the Russian service had been dropped in November 1952, and in July 1953, Russian texts and technical notes were discontinued and most Russian file material destroyed to make room for the Chinese Communist TECSUM.

In November 1953, several requests were sent out for reference material, which began arriving in early March 1954.

Also in March, a representative from ASA Pacific arrived to suggest improvements in the Daily Analysis Report (DARE) and Russian filing system. The visit marked a turning point in the overall Russian mission because many valuable techniques were learned: for example, how to identify traffic as

[]

March 1954: Extensive activity was noted on the following cases: [] This case, previously notated [] was heard continually until 8 March 1954. Identification was made mostly from practice traffic hits. On 2 March 1954, this case was noted using [] trans- mission and was heard on Morse using call signs []

- 1. Ann Rept, FS 8603 AAU, fy 1954, pl39.
- 2. Ibid. pl40.

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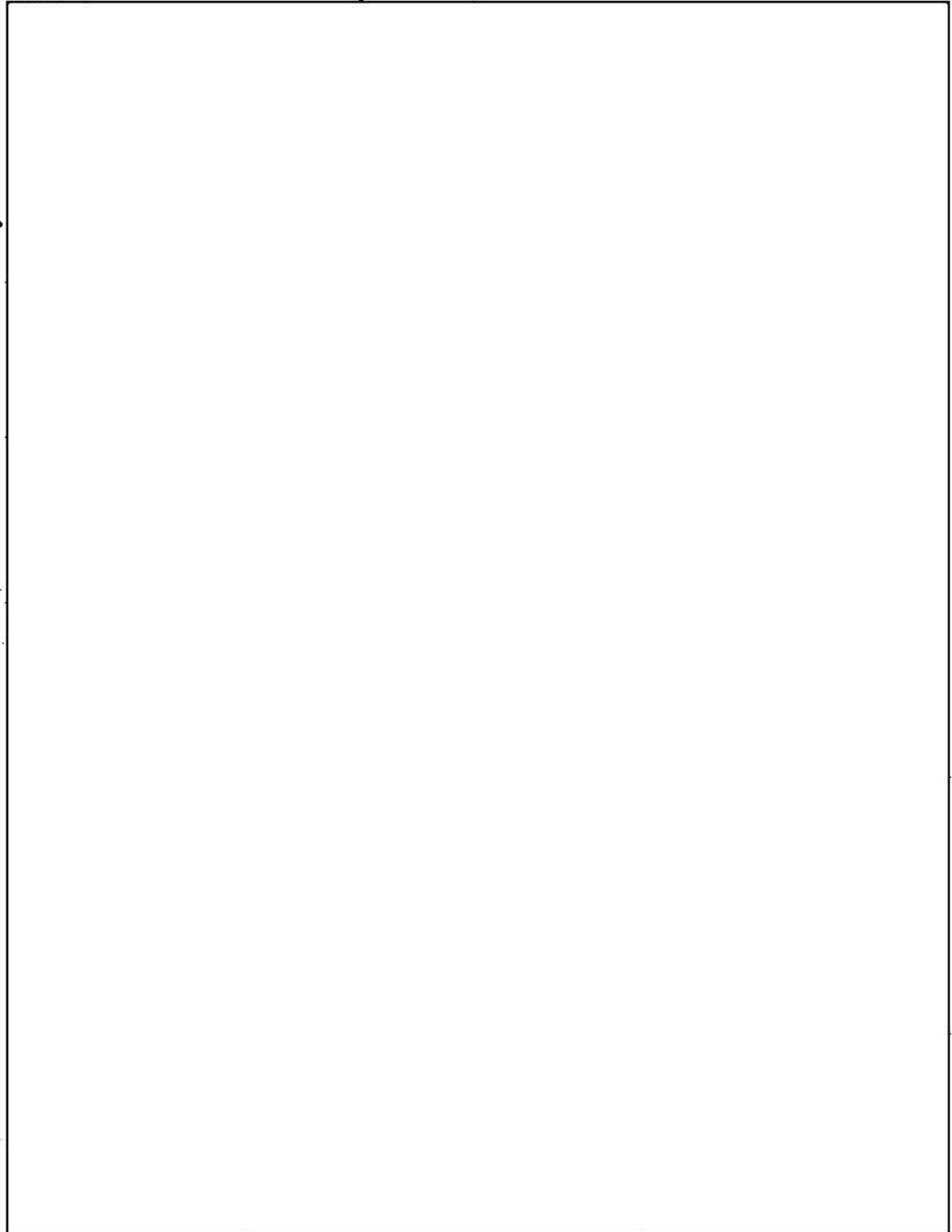
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and [] (unlocated). These same calls were noted on a 2B transmission on 23 January 1954 and 10 February 1954. It was unusual for call signs to appear on 2B for this case.

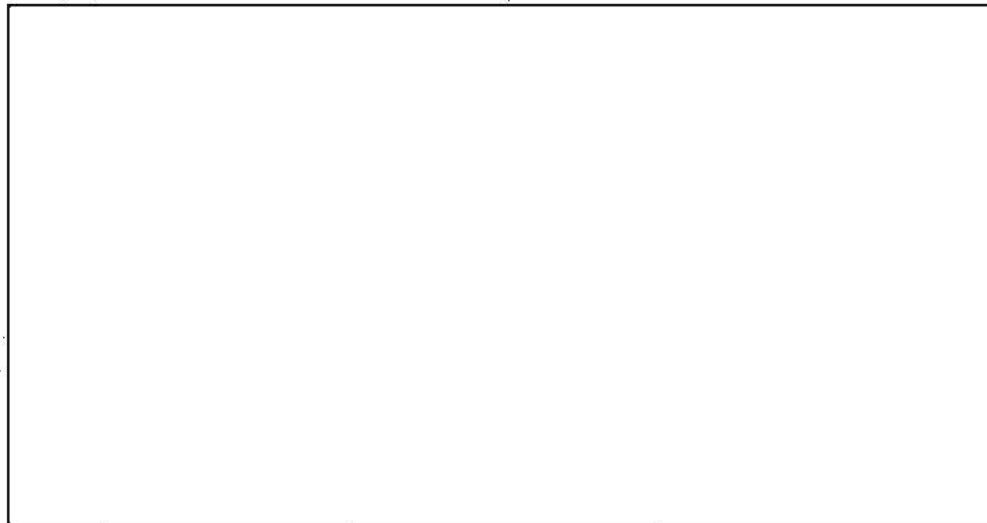
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1. Ann Rept, FS 8603 AAU, fy 1954, pl41.

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At the close of the report period, a consensus among analysts indicated that the greatest effectiveness in traffic analysis would be obtained if attention was concentrated on the Chinese Communist Third Field Army problem whenever and wherever possible.

[REF: VOL. I P. ~~142~~]

1. Ann Rept, 8603 AAU, fy 1954, pl42.
2. Ibid. pl43.

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4. PHILIPPINE ISLANDS

a. Field Station 8609 AAU, Pampanga

During fy 1954, NSA retained control of the intercept assignment at FS 8609. This excluded direction finding, which was controlled by ASA Pacific. The Traffic Control and Reports Section retained responsibility for the preparation of technical reports and direction of local intercept activities, except non-Morse.

The Viet Minh mission was increased during the report period to a daily total of 360 hours (15 full 24-hour positions). No major problems arose and quantity of intercept continued to be high.

General Search (manual Morse) was increased from 72 hours per day to 44 hours per day on 4 March 1954.

A Chinese Communist position was utilized until 10 October 1953 when it was dropped for increased Viet Minh coverage. Another [] position was in use 1 February - 4 March 1954, when it was dropped for increased general search.

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Russian traffic was intercepted on [] positions until 4 March 1954 when they were dropped for expanded general search.

The automatic Morse mission remained basically unchanged. Beginning 30 April 1954, the mission emphasized interception of [] traffic pertaining to the []

The mission of the Manual Morse Section increased with a concurrent change in emphasis. Viet Minh and general search assignments were greatly

1. Ann Rept, FS 8609 AAU, fy 1954, pl6.

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increased while Chinese Communist and Russian missions were dropped.¹ As shown below, the mission change in man-hours per day and positions utilized was accomplished without a great increase in operators.

MO	MANUAL		RUSSIAN	CHINESE COMMUNIST		GENERAL		TOTAL
	MORSE	VIET MINH				SEARCH	OTHER	
Jul								
Aug								
Sep								
Oct								
Nov								
Dec								
Jan								
Feb								
Mar								
Apr								
May								
Jun								

In order to facilitate on-the-job training of newly assigned operators, a school was conducted under the supervision of a skilled operator, in which Viet Minh traffic was used.² This resulted in the expeditious training of new personnel. It was found that personnel rotated from Korea could adequately cover a position within one week after assignment.

During February 1954, consoles were installed for general search. These replaced standard racks.

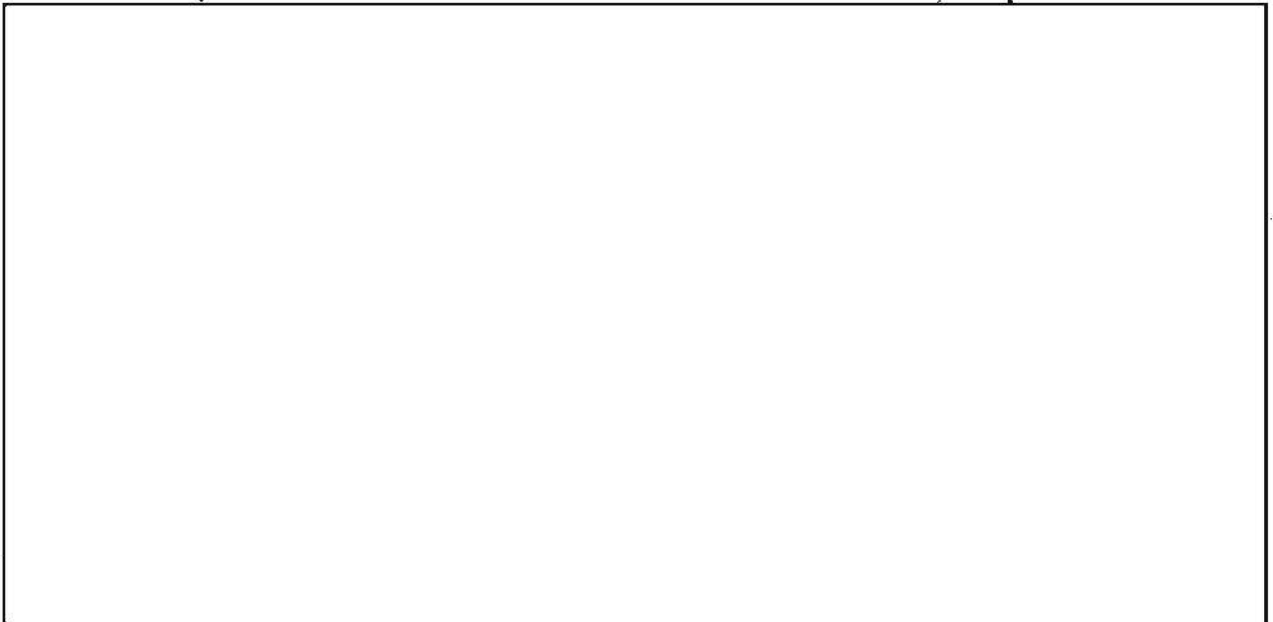
A high point in intercepted traffic was reached during June 1954, when more than 1,500,000 groups were intercepted by the section - a station record.

At the beginning of the report period, the automatic Morse mission consisted of forty-four links, the most important of which were those in and out of [] In August, [] and reverse was put on the

1. Ann Rept, FS 8609 AAU, fy 1954, p17.
2. Ibid. p17.

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At the close of the report period, nine triple diversity racks for frequency shift transmission, nine double diversity racks and two search consoles were in operation.

The RFP mission continued to concentrate on the Viet Minh problem throughout the year. During May, the mission was changed by NSA to include shots on jammers and noise transmissions. Few shots were taken because of the peculiarities of the type of transmission.

On 23 January 1954, the T/1 Model #2 was replaced by a DEN 17. Since that time outages due to equipment failures have been considerably reduced and the quality of shots improved.

Early in fy 1953, ASA Pacific began monitoring the DF report net for transmission discrepancies. In the first report, the station's DF unit had the highest number of discrepancies. To overcome this defect, all transmissions were recorded on an RD-74. Tapes were transcribed and errors brought

1. Ann Rept, FS 8609 AAU, fy 1954, p18.
2. Ibid. p18.

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to the attention of the responsible operators. This resulted in a discrepancy rating of .08 in March 1954, the lowest rating in the entire net.¹

On 5 January 1954, a console was installed at the DF site. This brought all equipment necessary for effective operation into rational relationship.

In April 1954, the DF site began using base power. This permitted the removal of generators and foreign nationals from the site area.

On 16 April 1954, work was begun on the new DF building which was completed on 11 May and occupied on 21 May.

Maintenance difficulties were slight during the report period, the greatest trouble being the SIGNIN in use between the DF site and operations. This was especially noticeable during the rainy season.

Throughout the report period, the non-Morse mission remained largely unchanged except in detail. Thus, although many new cases were added, and old cases dropped, the mission remained concentrated on [] service printers in Indo-China, Russian service printers in the Far East, Russian air cases in Europe, [] coverage. During the year several commercial links originally on assignment with Automatic Morse Section were added as they changed operation from automatic Morse to printer.

To fulfill station specifications, six DEN 24's and five DEN 35's were installed during the report period.²

At the close of the report period, the following positions were in operation:

1. Ann Rept, FS 8609 AAU, fy 1954, p19.
2. Ibid. p20.

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- 10 Simplex
- 6 2-Channel demultiplex
- 1 3-Channel demultiplex
- 4 2-6-9-Channel demultiplex
- 1 Non-Morse search
- 1 Radio-telephone

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1. Ann Rept, FS 8609 AAU, fy 1954, p21.

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D. Europe

1. Germany

a. Hq, ASA Europe, 8620 AAU, Frankfurt

Throughout fy 1954, the Operations Division, Hq, ASA Europe, supervised and coordinated the efforts of all US Army units in Europe engaged in the production of COMINT, operated certain designated intercept facilities, and conducted such processing as was required to produce COMINT in close support of USAREUR as directed by NSA in support of the national COMINT effort.

Effective 1 July 1953, the division was subdivided into an Administrative Branch, a Production Branch, and six teams as follows:¹

<u>Team</u>	<u>Mission</u>
1	Russian
2	Satellite
3	IBM
4	Direction Finding
5	Control
6	[Redacted]

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This organization was modified in June 1954 in line with TD requirements as follows:

Processing Section

Within this section, daily analysis was performed on Russian problems specifically the [Redacted] and research on Russian unassigned cases.² From the standpoint of traffic analysis, the [Redacted] problem was developed both in man-

1. Comd Rept, Hq & Hq Co, 8620 AAU, fy 1954, p15.
2. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, p69.

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power and knowledge from fy 1953. Personnel was increased from [] to [] enlisted men. Machine aids runs were made on practice and unidentified traffic for present and future reference. Military districts which were underdeveloped at the start of fy 1954 were developed to the stage of daily continuity on most of the known nets within each district. An increase in intercept coverage helped, and with the aid of IBM runs on practice and unidentified traffic, nets formerly cased by area or book were assigned com-

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[]

Team 1 published twenty-six special releases on the [] Forces, three on the [] and two on the [] [] during the report period. These consisted mostly of suspected field training within these areas. In March, monthly station evaluation reports were inaugurated to attempt to improve efficiency and intercept.

Traffic received from all stations was scanned daily for personalities, covernames, procedures, and pertinent chat for inclusion in permanent files. From 1 January to the end of the fiscal year, corrections were sent by cable on a daily basis. In June "DARE's" were received from the Navy which were of considerable assistance in identifying Naval links.² Practice traffic hits were recorded at outstations and forwarded monthly. These were consolidated in a machine aids run and published once every three months.

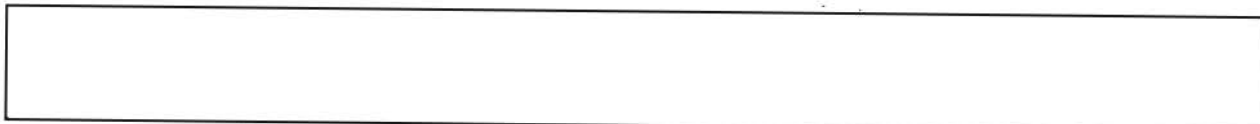
1. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, p59.
2. Ibid. p60.

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A charting section was set up which recorded the productivity of the various outstations. From these, evaluations were made of all outstations to improve intercept. Case histories were prepared of all transmission characteristics derived from reports since July 1953 and in some instances back to July 1952. The purpose was to have all known data files under each

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At the beginning of fy 1954, the voice program of ASA Europe was in its infancy. Operators were being trained, sites were being tested, and techniques of operation were being developed, all simultaneously. From July through September 1953, a three man NSA voice team was in the command helping to select ideal sites and improve intercept techniques. Sixteen sites were tested during the summer of 1953. From these, sites at Altefeld and Bahrdorf were chosen as the best available, and in September of 1953 all intercept was concentrated at these points.¹

In an effort to properly transcribe traffic, a central transcription section was established. All tapes were forwarded where work was performed by the ASA Europe team assisted by a representative of each of the intercept units.

Two dimafon recorders were furnished by NSA Europe during the report period for use in processing 87-L discs. Approximately 200 tapes and discs were transcribed during the months of September and October 1953. Experiments with antennas were also conducted. From these, it was determined

1. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, p61.

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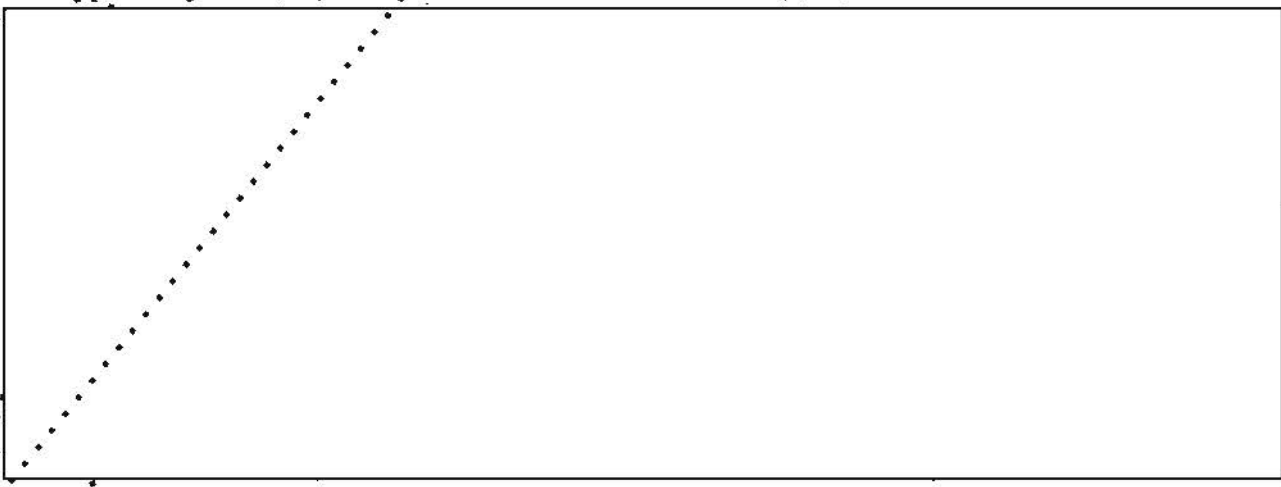
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only uni-directional, high-gain arrays would suffice for the job.¹ In March 1954, twenty dimafon recorders were purchased for use in the 1954 voice program. Various modifications for the recorder were developed by the ASA Europe team and classes were held in each unit to familiarize using personnel with the equipment and its modifications.²

By the end of fy 1954, the voice program was making rapid progress towards an ideal coverage of its mission. All previously discovered mistakes in techniques and methods had been rectified, good control over intercept had been established, and COMINT was being produced almost daily.

On 1 January 1954, ASA Europe Team 2 assumed operational control of the [redacted]

[redacted] medium grade and low level systems.³ Operational control of these problems included sixteen manual Morse intercept positions, technical extracts of traffic analysis (TEXTA), traffic analysis (T/A) and cryptanalysis (CA).



1. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, p62.
2. Ibid. p63.
3. Ibid. p63.
4. Ibid. p64.

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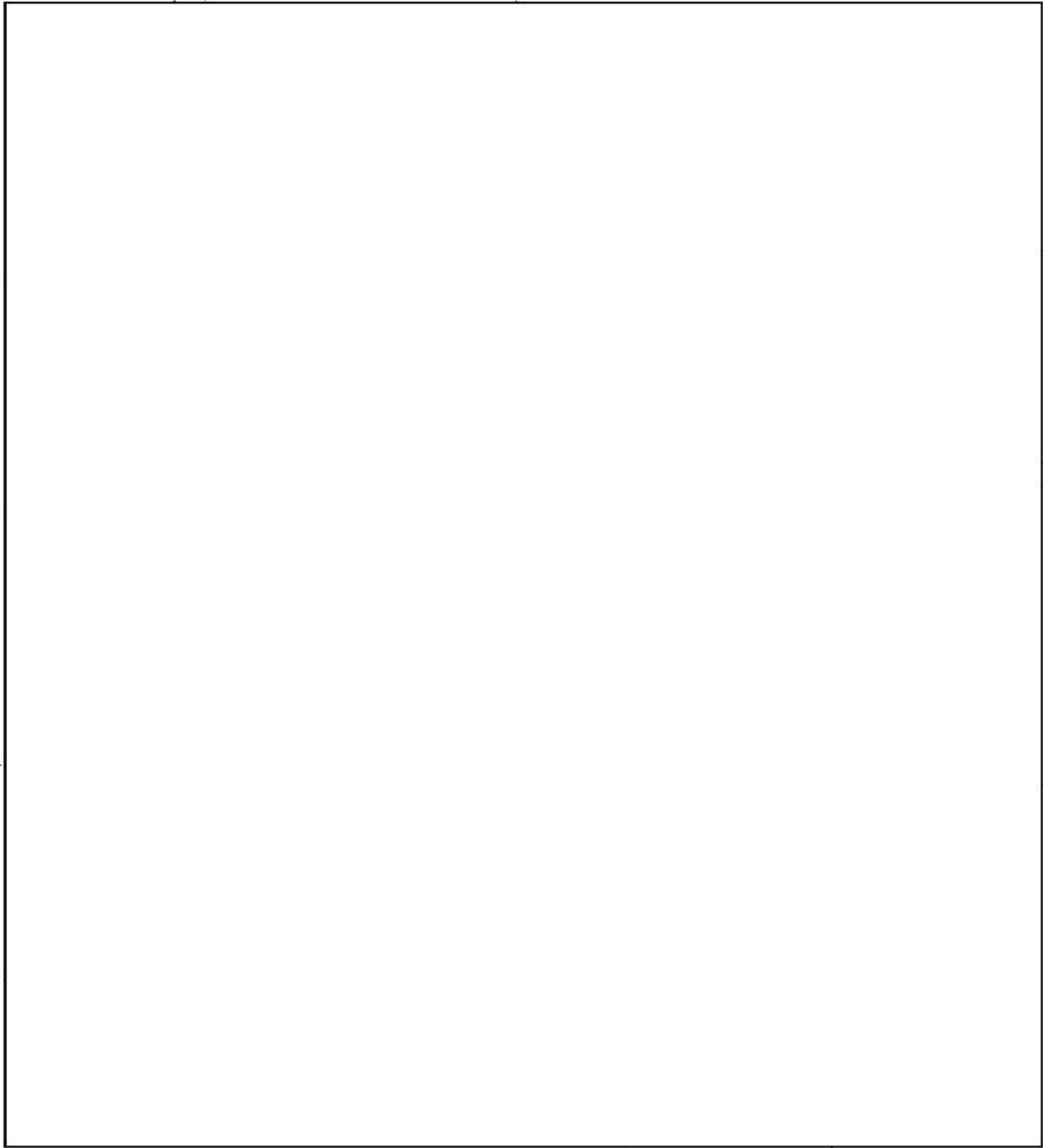
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1. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, p64.
2. Ibid. p65.
3. Ibid. p65.

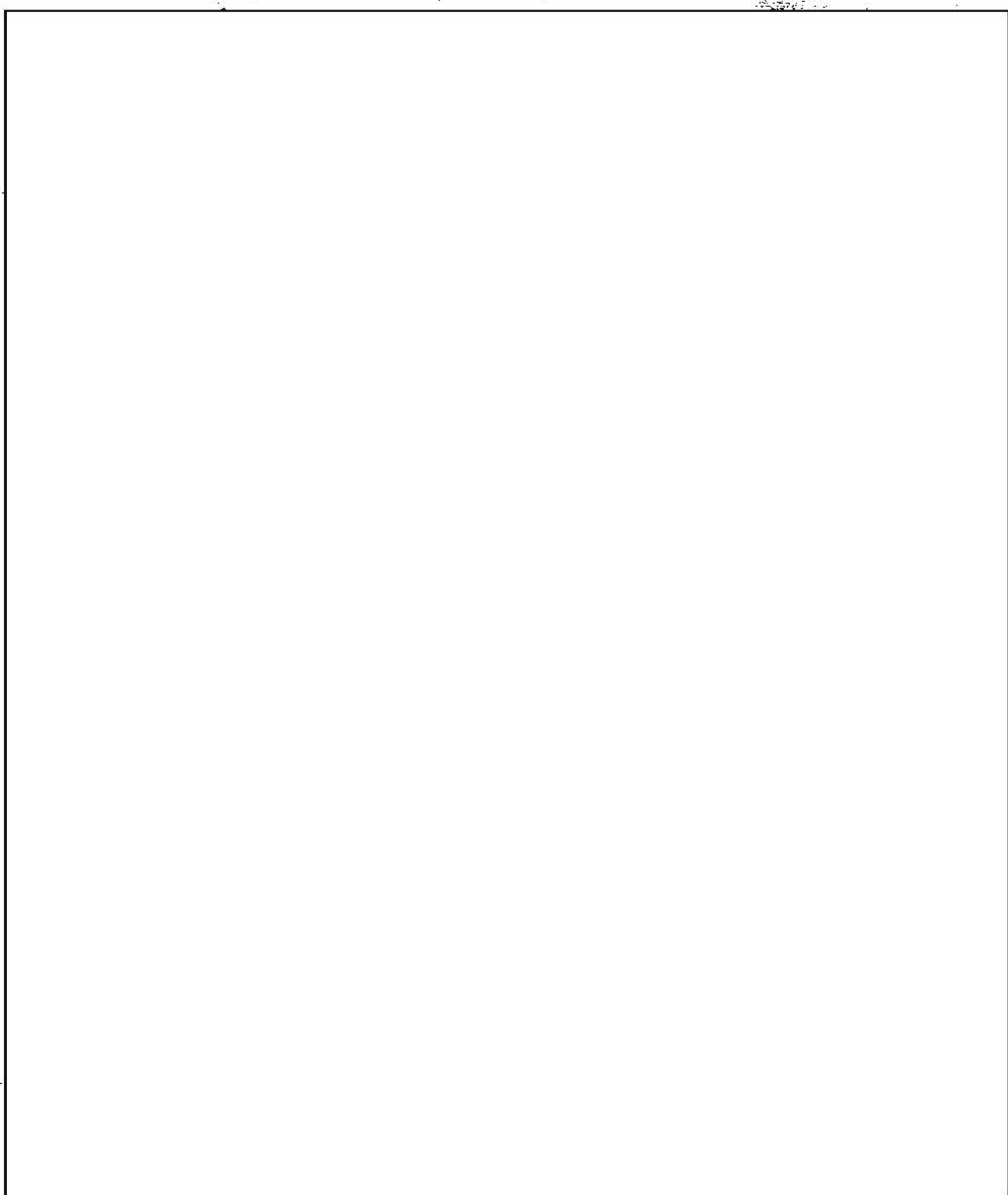
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1. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, p65.

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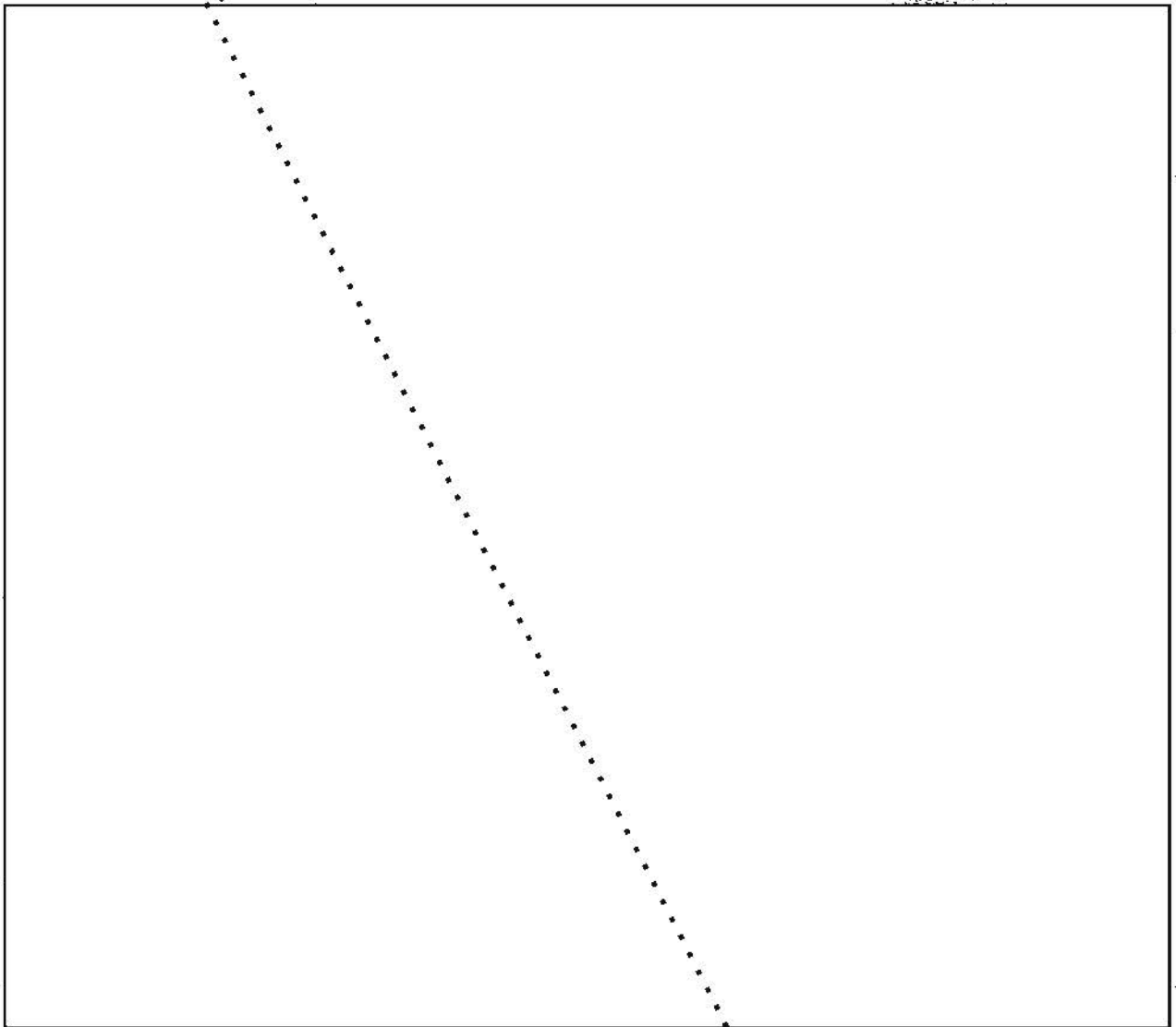
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1. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, p67.
 2. Ibid. p67.
 3. Ibid. p68.

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The Spectrum Search Team, consisting of began operations 22 March 1954 in Berlin. The team operated on a 24 hour schedule seven days per week, utilizing a S44 hut, a TLR-1 with a 48 foot tower. The 48 foot tower was not very satisfactory. An 83 foot tower with a rotor-

1. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, p68.
2. Ibid. p69.
3. Ibid. p69.
4. Ibid. p70.

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operated antenna array was under construction at the end of fy 1954.

The mission of this team was to search for, intercept, and record radio signals of potential intelligence value in the frequency range 54-12, 500 megacycles. The product was processed by ASA Europe and forwarded to Hq ASA. In general, this team proved most efficient, and no major change was anticipated at the close of the report period.¹

Machine Aids Section

Throughout the report period, the Machine Aids Section (Team 3) operated on a 24 hour schedule to accomplish and maintain the output of an ever increasing workload. Shift changes were made every 14 days except for a permanent midnight shift.

Two complete units of equipment were available consisting of eighteen machines. Installed equipment was brought up to date with the latest modification and changes. One unit processed only [redacted] traffic under the new Target Saturation Technique and the other was used for all other ASA Europe COMINT projects.²

The section also continued its machine support of the [redacted] [redacted] and direction finding sections, by providing analytical runs of varying degrees. [redacted] indices, frequency counts, time lags, differences and patterns were some of the listings that proved extremely valuable and saved numerous manual analytical man hours.³

Instruction in new machine and method techniques was an ever continuing program. Daily, an hour long class was conducted for section personnel.

1. Comd Rept, Hq & Hq Co, 8620 AAU, fy 1954, p17.
2. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, P72.
3. Ibid. p73.

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During the report period, a total of 163 new and sustaining jobs were processed, using 200,000 cards monthly.

DF Plotting-Evaluation

During the period 1953-1954, Team 4 supervised and directed the Special Identification Techniques Section of ASA Europe.¹ These special techniques consisted of radio direction finding, radio fingerprinting, and Morse operator analysis for which the team was responsible for technical advice and instructions.

In fy 1954, the ASA Europe fixed DF net consisted of the following stations operationally controlled by FS 8606 AAU and 8608 AAU.²

USM-6A	-	Herzo, Germany
USM-6B	-	Bremen, Germany
USM-6C	-	Berlin, Germany
USM-8A	-	Scheyern, Germany
USM-8B	-	Straubing, Germany
USM-8C	-	Kassel, Germany

All sites with the exception of USM-8A and 8B remained the same throughout the report period. USM-8A was moved from Scheyern to Memmingen during August 1953. USM-8B was moved from Straubing to Karlsruhe in March 1953 and then to Malmshelm in May 1954.³

The mobile DF net of the 502d CRG consisted of the following:⁴

Control	-	Giessen	-	Relocated from Koenigsluetter
USM-31A	-	Lubeck	-	Relocated from Schweinfurt during fy 1954
USM-31B	-	Kassel	-	Stationary throughout report period

1. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, p74.

2. Ibid. p74.

3. Ibid. p75.

4. Ibid. p75.

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USM-31C	-	Wesendorf	-	Relocated from Butzbach in August 1953
USM-31D	-		-	Deactivated during report period
USM-32A	-	Sweinfurt	-	Relocated from Memmingen
USM-32B	-	Straubing	-	Relocated from Rotz
USM-32C	-	Furth	-	Relocated from Roth in November 1953
USM-32D	-		-	Deactivated during report period

The mobile DF net of the 328th CRC was composed of the following stations during the report period:

USM-680A	-	Bad Aibling	-	(Control)
USM-680B	-	Straubing	-	Deactivated in December 1953
USM-680C	-	Weiden	-	Relocated from Landshut in August 1953
USM-680D	-	Trieste	-	Relocated from Wels, Austria, October 1953

The mobile DF net of the 334th CRC was composed of the following stations at the first half of the report period: (Note- This entire net was deactivated during the last half of fy 1954)

USM-679A	-	Sinzig	-	Deactivated December 1953
USM-679B	-	Mainz	-	Deactivated August 1953
USM-679C	-	Karlsruhe	-	Deactivated January 1954
USM-679D	-	Freiburg	-	Deactivated December 1953

During the report period the delegated mission of the DF teams was the accomplishment of accuracy studies.¹ A tip-off landline net was

1. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, p76.

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installed in December, 1953 between fixed and mobile nets for the purpose of coordination on high priority DF targets. Research was begun in April, 1954 on the Split-T plotting method. Results at the end of the report period were inconclusive. Further study was scheduled for fy 1955. Action was also started on replacing the ASA Tracking Code with a new and improved system.

Traffic Control System

Organization of the Traffic Control Section (Team 5) remained primarily that of fy 1953. However, the over-all mission was greatly increased. Close liaison was maintained with ASA Europe analytical sections, ASA Europe outstations, supporting headquarters and command recipients. Incoming intercept TEXTA was received from NSA, GCHQ, 6910 Security Group, and 10th Reconnaissance Squadron Mobile. This was distributed to all commands.¹

ASA Europe became responsible for the generation of [REDACTED]

[REDACTED] TEXTA 15 June 1954. Control was responsible for the distribution of this TEXTA to the appropriate intelligence organizations.

Records of all Morse, voice and radio printer intercept assignments were maintained showing case number, basic station trinomes, and associated OB. Staff supervision was exercised over all reports to insure timeliness, proper format, and adequate TEXTA. The dispatching of TEXTA to subordinate units by courier was discontinued in December 1953. [REDACTED] became responsible for 90% of the TEXTA generation problem, receiving and distributing by

1. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, p77.

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electrical means. A tentative study for the issuing of TEXTA by IBM processes on a command-wide basis was made, but action was not completed at the end of fy 1954.¹

This team also provided special coverage on events of interest such

[redacted] and other events as required by NSA.²

Team 6, included [redacted] assisted by three assigned ASA and three DA civilians as of 30 June 1954. Of this total, [redacted] DAC were stationed in Berlin while the remainder of the team worked in Frankfurt.

The team's mission was (1) the processing, publishing and forwarding of [redacted] to NSA and other authorized consumers, and (2) the processing, publishing and forwarding of

[redacted] to NSA and other authorized recipients.³

REF: VOL. I P. 740

1. Ann Rept, Hq & Hq Co, 8620 AAU, fy 1954, p78.
2. Ibid. p79.
3. Comd Rept, Hq & Hq Co, 8620 AAU, fy 1954, pl6.

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b. 502d Communications Reconnaissance Group, Heilbronn

The most significant development in operations of the 502d occurred at the end of fy 1954. At this time, preparations were underway for this unit to assume greater responsibility in the "decentralization" of COMINT activity.

"A" Branch, the COMINT division of group operations, was given the responsibility of reporting directly to all intelligence consumers, including those at the national level, on the [redacted]

[redacted] Previously, the group had reported directly to all military consumers in Europe and the [redacted], and forwarded reports to NSA and Hq ASA for dissemination to intelligence consumers in the United States.

This decentralization of [redacted] responsibility was to entail:

1. Delegation of full intercept control except for radio printer. Group, however, was authorized to provide local direction on [redacted] printer targets and was to provide intercept support to the printer effort.¹
2. Delegation of control of special identification techniques, such as direction finding and radio fingerprinting.²
3. Delegation of authority for temporary case notation and responsibility for forwarding suggested TEXTA changes promptly to re-notating agency.
4. Complete responsibility for current and short-term traffic analysis.
5. Responsibility for current exploitation [redacted] [redacted] as determined by Group's capability, as well as

1. Ann Rept, 502d CRG, fy 1954, p26.
2. Ibid. p26.

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6. Responsibility for full translations of significant items of plain-text intercept.¹
 7. Technical reporting by technical summary (TECSUM), weekly technical notes, daily traffic analysis summary, cryptanalytic reports, net diagrams, and net activity reports.
 8. COMINT reports, consisting of spot and summary reports, and distribution of significant translations to all American consumers.

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The organization of "A" Branch for these additional functions differed very little from the previous year. The branch consisted of the Office of the Chief, the Analysis Section, the Control Section, and the Reporting Section.² The Office of the Chief consisted of [redacted] the Analysis Section consisted of [redacted] two of whom were assigned to the 331st CRC; the Control Section consisted of [redacted] and the Reporting Section consisted of 1 WO and 8 EM.

During the year, the Analysis Section increased its functions to include [redacted] Traffic analysis and [redacted] functions; and added a Transportation Section, which exploited monitored telephone calls pertaining to rail movements in the [redacted]

The Control Section lost physical control of the direction finding net control station, but retained staff supervisory control of the operation of the net, and a section devoted to direction finding plotting. Intercept con-

1. Ann Rept, 502d CRG, fy 1954, p27.
2. Ibid. p27.
3. Ibid. p28.

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trol functions were expanded to include checking on effectiveness of intercept and reports. Emphasis was placed on obtaining the highest quality intercept in the priorities required by the Analytical Section.

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To check intercept results, a series of charts was prepared to show developments on each case in complexes for every half hour of the day.¹ The charts, prepared from TECSUM's were coded to reflect intercept received from the 332d CRC and the 1st Wireless Regiment.² Unnecessary duplication of effort was visually shown, and improper coverage became readily apparent. In addition, it was possible to compare daily DF bearing reports with the chart to show at a glance whether intercept support was being used to a maximum. Schedules and working characteristics of little used nets also became apparent, serving as a guide for proper mission assignment.

Perhaps the greatest change during the year was the incorporation of Top-Secret control in the reporting section. Since "A" Branch received most of the highly classified material sent to group, it was decided, in the interest of efficiency, to maintain control of all Top-Secret documents in a single administrative section. With the increase in reporting responsibilities, the Reporting Section expanded its functions considerably.³

Timely release of COMINT to consumers was stressed throughout the year. Releases were sent directly to SSO's at USAREUR and Seventh Army.⁴

1. Ann Rept, 502d CRG, fy 1954, p28.
2. Ibid. p29.
3. Ibid. p29.
4. Ibid. p30.

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A direct line to Hq, Seventh Army was completed in July 1953, so that this timeliness was realized at the beginning of the report period. Concurrent with this step, a gradual change of method of operation was noted in the radio intelligence companies, who were solely responsible for intercept.¹ Intercept efforts were improved, and the traffic analysis function decreased to provide additional close-in support for intercept and preparation of spot reports for the Traffic Analysis Section at group headquarters.

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The two echelon system, with no intercept at group level, was found to operate efficiently. In addition, to the intercept from the 331st and 332d CRC's, the group was able to rely for a great deal of intercept support upon the [redacted] to which the group had a direct teletypewriter circuit.

The basic responsibility of "A" Branch during fy 1954 was the timely reporting of traffic analysis, cryptanalysis, and direction finding analysis of [redacted]. The Control Section was responsible for assigning and controlling the radio intercept coverage of [redacted] and the [redacted] to obtain the maximum amount of radio COMINT from existing facilities. Control was exercised over manual Morse, radio-printer, direction finding, and radio telephone intercept. Mission assignment was determined by traffic analysis requirements, activity of targets, demands of consumers, availability of equipment, and manpower.

Accurate, up-to-date TEXTA files were maintained to assist intercept units and traffic analysts.³ TEXTA changes discovered by traffic analysis at company and group levels were forwarded promptly to higher headquarters

1. Ann Rept, 502d CRG, fy 1954, p30.
2. Ibid. p31.
3. Ibid. p31.

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for notation, and fed to intercept companies immediately to provide maximum intercept guidance. Daily station coverage reports, personnel and equipment reports, and monthly activity reports were processed by the Control Section to determine at all times the efficiency of results and intercept potentialities indicated by reported available manpower, and equipment.¹

Constant supervision was exercised by the Control Section over the group's mobile DF net, consisting of three stations and a control in each of the two battalions to provide maximum results. Duties included checking of results reported by daily bearing reports from the net control station at the 331st CRC; maintaining a constant check of equipment to reduce failure to a minimum; plotting of bearings; assignment of mission; and reporting direction finding results. Close liaison was maintained at all times with the Traffic Analysis Section so that direction finding could provide maximum support to the analytic effort.

The Analysis Section had the responsibility for complete processing of all intercepted material bearing on the assigned mission. Processing involved detailed record keeping, analysis of records derived, and reporting of the results on a spot and short-term basis.²

Material arriving as raw traffic and technical summaries was processed first in the Traffic Analysis Section. Here "externals" of the messages were identified, recorded, and analyzed. Valid traffic was extracted for

[Redacted]

sis were turned over to the Translation Section. Sections on voice, radio

1. Ann Rept, 502d CRC, fy 1954, p32.
2. Ibid. p32.

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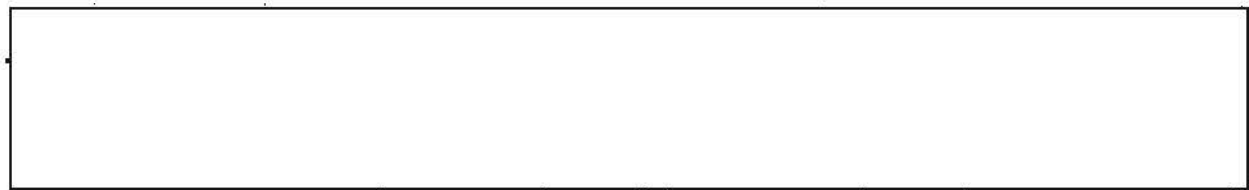
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printer, and transportation completed the entire effort by performing analysis on material intercepted by means other than Morse radio transmissions.

Upon completion of the daily processing, the Analysis Section reported immediately, in the form of a release, material of intelligence value. Technical information was reported in the form of bulletins, and special reports as the information was derived.¹ Following consolidation to obtain the greatest perspective and depth of analysis, the semifinished report was channeled to the reporting section for publication.²

The Analysis Section also provided technical guidance, supervision, and support to subordinate intercept units. Complete files were established so that any analyst would be able to work on any Army and soon be able to familiarize himself with the characteristics of that Army. A Transportation Section was established in the autumn of 1953. This unit received Transportation Bulletins from Hq ASA Europe reflecting items of intelligence



points. It was also possible to utilize this information to substantiate traffic analysis and direction finding results which indicated movement of certain units. In addition, collateral files were established to provide background information on targets.³

1. Ann Rept, 502d CRG, fy 1954, p33.
2. Ibid. p33.
3. Ibid. p34.

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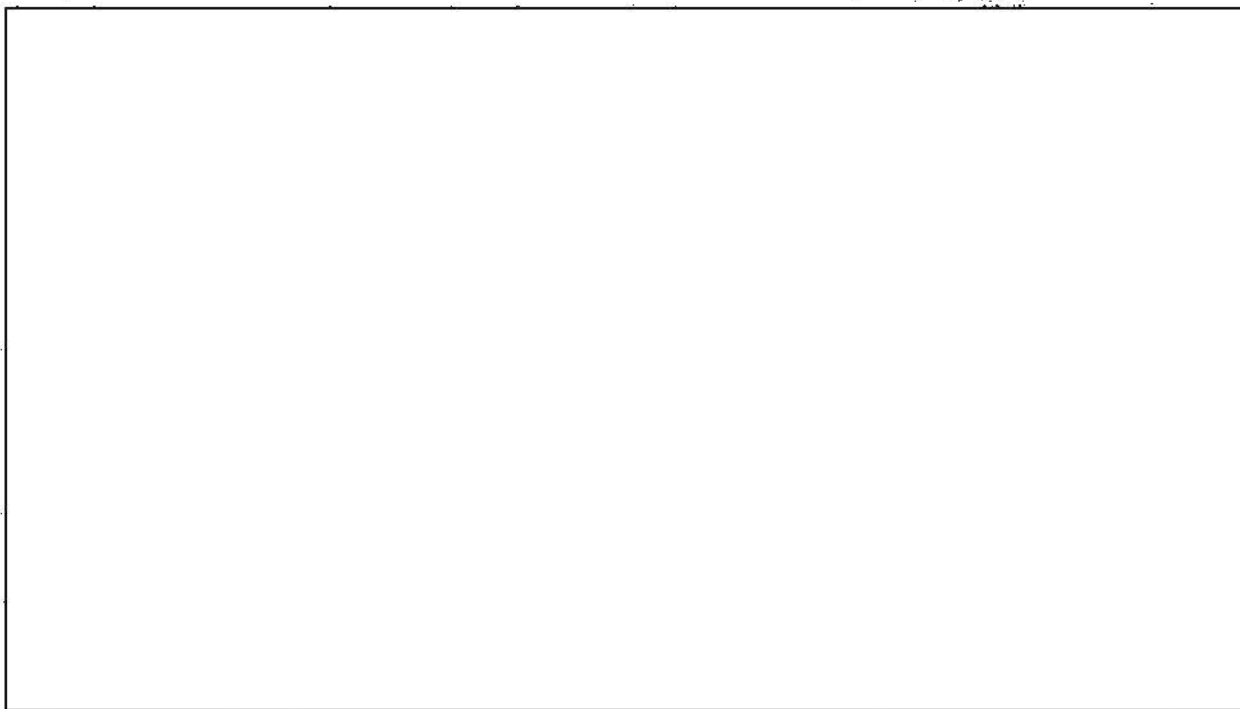
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The main function of the Reporting Section consisted of the publication of all reports. The scope of responsibility ranged from the maintaining of schedules on periodic reports to gathering information, editing and completely processing various publications. In addition, control of all registered publications utilized by "A" Branch was maintained. A pool of clerical workers was available for all pertinent administrative functions.

The most outstanding recognition to be accorded the group during the report period was received for a radio printer guide. This manual was the first comprehensive document ever published on the operation of mobile radio printer facilities in the field.¹



1. Ann Rept, 502d CRG, fy 1954, p35.
2. Ibid. p36.

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activity slowly increased on alternate nets. This theory was not proved.

Direction finding results dropped almost to zero because of the difficulty of tracking and obtaining bearings during the short contacts.

The stand-by status continued with no practice traffic through August.³

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- 1. Ann Rept, 502d CRG, fy 1954, p37.
 - 2. Ibid. p37.
 - 3. Ibid. p38.

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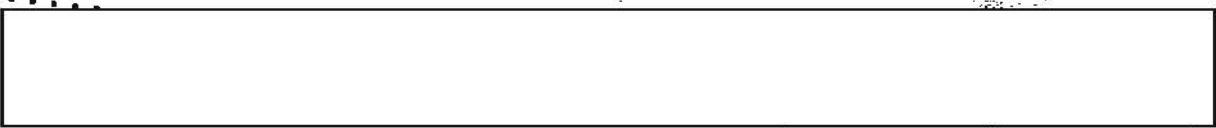
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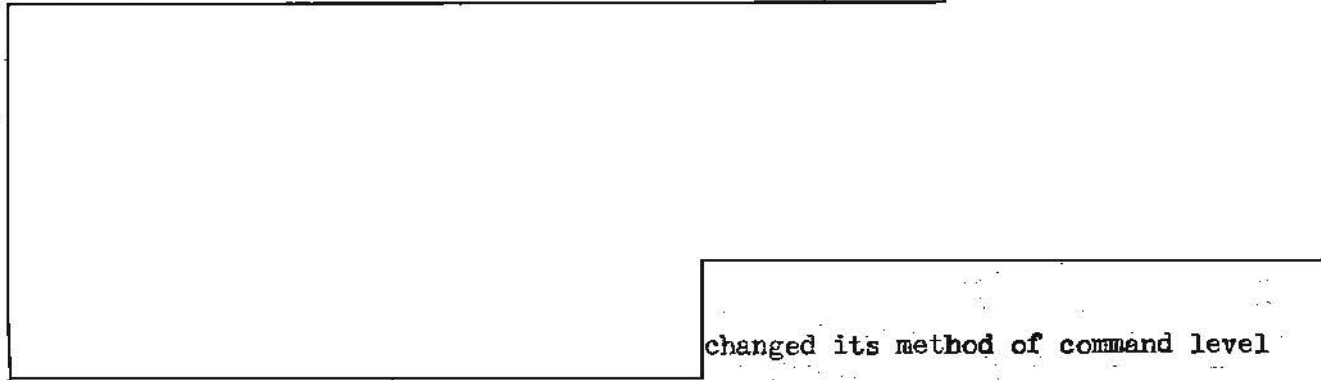


During the first week of August, the group's Analysis Section started a Voice Traffic Analysis Sub-section to exploit the small amount of traffic being copied. During the same month, the unit began receiving special releases published by the 6910th Security Group, USAF, Europe. These con-

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The communications stand-by status which began 1 July continued through September. Radio printer links remained inactive, except for traffic from army to corps headquarters, passed 25 and 26 September.



changed its method of command level communication operations 1 October, when a net controlled by [redacted] was expanded to include all units subordinate to the corps. This assumption was verified by direction finding results. The corps command net was not heard after 11 September. It appeared that the corps headquarters had ceased to exist, and that [redacted] had assumed tactical control of subordinate units of

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1. Ann Rept, 502d CRG, fy 1954, p38.

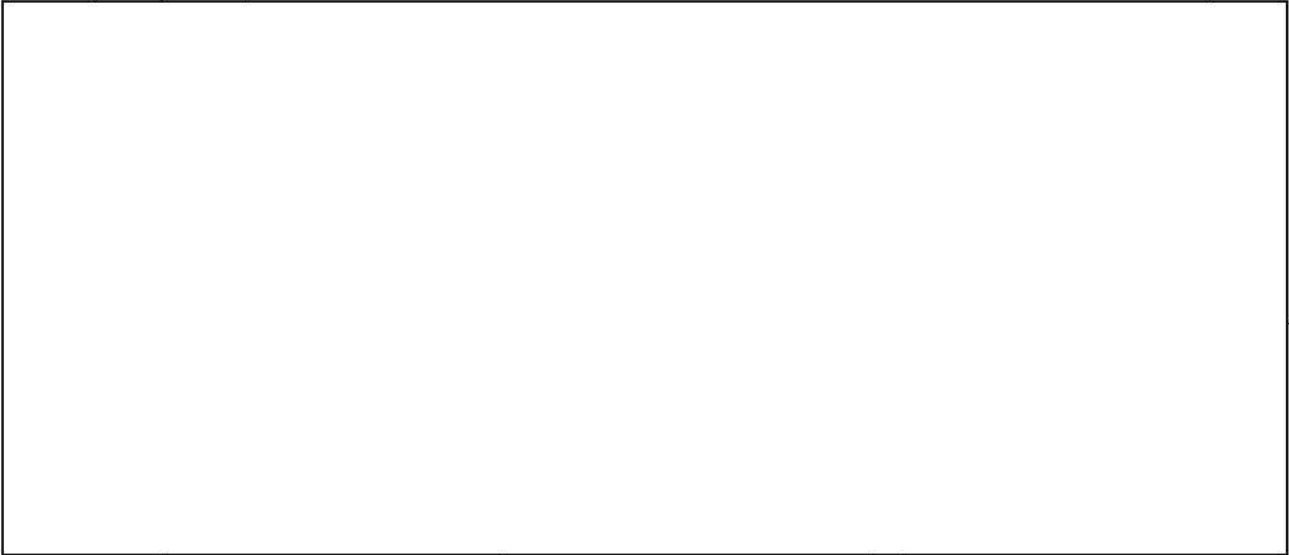
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the Artillery Corps, although it was believed that the corps administrative headquarters still existed.



No practice traffic was passed during October exercises, but there was an increase of net activity, DF hearings increased about 50% with a corresponding proportional increase in the number of fixes. An interim printer intercept mission was assigned both radio intelligence companies during the month. This mission consisted of links used by [redacted]

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During November, maneuver activity of all [redacted] was concluded, and it was believed that all units had returned to their home stations. The main army command net of the [redacted] began passing five digit practice traffic 1 November. This was the first activity of this type noted on any of the main army command nets since 1 October 1953. Communications between other headquarters level stations consisted of a [redacted]

1. Ann Rept, 502d CRG, fy 1954, p39.
2. Ibid. p39.
3. Ibid. p40.

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[redacted] activity was intercepted in November.

The stand-by status of the three [redacted] ended 15 December, when the [redacted] net became active, passing practice traffic and code words, as was the procedure before 1 August.²

The command nets of the [redacted] also became active 15 December, [redacted] except for one net in each army command group, which strengthened the theory that one net was reserved for stand-by activity. This remaining net in each army continued to pass procedure trigrams.

Simultaneous with the activity on Morse radio nets 15 December, radio printer nets of the [redacted] had the heaviest activity ever recorded on them in conjunction with the communications exercise of the [redacted]. There were slight indications that the [redacted] might soon begin a similar type of operation.

Communications exercises of the [redacted] terminated 10 or 11 January, and the [redacted] a communications exercise when the [redacted] net became active [redacted]

[redacted] The Morse and radio printer nets also became active 11 January, but the three southern armies did not conform to the pattern of their northern counterparts during the exercise, which terminated 31 January 1954.⁴

At the end of January 1954, all [redacted] Morse and radio printer activity returned to a minimum, probably in preparation for Spring exercises.

1. Ann Rept, 502d CRG, fy 1954, p40.
2. Ibid. p41.
3. Ibid. p41.
4. Ibid. p42.

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Intercept of valid traffic on [] nets was negligible through February, although all armies conducted small scale low echelon exercises, most of which were short. During the latter part of the month, there were indications of low level moves by some units, but nothing was known conclusively.

There was an increase in low echelon exercises in March in all armies of []. Most were short and believed to be in preparation for Spring training exercises. There were also indications of possible moves by divisional elements, and intercept of valid traffic increased slightly over February.

In April, there was a considerable decrease of low echelon exercises in all [] armies. Most exercises were of divisional and regimental level.¹ There was a general increase in exercise activity in May. Communications and field training exercises were primarily of divisional level; however a small number of army-controlled activities were noted.² There were communications exercises of army, corps and divisional level conducted by the [] [] communications and field training exercises of divisional level by the [] communications exercises of divisional level by the [] communications exercises of divisional level by the [] and field training exercises by elements of the []

A slight increase in suspected low level valid traffic was noted in May on [] nets of suspected chatter systems. []

1. Ann Rept, 502d CRG, fy 1954, p42.
2. Ibid, p42.
3. Ibid. p43.

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intelligence nets, [redacted] passed on regular communications nets.

During June, communications and field training exercises continued, with accelerated activity. There were indications on 10 June and thereafter of a possible [redacted] communications exercise, or even a possible return to pre-August 1953 operations. This was indicated by the increase of active communications nets within [redacted] and all subordinate armies.

Included in this increase of pre-August 1953 was [redacted] the return of printer activity in the [redacted] and [redacted].

1. With the advent of practice traffic, no trinomes were intercepted on [redacted] nets. However, after 17 June, a few instances of trinome usage were observed on the [redacted] command net, with no practice traffic intercepted after 17 June on the main command net.²

A stand-by communications status apparently was maintained in anticipation of 17 June unrest, which did not develop. Unusual activity indicative of a communications exercise, or possibly pre-August 1953-type working, continued after 17 June within [redacted] and subordinate armies, except for the [redacted].

There was slight evidence that Hq, [redacted] reappeared during the period 12-19 June during a communications exercise within the [redacted] complex. The corps headquarters had not been heard since 11 September 1953.

1. Ann Rept, 502d CRG, fy 1954, p43.
2. Ibid. p44.

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In June, there was a slight increase of valid traffic, most of which was [redacted] traffic was intercepted on a [redacted] net.

On 20 November 1953, the [redacted] problem was assigned to the 502d by ASA Europe.¹ With the problem came the necessary technical information and the assignment of five enlisted men. The Operational Section was enlarged to nine personnel. (1 NCO, 2 traffic analysts, 4 cryptanalysts, 2 translators). Reporting was of two types: weekly activity reports for traffic and cryptanalysis, published separately, and periodic COMINT bulletins.

Traffic analysis was performed on the [redacted] [redacted] operated as a star with fixed calls. The four fixed stations were net control at [redacted] and the radio direction finding stations at [redacted]. Probably because of weather conditions on the Baltic Sea, messages on [redacted] decreased from a high of 324 in November to 30 in February 1954.² Activity increased again after 15 March. The net was heard usually on 3060 kcs, but also on frequencies ranging from 1727 to 5175 kcs.

[redacted] operated as a star with lateral calls. Fixed stations were located at [redacted]. On 18 June the call signs changed. During the winter, message volume was low, but after February there were as many as 200 a month. The net used a fixed frequency of 1740 kcs.

1. Ann Rept, 502d CRG, fy 1954, p74.
2. Ibid. p75.

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Net structure for [] was a star lateral with double calls.¹
 [] was the net control station for the fourteen outstations scattered throughout the []. The net was active daily, except Sundays and holidays. In December, the schedule was reduced to two periods daily: 0700-0900 and 1200-1600. Volume of valid traffic was high during January and the first part of February, but between 16 February and 1 March []²

After 19 March only valid traffic was passed. The four frequencies used were 3360, 3260, 3230, and 2700 kcs. To determine if the increasing amount of unidentified traffic was part of [] nets, a [] search position was assigned to the 332d CRC during February. Success in this problem was hampered by little intercept.

[] translation were performed only on [] [] messages. The [] had three main sections: training ships attached to the school at [] and [] and a flotilla with two divisions of coastal patrol boats and one division of minesweepers. Activities of these [] units exhibited certain naval characteristics. The Fall maneuvers on 12 and 13 October were a simulated naval engagement and the conducting of a convoy

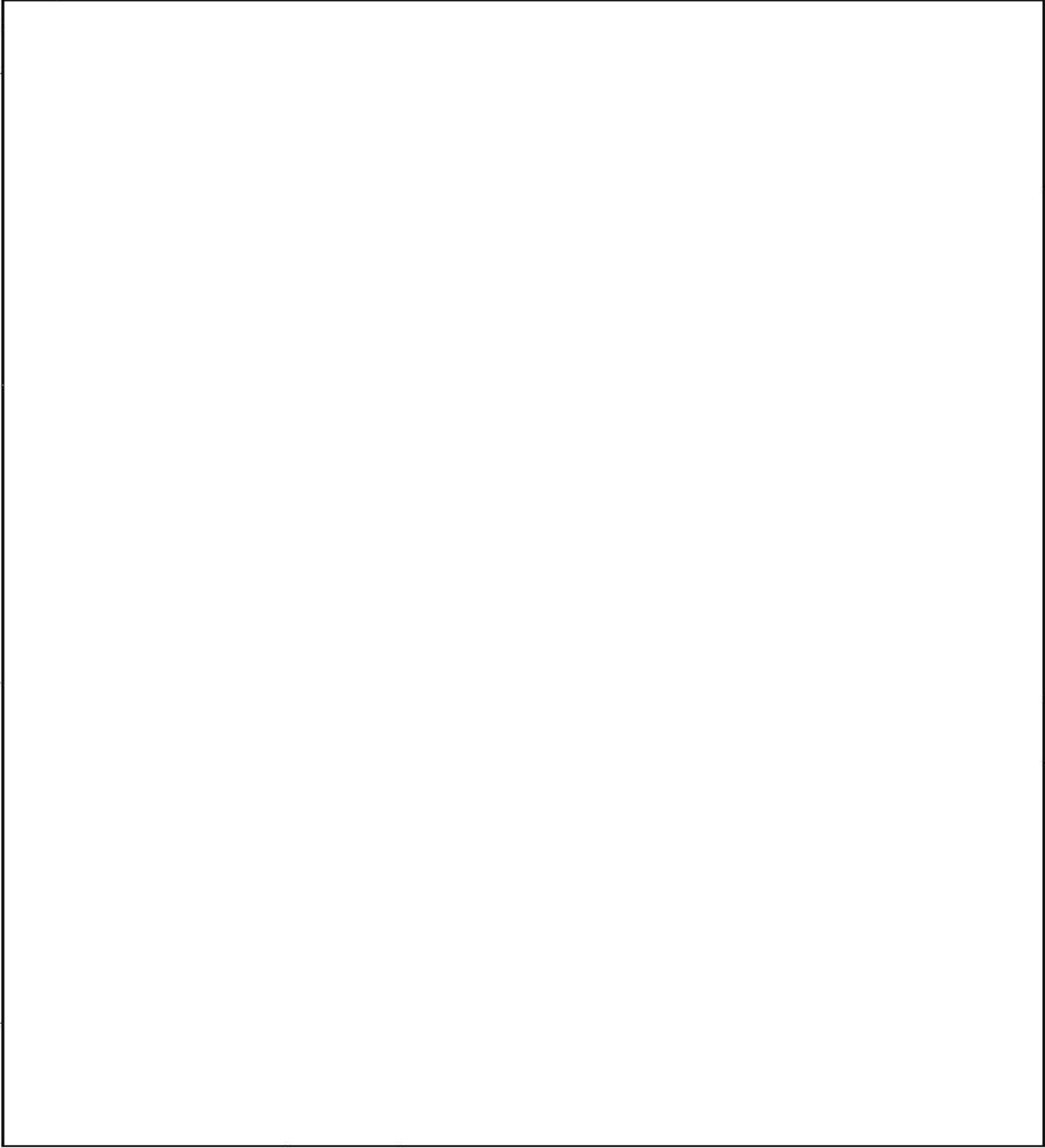
1. Ann Rept, 502d CRG, fy 1954, p75.
2. Ibid. p76.
3. Ibid. p76.

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- 1. Ann. Rept, 502d CRG, fy 1954, p77.
- 2. Ibid. p77.

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positional and operational reports.¹

Voice

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Continuous effort was made by group during fy 1953 to intercept low level voice traffic, however, results were so meager it was impossible to identify even the nets.² The demand for voice traffic from both tactical and technical consumers was heavy as they were interested in methods employed by small units using voice communications, and the identification of nets and target units. Little more was accomplished in 1953 than to find the best possible reception areas and the proper utilization of equipment and antennas for intercept.

Results were much better in fy 1954.³ First priority went to the training of operators. In the winter, voice operators were placed on the air mission for training. Operators of the 331st CRC were sent to the 6910th Security Group for intercept, and 332d CRC personnel copied the air mission at that station. All mission coverage was discontinued in March, and all voice intercept operators were given intensive training at their home units until May, 1954. By the end of June, a large volume of low level voice had been intercepted, analyzed, and reported.⁴

The entire voice effort, including that of the 334th CRC was placed

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1. Ann Rept, 502d CRG, fy 1954, p78.
 2. Ibid. p44.
 3. Ibid. p45.
 4. Ibid. p49.

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under direct control of the group for the report period. Arrangements were made to connect two base voice sites with on line teletypewriter facilities for best possible close support. Each site was supported by a manual Morse search position to seek code words on known [] Morse nets that might tip off voice transmissions and thereby identify the units involved. All positions at each site were tied together by an inter-communication system to provide prompt identification and optimum coordination under a qualified trick chief.¹ The bulk of the group's analysis and reporting personnel were moved in June to the site of the 331st CRC where spot analysis could be performed and spot reports rendered in a minimum of time for immediate relay to consumers by the group on traffic intercepted both at []

A small voice analytical section was retained at group headquarters to consolidate voice analysis with that from other sources.²

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The combined site at [] had a strength of []

The unit operated []

[] voice intercept positions, and began with [] manual Morse support positions, which were soon reduced to one. The detachment was housed in five huts, containing [] positions each, and one voice control hut equipped with transcription equipment. All positions were connected to control by inter-communication equipment to enable rigid control of assignment and close analytical support. Equipment consisted of eleven Dimafon Universal Recorders, two Dimafon Reproducta Recorders, fifteen RD-74 Recorders, six AR-88 receivers, and two R-274/FRR receivers. Power was furnished by three

1. Ann Rept, 502d CRG, fy 1954, p50.
2. Ibid. p51.

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PE-95 generators.

2 The base unit had three 74-foot masts and three 30-foot masts, which were used to support one doublet cut to 2.5 mcs, vertical half rhombics cut to 3, 5, and 10 mcs, verticals cut to 15, 20, 24, and 27 mcs, one 5.8 mc Zepp,¹ one sloping V for broad-band reception, one 15 mc ground-plane antenna, and ten assorted whips.

The greatest amount of usable voice traffic in the Spring of 1954 came from the 331st CRC with lesser amounts from the 334th CRC at Altenfeld and from a detachment in Berlin. A smaller amount came from a patrol of the 332d CRC. In April and May, there was some unidentified traffic consisting mainly of tuning chatter and call ups. This was retained for possible future exploitation as more background information accumulated. The greater part of exploitable traffic in May reflected considerable exercise activity of tank and dismounted units, especially in the Letzlinger-Heide area.

The 1954 voice operation began with voice transcriptions being made at all sites and forwarded electrically to group. An effort was made to obtain DF on voice targets with portable DF sets, as well as with the mobile DF net, but results were negative to the end of June.²

Intercept

Manual Morse intercept continued to be the most productive form of COMINT during fy 1954, and major emphasis was placed on this phase of activity with exception to the summer months when every effort was made to obtain all available voice traffic.

1. Ann Rept, 502d CRG, fy 1954, p53.
2. Ibid. p53.

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As COMINT companies of the group habitually moved near the East German border to improve intercept coverage during the GOFG maneuver period, it was customary for one unit to cover the combined mission of both during the move.¹ This policy was modified early in 1954 by Hq ASA, so that when the 331st CRC moved to the field in May, it had to echelon its facilities, while covering a little more than half its mission. The 332d CRC covered the other portion of the mission assignment during that time.²

To prevent the difficulties of annual moves to the field for maneuver intercept coverage, it became necessary for group to establish a permanent change of station for the 332d CRC at Coburg. However, it was decided that Coburg was too near the border for year-round operations and permanent facilities were established at Bamberg. The unit moved there 3 January 1954, and resumed operations 9 January. As of 30 June, a year-round intercept location had not been found for the 331st CRC.³

To assist group in covering [redacted] maneuvers in 1953, operational control of five manual Morse positions of the 334th CRC was delegated to the group 11 September 1953 through the maneuver period. The Eighth Guard Army was placed on coverage at this unit with great success.

Responsibility for notating and changing texts was given to [redacted] connected to the 502d CRG by duplex on-line facilities. The move expedited the publishing of official texts to aid intercept operators. The group funneled all suspected text changes to the [redacted] as soon as found by

1. Ann Rept, 502d CRG, fy 1954, p55.
 2. Ibid. p56.
 3. Ibid. p56.

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analysts, and the results in official texts invariably were published by teletypewriter within a few days. A strict record was kept of intercept activity and cases not heard for ninety days were eliminated from the mission unless there was good reason to retain them.

During the winter, the group headquarters was authorized to eliminate all texts except [] notations. This eased the clerical task considerably, but during the year, new case notations increased about 100% over 1 July 1954. In an effort to alleviate the clerical load of intercept companies, all texts other than that being utilized for the mission assignment was recalled to group for storage.¹ This was soon found to be impractical because of the frequent book changes and hits on other communications complexes which coincided with current [] It was found that intercept units did not have sufficient texts to identify targets properly, and all texts was shipped back to them in June.²

A control meeting was conducted 27 May at Heilbronn to outline a program for tighter integration of intercept control of the Group's [] radio intelligence companies.³ The plan involved tight control of all scattered intercept facilities of a unit through an efficient inter-communication system, supervised by a trick chief. Elements integrated were manual Morse, radio printer, direction finding, and radio telephone recorder. Increased emphasis was placed on proper copying of porocos, guided by all available traffic analysis aids to eliminate as much wasted effort as possible.⁴

1. Ann Rept, 502d CRG, fy 1954, p62.
2. Ibid. p63.
3. Ibid. p64.
4. Ibid. p65.

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During the year, the group was directed to explore the possibility of establishing a [] position at the 332d CRC. Following a study of DEN-17 equipment installed at Herzo Base, it was recommended that the equipment be installed at the mobile unit, provided that sufficient manpower and additional equipment was provided.

The group recommended on 8 March that the equipment be installed at group headquarters because of its size, sensitivity, and the need for a firm base on which to mount the equipment. However, it was decided to send the group's DEN 17-2 to Herzo Base, and to man it and [] support intercept positions with personnel from intercept companies. Installation was begun before the end of June, and personnel were to be transferred immediately after the first of July.¹ Group began pushing for a direct teletypewriter line from the headquarters to Herzo Base to provide proper control and to facilitate reporting.²

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Direction Finding

Direction finding activity during fy 1954 continued to be a problem out of proportion to its importance, and results fluctuated according to changing conditions. However, by 30 June 1954, the mobile DF net was more effective than it ever had been since its existence, despite the fact that modified SCR-291's utilized at all sites had long since outlived their usefulness. Direction finding personnel eagerly awaited AN/TRD-4 sets to effect a still further improvement in results.

1. Ann Rept, 502d CRG, fy 1954, p65.
2. Ibid. p66.

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Many moves detected by traffic analysis continued to be supported by DF evidence, but still it was neither dependable nor consistent. Equipment, largely because of age, was subject to frequent erratic behavior, required always a week to correct.¹

During the long period from 1 August to 1 November 1953, when all [] contacts were short, DF suffered because it was practically impossible to track out a target fast enough so that bearings could be obtained before the target station ceased operation. Conditions were not good for DF until 15 December, when practice traffic began in quantity on [] nets again.

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The direction finding control station on 1 July 1953 was located at Heilbronn, where it maintained constant liaison with the plotting and traffic analysis sections, which were instrumental in the frequent shift of emphasis. Alternate controls were located with the intercept controls of both radio intelligence companies.

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The control station operated with [] search positions, [] enlisted men, and an AN/GRC-26A radio, supplemented by one BC-1004 and one R-274/FRR receiver.² Search positions were used to find [] targets not on the intercept mission of either battalion. Because of the large number of untrained operators, both at control and newly established stations, semi-flash operation was used until men could be trained. Alternate control stations were maintained at the 331st CRC's intercept controls.³

To simplify tracking procedure, personnel at sites were given a static assignment of flash numbers for the various targets on the mission. Keys

1. Ann Rept, 502d CRG, fy 1954, p66.
2. Ibid. p67.
3. Ibid. p67.

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were sent daily to the net by alternate controls as soon as verified. It was only necessary to flash out the mission number and frequency to DF stations, with tracking data. Volume of tracking was limited by the large number of bearings sent to net control by eight individual sites, since all Morse communication was conducted on a single frequency.¹ Plotting results improved tremendously because no bearings were submitted on targets not on the assigned mission. At the end of July, the direction finding base line extended from Memmingen in the south to Kassel in the north, a distance of 230 air miles. Average distance from the base line to targets was 225 to 250 miles.

Full flash, full duplex operation by radio teletypewriter by 1 July 1954 was the goal of the net control station when it became an entity 16 March 1953. However, sufficient radio sets, AN/GRC-26A, were never made available to all sites and controls to make possible teletype operation.² It was not possible to establish full duplex operation until 17 July, when a second transmitter was placed into operation at the net control station to control the reporting circuit. This separate control was considered necessary because the tremendous amount of radio activity in Europe was believed to make it impossible to control a second frequency by ordinary duplex operation without a control transmitter.³ Because of the number of bearings that could be obtained by full-flash tracking, the DF net reverted in August to semi-flash operation, with all control stations tracking targets whenever possible. It was 29 September before the net began full-flash

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1. Ann Rept, 502d CRG, fy 1954, p68.
 2. Ibid. p67.
 3. Ibid. p68.

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operation again to benefit from increased activity.

It was decided in August 1953 to reduce the mobile direction finding net to six sites- three in each battalion- to release more intercept operators for intercept duty and to provide one DF set in each battalion for a reserve in the event of equipment failure. Control of the mobile net was transferred 10 January from group headquarters on orders from ASA Europe, in order to release still more intercept operators for intercept duty.¹ The 331st CRC site was chosen to be net control station because it was more centrally located in the net than that of the 332d CRC, which continued to be alternate control station. When group DF control moved, a seventh station was placed in the net where it remained until 23 March. Tactical plotting of daily bearing reports was begun by the 331st CRC during the report period, but strategic plotting and reporting remained at group headquarters.²

During the report period, the net experienced many difficulties due to failure of power units. Concerted efforts were made to install commercial power at all DF sites, and this was realized by 30 June 1954, which considerably decreased the amount of time out of operation.

In July, 1953, the group plotting center was given the responsibility for compiling a monthly accuracy study and status report which had previously been prepared at ASA Europe. Daily compilation of this report enabled the group to keep a constant check on the accuracy and productivity of each site. The net was given the responsibility in December for reporting intelligence targets.

1. Ann Rept, 502d CRG, fy 1954, p69.
2. Ibid. p71.

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In general, emphasis of the net was changed from "quantity to quality" by ASA Europe during the year. The DF mission was pared down to a minimum, and stations were required to adhere strictly to the mission. All targets with known locations were removed.¹ The final mission of three blocks, the first of which had immediate operational precedence in tracking. It consisted of all targets of current traffic analysis interest, which were constantly changing. The other two blocks contained targets of lesser priority.

Activities of the DF net were coordinated by personal contact from group headquarters. Two satisfactory methods were used: monthly visits to all sites, and monthly meetings of all site chiefs and DF officers at group headquarters. The latter produced the best results.²

The group plotting center continued its policy of having two target armies assigned to each plotter to increase familiarity with the target's characteristics and to facilitate coordination with the traffic analysis section. However, one man was added to provide sufficient strength to prepare additional reports.

In response to an urgent demand by consumers, the plotting center began the last week in May of 1954 to publish a weekly report of unsubstantiated DF results for the G2's of USAREUR and Seventh Army only. There were indications by 30 June that it might be possible to substitute the weekly report for the customary monthly DF recapitulation. During the year, an additional monthly DF report was added indicating the status of key personnel,

1. Ann Rept, 502d CRG, fy 1954, p72.

2. Ibid. p73.

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facilities being utilized for operations and billeting, and status of equipment.¹ In June 1954, the group began to report two-station cuts, in addition to fixes, for an ASA Europe experiment with the Bratt system of plotting.

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To expedite reporting of plotting results to the traffic analysis section, the plotting center early in the summer of 1953 began extracting bearings promptly from daily bearing reports and placing them on "5 x 8" file cards. A separate card was made for each basic station trinome in . By this system, it was possible to plot each target for a specific period of time a station location was of interest to traffic analysis personnel. Tactical plots received on daily bearing reports were funneled daily to the Traffic Analysis Section.

Due to concerted efforts to require net control stations to make greater use of their intercept support facilities and requirements for net control stations to track only targets assigned, it was possible to increase the flash to fix ratio from less than 10% to more than 20% by 30 June 1954.²

[REF: VOL. I P. 144]

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1. Ann Rept, 502d CRG, fy 1954, p74.
 2. Ibid. p74.

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c. 328th Communications Reconnaissance Company, Bad Aibling

During fy 1954, the full development of the manual Morse intercept section of the 328th took place. Positions installed and operating increased to [redacted]. Permission was also granted by higher headquarters to install all of the Morse positions in floor racks rather than in S-56 shelters. A shortage of racks delayed completion of this project, but by June 1954, [redacted] manual Morse positions were floor mounted, leaving [redacted] in shelters. Transfer of all positions from huts to floor racks was delayed pending a move of the company to a new operational building.

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The mission assignment kept pace with the positions available, and stood at [redacted] operative positions. At the beginning of the report period, the manual Morse section had [redacted] qualified operators, [redacted] of whom were supervisors.¹ By 30 June 1954, operator strength had increased to [redacted] with [redacted] supervisory operators.

As originally organized under TOE 32-500, the 328th was to operate [redacted] manual Morse positions.² Under the ASA Subordinate Command Program, [redacted] manual Morse, [redacted] radio printer, and [redacted] voice intercept positions were programmed. At the close of the report period, there was no indication that a reduction in operating positions would occur.

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A great increase in output from company operations was registered during the year. A total of [redacted] groups were copied during fy 1954 as compared to [redacted] groups in 1953. The best month of the year was June 1954, when [redacted] groups were intercepted.³

1. Ann Rept, 328th CRC, fy 1954, p20.
2. Ibid. p21.
3. Ibid. p21.

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Several reception tests were conducted during the year to determine whether there were other areas more suitable for reception of signals from mission targets than the Bad Aibling location. Intercept tests were conducted at Degerndorf, about nineteen miles from Bad Aibling.¹ Results were fair, but this area was disqualified by physical disadvantages, one of which was the proposed construction of an autobahn near the operations area.

Another test was conducted at Wels, Austria, intercept site of Detachment "E" of FS 8608. The Wels test was made to compare the reception of targets in the [redacted] at both Wels and Bad Aibling. Accordingly, four manual Morse positions were moved to this area where they operated from 8 October 1953 to 16 February 1954.

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Construction was almost completed during the report period upon three large rhombic antennas at Bad Aibling to replace the sloping "V" antenna which had provided signals for intercept operations since 1952. The new antennas were designed for reception of signals in the 2-5 mc frequency range. Preliminary tests of the rhombics oriented to 90 degrees indicated superiority over the sloping "V", however full utilization of the rhombics could not be realized until operations were transferred closer to the antenna field.² At the end of the report period, materials for a transmission line of the length required were not available. An attempt was made to obtain a quonset hut to erect directly beneath the antennas, but none was available.³ Plans were made at the close of the year to move several huts to the antenna field for operation there until the operations building was ready.

1. Ann Rept, 328th CRC, fy 1954, p22.
2. Ibid. p22.
3. Ibid. p23.

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The voice intercept section of operations operated four positions throughout the year. Detachment "E", located at Wels, Austria, consisted of [] voice position operated by [] MOS 2538 voice interceptors. The voice positions consisted of a radio receiver of the R-274 (U type), a recorder-reproducer RD-74/U with associated microphone and foot pedal, and a typewriter MC-88. Transcription of tape recordings was performed at this site.

Detachment "F", at Vienna, consisted of the same number of personnel, with similar operations and equipment, as Detachment "E".¹

Detachment "G" was established after a twenty-one day test was conducted in an area extending from Passau, Germany, on the Czechoslovakian border, to Bad Ischl and Ebensee in Austria, near the border of the Soviet Zone. Reception was found to be best at Nuttau near Passau, and the detachment was formed on 21 September 1953. It remained at Nuttau until 1 December 1953 when impending winter weather made it advisable to leave. On 12 April 1953, the detachment was re-established at Nuttau, where it operated [] mounted voice intercept positions, provided its own housekeeping facilities, and operated its own mess.²

The Radio Printer Intercept Section operated [] positions (2-2channel and 2-single channel) during the report period. Equipment rack-mounted in the operations building included 2 DEN-24's, 4 ASAN-17A's, 4 BOEHME 5-c's, 2 ASAN-17B's, 1 RD-60/U undulator tape recorder and 1 page printer. The section worked closely with manual Morse intercept in following pilot Morse

1. Ann Rept, 328th CRC, fy 1954, p24.
2. Ibid. p23.

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and its printer links. Coordination vastly improved in this phase during
fy 1954.¹

The Traffic Analysis Section consisted of [] in
fy 1954. [] of the men were radio traffic analysts, [] were cryptana-
lytic specialists and [] were translators.

The section was divided into sub-sections, with a section for each
of the military districts on the intercept missions, a files and document
section, and two daily reports sections.² Until March 1954, analysts were
assigned to one of four tricks with the men working six days and being off
two days. The new schedule, retained four tricks two of which were avail-
able to prepare a TECSUM for forwarding to ASA Austria. This allowed company
headquarters to work from compiled information rather than raw traffic.

In June 1954, a step was taken to accomplish close liaison between
sections of operations. Two additional analysts were assigned to each
intercept trick thus providing one analyst in each operational section 24
hours a day.³ During Spring maneuvers a loss of coverage occurred, but con-
tinuity was retained as nets assigned to the mission were also believed to
be participating in maneuvers.

Throughout most of the report period, the Direction Finding Section
consisted of a control position in the operations building at Bad Aibling,
and four DF Detachments. The DF control position was in contact with De-
tachment "A" through a telephone, as that position was only 500 yards away
on an air strip.⁴ Control contacted Detachments "B," "C," and "D" by means

1. Ann Rept, 328th CRC, fy 1954, p24.
2. Ibid. p24.
3. Ibid. p25.
4. Ibid. p25.

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of radio, using an SCR-399. The control transmitter was located in Bad Aibling, about one mile from operations, and operated by remote control, to avoid interference with intercept activities. Radio contact was maintained twice each day with ASA Europe command net. The control position was also tied into the ASA Europe tip-off net with a landline connection.

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Detachment "A"

Few problems arose at this detachment during the report period due to its proximity to the parent unit. Operating personnel consisted of and Morse intercept operators (DF). All required support was furnished by the parent unit. Most of the outages which occurred with the AN/CRD-2A were caused by failure in the power stage and difficulty in maintaining antenna balance.

Detachment "B"

At the beginning of the report period, this detachment was located at Straubing, Germany. Interference from local tactical units radio nets forced a decision to move the site, and in December 1953, the detachment was inactivated. It was not until 2 April 1954, that the detachment went back into operation, when it was reactivated at Camp Tahlerhof, Graz, Austria. This location was selected to provide the net with an improved base line so that better fixes might be obtained on mission targets.¹ The detachment went into test operation on 24 April 1954, and operation continued through the remainder of the report period.

This detachment was plagued with troubles initially. Constant difficulty

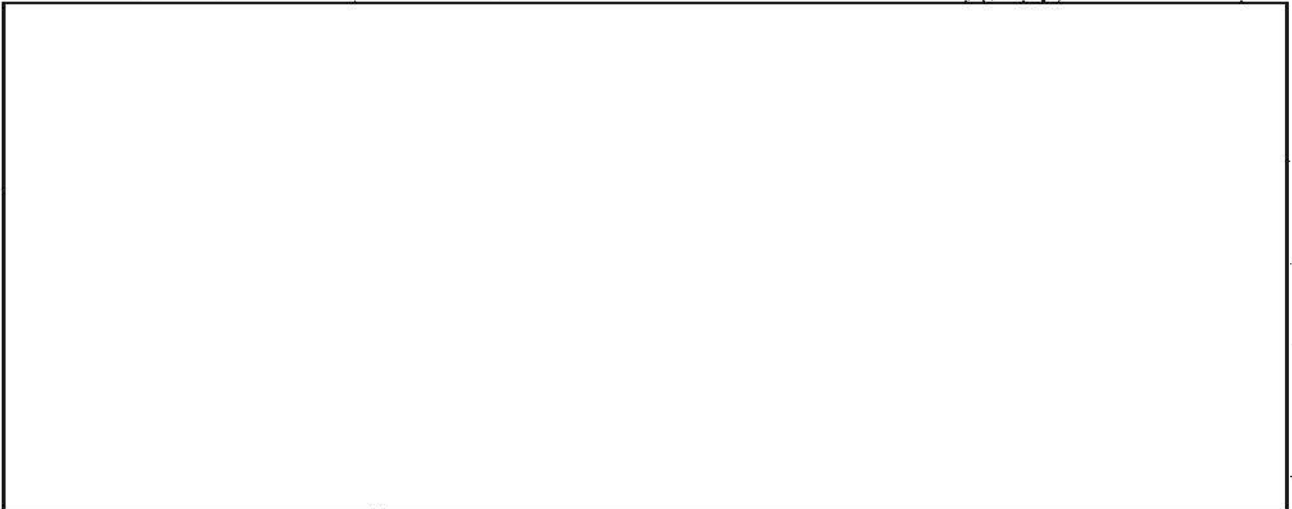
1. Ann Rept, 328th CRC, fy 1954, p26.

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was encountered with power units, as commercial power at Graz was 40 cycle.¹ Power unit failure, power stage failures, and internal difficulty with the AN/CRD-2A DF set all contributed to the condition. Finally, a complete AN/CRD-2A was borrowed from ASA Europe to replace Detachment "A" equipment; the set at Detachment "A" was sent to Graz to substitute for faulty DF equipment at Detachment "B", and diesel power units were requisitioned to eliminate power troubles at Graz.

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Detachment "C"

This detachment was located at Wels, Austria and was designated "D" Detachment when the fiscal year began. The Wels site assumed the Detachment "C" designation when the latter was deactivated at Landsbut, Germany. On 4 November the detachment was moved from Wels to Weiden, Germany approximately 60 miles northeast of Nurnberg, Germany, and only 12 miles west of the Czechoslovakian border.

Logistical support was the greatest problem of this detachment.³

1. Ann Rept, 328th CRC, fy 1954, p26.
2. Ibid. p27.
3. Ibid. p28.

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Laundry had to be transported to Nurnberg, and POL supplies were hauled from Bad Aibling to Grafenwohr, about 17 miles from Weiden. Messing facilities were also a problem because the detachment messed with a border patrol. The border units rotated each six weeks, and mess hours often changed with the incoming unit.

Detachment "D"

This detachment began the fiscal year as Detachment "C" located at Landshut, Germany. On 29 September 1953, the detachment was established as Detachment "D" in Trieste. Logistical support and court martial jurisdiction were provided by Trieste US Troops (TRUST).

Most of the operational outages at Detachment "D" were caused by severe electrical and wind storms which were prevalent in the Trieste area. Atmospheric conditions also frequently interfered with radio communications between that location and Bad Aibling. Replacement parts were difficult to obtain from TRUST, as the command was scheduled for evacuation from Trieste.¹

[REF: VOL. I P. 179]

1. Ann Rept, 328th CRC, fy 1954, p28.

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d. 331st Communications Reconnaissance Company, Giessen

At the start of fy 1954, the entire operational effort of the 331st, with exception to four DF outstations and a small voice detachment, was located approximately four miles east of Giessen in the Hohe Wart Area. Between 1 - 11 July 1953, the greater percentage of the company's operation section was moved near Koenigslutter in the British Zone of Western Germany. An area near Bahrdorf was later occupied by the company's voice section. The balance of the operational personnel remained in the permanent area at Giessen, operating there throughout the summer and fall months. By 30 April 1954, the entire operational effort had returned to Giessen.¹

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Five sections- Operations Control, CW Intercept, Printer Intercept, Voice Intercept, Intelligence and Radio Direction Finding- comprised the basic operational organization of the company during the report period.² The Control Section, consisting of 4-0, 2 NCO's, control clerks and direction finding personnel was primarily administrative, its personnel executing supervisory duties.³ The Intelligence Section was concerned with reporting information, and joined other sections in summer field operations. In June, 1954, its operations were adjusted to provide completion of analysis and TECSUM's prior to 0800 hours the day following the close of an intercept day. It was found through this method that all TECSUM's could be completed in sufficient time to forward them to the 502d CRG prior to 0800 hours the day following, which represented an acceleration in the reporting time of 24 hours.⁴

1. Ann Rept, 331st CRC, fy 1954, p15.

2. Ibid. p15.

3. Ibid. p16.

4. Ibid. p26.

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The Intercept Section of the 331st was divided into [] groups:

Manual Morse Intercept, Radio Telephone Intercept, and Radio Printer Intercept. The assigned mission was the intercept of Russian military signals originating in the Soviet Zone of Germany.¹ Early in the report period, the operational effort was divided with a portion being sent to the vicinity of Koerigsutter, for an indefinite period. As a result, [] CW positions were moved to the field for operation while [] CW positions remained behind and operated through the season at the unit's permanent operations site at Giessen.² By January 1954, CW positions had increased to [] positions.³

The results of field operations during the summer and fall of calendar year 1953 were excellent and it was recommended that the unit return to the same area during the maneuver season the following year.⁴

The intercept section was housed in shelters HO-27 and HO-17. These were component parts of telephone control TC-9 which had been issued in lieu of Intercept Installation Kit MX-683 and MX-684. In many ways these parts were undesirable because of inadequate headspace, heating and lighting. Radio receivers utilized were the BC-342, BC-794, BC-1004, BC-779, and a very small number of R-274/PRR Hallicrafter receivers.⁵ Power necessary for operation was furnished by organic PE-95's and PU-58's.

In February 1954, new shelters S-44 were received and assembled. Racks suitable for double receivers were constructed and installed. In

1. Ann Rept, 331st CRC, fy 1954, pl7.
2. Ibid. pl7.
3. Ibid. pl8.
4. Ibid. pl7.
5. Ibid. pl8.

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March, a van K-53 was received and equipped as a control hut for intercept. This hut contained equipment which made possible communication with as well as monitoring of each position. In May 1954, the units received thirty-five radio receivers R-274/FRR, also known as SP-600. The receipt of equipment brought the company up to its authorization of superheterodyne type receivers.

While in operation near Koenigsutter, long wire, doublets, and half rhombic antennas were used. The temporary loan of a limited number of antenna masts from the [redacted] Regiment was arranged by ASA Europe. During the winter months while the company was at Giessen, seven permanent antennas were installed by an antenna team from ASA Europe.¹

At the beginning of fy 1954, the 331st had one small voice detachment operating in the vicinity of Mt Meissner, approximately thirty miles east of Kassel. During July 1953, extensive tests were begun in an attempt to locate an area suitable for the interception of low level [redacted] transmissions in the Letzlinger-Heide maneuver area located approximately thirty miles north and east of Koenigsutter. One operational hut, equipped with three positions, was used. [redacted] enlisted men- all graduates of the Army Language School- were used in conducting the tests. A total of 130 military nets was intercepted at this time.

In August, representatives from ASA Europe and NSA arrived to assist in the voice problem. Further reconnaissance for a suitable voice site was conducted in an area due west of the Letzlinger-Heide maneuver area in the vicinity of Bahrdorf.² This site was approved on 25 August, and orders were issued to immediately construct necessary antennas and move all voice

1. Ann Rept, 331st CRC, fy 1954, p18.
2. Ibid. p20.

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elements to the site. Movement to the site was made on 26 August and operations commenced 28 August.

Three hutments were utilized in this operation, each mounted with [] positions making a total of []. Seven antennas were installed. Early in November, operations were discontinued and the detachment returned to Giessen.

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Voice intercept results proved very poor at Giessen. As a result, the company, in December, was directed to place [] voice operators on TDY with the 2d Radio Squadron Mobile, Darmstadt, to assist that unit and train in identification and intercept of air voice traffic.¹ In February, these personnel returned to Giessen and together with newly arrived voice personnel were trained preparatory to a return to Bahrdorf for summer operations.²

One of the more important decisions of ASA Europe and the 502d CRG during the report period was that every effort would be made during calendar year 1954 to improve the efficiency of voice intercept efforts. As a result, it was decided that voice sections of the 331st and 332d CRC's would be combined for an operational period. Further, it was agreed that each unit would equip [] positions each, with a back up of one CW position per unit. The 334th CRC was also placed under the 502d CRG for voice intercept direction.

In April 1954, the voice team of the 332d CRC arrived in Giessen and was integrated with that of the 331st CRC. The combined detachment moved by convoy to Bahrdorf on 6 May 1954 and occupied a partially constructed

1. Ann Rept, 331st CRC, fy 1954, p21.
2. Ibid. p22.

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camp of the 5th Engineer Bn, Giessen. With the arrival of representatives from ASA Europe and NSA to assist in the effort and direct advanced training, operations were well underway by 15 May 1954.¹

The detachment was connected by teletype with the 334th CRC and the 331st at an area near Koenigslutter. The 334th passed voice transliterations electrically to Bahrdorf, who in turn, relayed this traffic along with theirs to the 502d CRG Processing Section located with the company at Giessen. Here, traffic was analyzed and final reports prepared which were forwarded to group headquarters at Heilbronn for final action.

In the latter part of June 1954, a voice patrol consisting of [] EM was dispatched to test areas in the vicinity of Lubeck and in the Dannenberg Salient. The patrol was equipped with one operational hutment containing two voice positions and one CW position. Results of these tests were not known at the close of the report period.²

The mission of the Radio Printer Section of the 331st CRC during fy 1954 was concerned with all [] nets. When these were inactive, the section concentrated upon search cases of all [] nets between the frequency range of 1500 kcs and 2500 kcs.³ The section was organized into four tricks, two men to a trick, thus providing 24-hour mission coverage.⁴

At the start of the report period, this section was operating at Giessen. Equipment mounted in an HO-27 hutment consisted of: 2 R-274/FRR radio receivers, 1 Boehme 5-C converter, 1 BC 1004 super Pro Receiver, and 1 DEN 24-1 Demultiplex unit. Also used in conjunction with this equipment were two []

1. Ann Rept, 331st CRC, fy 1954, p22.
2. Ibid. p23.
3. Ibid. p25.
4. Ibid. p25.

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single channel teletype printers and four 2 B double channel teletype printers.

On 3 August 1953, the section was moved to the company's site near Koenigslutter. Because of poor roads, the major portion of the equipment was found to be out of working condition upon arrival. Following repair, the equipment was hooked to long wire antennas and good results were obtained. In November, the section returned to Giessen and operated with fair reception during the winter.¹ On 5 April 1954, the section returned to Koenigslutter.²

Because of the lack of space and equipment in the printer hut, it was sent to ASA Europe for modification. While there, a special shelter was used to replace the old HO-27, and the following equipment added: 2 Boehme 5-C Converters, 2 DEN 24-2 Demultiplex Units (replacing the ASAN-6 and the DEN 24-1 Demultiplex Units) and one Super Pro Receiver.

All equipment was shock mounted in three racks to withstand travel over rough terrain.³ A patch panel was installed so that it was possible to take a signal out of any receiver and transfer it to any other piece of equipment very readily. With the new setup it was possible to monitor both ends of a teletype transmission simultaneously, where formerly it was possible to intercept only one end or about one half of a transmission.

This arrangement provided better working conditions for the operators and made possible better assignment coverage.⁴ A CU-52/URR antenna coupler was also utilized but proved unsatisfactory because of cross modulation on

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1. Ann Rept, 331st CRC, fy 1954, p24.
 2. Ibid. p25.
 3. Ibid. p24.
 4. Ibid. p25.

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the receivers. Long wire antennas connected directly to the receivers proved more satisfactory because of the low frequency range of the mission.¹

During the period 1 July 1953 to 22 November 1953, the DF section of the 331st CRC was composed of alternate control and four DF sites.² Normal operational activity was conducted during this period with control of the entire DF net being retained under operational control of the 502d CRG.

At the start of the report period, DF sites in Germany were located as follows:

Detachment A, Schweinfurt
 Detachment B, Kassel
 Detachment C, Butzbach
 Detachment D, Ochendorf
 Alternate Control, Koenigslutter

Detachment "D" was permanently closed down by order of Hq ASA on 22 November 1953 with all equipment and personnel being returned to Giessen.³

Early during the report period, ASA Europe ordered lengthening and improvement of the base line of the 502d CRG DF mobile net. This required extensive testing in the British Zone of occupied Germany. Initially, it was decided to test in the Todendorf and Celle areas of Northern Germany, and Bremerhaven.⁴ Detachment "C", which ceased operations 20 August 1953 and returned to Giessen, was selected for the test at Bremerhaven. This proved unsuccessful and the detachment discontinued operations and relocated to Koenigslutter where equipment was repaired and checked in preparation for movement to another test location to be selected by the 502d CRG.

On 26 October, movement orders were received to test in the Celle

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1. Ann Rept, 331st CRC, fy 1954, p25.
 2. Ibid. p26.
 3. Ibid. p27.
 4. Ibid. p27.

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vicinity of Germany. Seven proposed locations of the site were selected within a thirty mile radius of Celle with the new site being selected on the post occupied by the 15/19 Hussars, Royal 21st Northern Army Group, British Army at Wessendorf.¹

Detachment "A" discontinued operations at Schweinfurt on 6 September 1953, and moved to company headquarters at Giessen. Equipment was repaired and checked, and on 14 September 1956 the detachment received orders to move to Koenigslutter. On 16 September, the detachment moved to Todendorf to test for a proposed site location. This test proved unsuccessful, but a site in the area of Lubeck was tested and selected. From 1 October to the close of the report period, this DF position remained intact.²

On 10 January 1954, net control for the 502d CRG was transferred to the 331st CRC at Giessen. This resulted in many problems and at first results were negligible. During the month of January, only twenty fixes were obtained on mission assignments. Communication problems were also numerous. New frequencies were obtained from ASA Europe in an attempt to secure reliable communications. By 1 April 1954, all operational difficulties had been corrected and results were greatly improved particularly in the number of fixes obtained.³

Following the arrival of control elements from Giessen, DF operations at Koenigslutter began 5 May 1954. Results were excellent. Improvement in control and mission assignment continued in June. This resulted in 330

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1. Ann Rept, 331st CRC, fy 1954, p28.
 2. Ibid. p28.
 3. Ibid. p29.

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fixes for the month.¹

At the close of the report period, the DF net of the 331st was organized as follows:²

Net control - Co-located with company CW intercept at Koenigslutter
 Detachment "A" - Lubeck
 Detachment "B" - Kassel
 Detachment "C" - Wesendorf

[REF: VOL. 1, P. 15]

e. 332d Communications Reconnaissance Company, Bamberg

Fy 1954 operations of the 332d CRC were conducted at two sites. From 1 July 1953 to 5 January 1954, the company was located at Coburg. Effective 6 January, the company moved from its permanent location at Heilbronn to Bamberg.³

As the year began assigned operational personnel consisted of [] assigned to intercept work, [] to radio direction finding.⁴ Intercept personnel increased to [] DF personnel remained the same at the end of the report period. A total of [] manual Morse positions were manned as of 1 July 1953. The arrival of qualified personnel allowed an increase to [] positions as of March, 1954. This situation remained intact as the fiscal year ended.⁵

Results of the company's coverage of its mission upon []

[] during the report period were at follows:

At the start of the report period, [] CW positions were

1. Ann Rept, 331st CRC, fy 1954, p29.
2. Ibid. p30.
3. Ibid. p7.
4. Ibid. p21.
5. Ibid. p23.

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utilized for the interception of [redacted] of [redacted]. Following the company's move to Bamberg in January 1954, the number of positions was increased to twenty positions devoted to [redacted] targets. The principal [redacted] target was the [redacted] and its subordinates.

On 1 August 1953, [redacted] headquarters established [redacted] supervisory net) as an alert net. In turn, each net in [redacted] established its main [redacted] as an alert net. Each began to pass trinomes which were [redacted]

It was believed that these nets were made alert nets because of riots in Berlin and the East Zone on 17 June 1953.¹

On 12 September 1953, [redacted] which served the Corps on [redacted] disappeared. As a result, artillery functions of the IV Artillery Corps that were under the direction of Hq [redacted] were combined into one artillery net. This eliminated [redacted] [redacted] was replaced by [redacted] as a full cover, making a total of three full cover nets.² On 1 November 1953, [redacted] reverted to passing practice traffic.

Following the company's move to Bamberg, a new mission was assigned. As a result, [redacted] net) was taken off full coverage and [redacted] positions utilized for [redacted] targets were shifted to [redacted] coverage alone. On 10 March 1954, [redacted] an alternate command net of [redacted] was put on full cover.³

1. Ann Rept, 332d CRC, fy 1954, pl8.
2. Ibid. pl8.
3. Ibid. pl9.

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On 1 January 1954, [redacted] from [redacted]

[redacted] From September to December 1953, activity was normal indicating that all units were at their home stations. From mid-December to the latter part of January, exercises were noted at [redacted] level. In May, this activity extended from army to division level in [redacted]. Heaviest activity was noted on [redacted]

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[redacted]. On 10 June, a [redacted] communications exercise began with all main command and army nets passing practice traffic once again.

[redacted]
Coverage on [redacted] targets was increased from one to three positions during the report period. Principal emphasis was placed on [redacted]

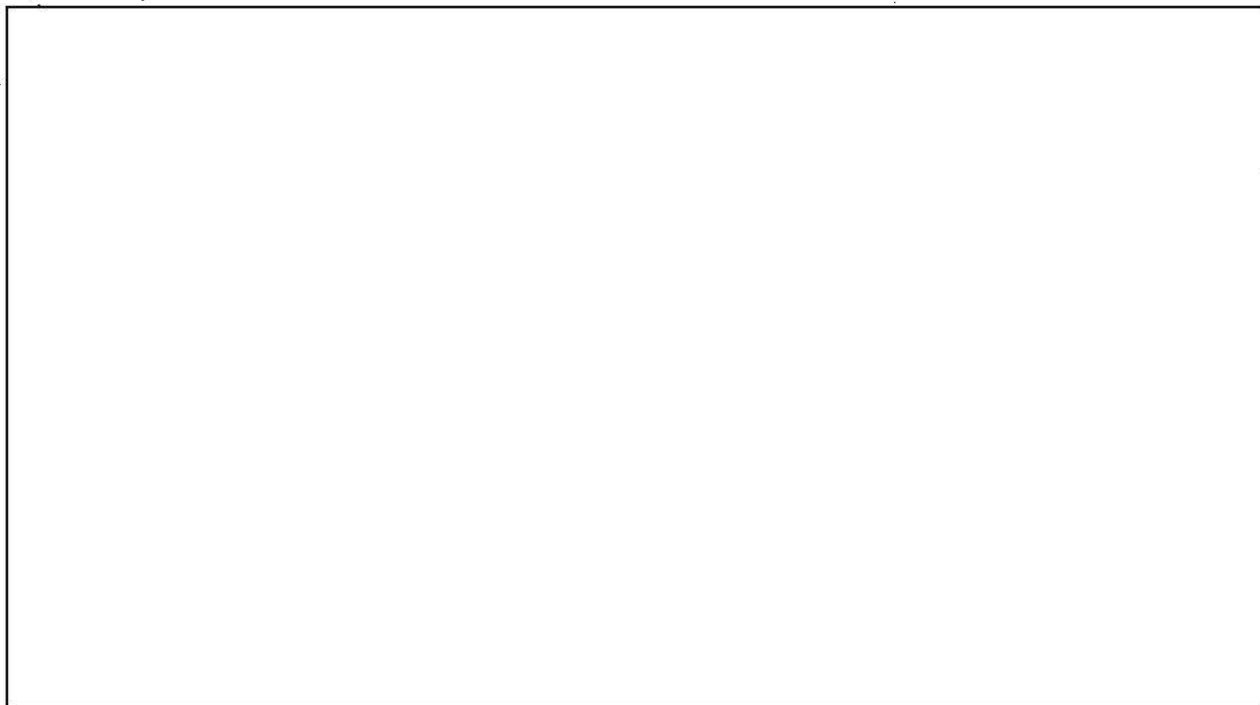
[redacted] 1 For a while this net operated on one frequency and then gradually increased to several frequencies to allow lateral working, as valid traffic increased almost 100% over the previous fiscal year. Also noted was an increase of [redacted] communications on which analysis was still in the development stage. Signals analysis, however, indicated that procedure being utilized was that formerly used by the [redacted]. At the close of the report period, one CW intercept was used to cover [redacted] position on [redacted] [redacted] and one position on [redacted] search, with this position also used to intercept [redacted] when active on alternate frequencies.

1. Ann Rept, 332d CRC, fy 1954, p19.

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P.L. 86-36Radio Telephone

At the start of the report period, the Radio Telephone (R/T) section of the 332d CRC was composed of two 2 position huts with [redacted] operators.³ The section was split to form part of a patrol which was sent to Steinbach, near the city of Ludwigstadt, northeast of Coburg. The R/T portion of the patrol consisted of two 2 position huts with [redacted] operators. The remainder of the section remained with the company at Coburg. At that time, a new hut containing [redacted] new positions for voice was opened by the company. This raised the total number of positions in the section to [redacted] counting the [redacted] at Steinbach.

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During July 1953, the section, utilizing a modified 3/4 ton truck, established a roving patrol. A BC-1004, an S36 FM set, and an RD 74/U

1. Ann Rept, 332d CRC, fy 1954, p19.
2. Ibid. p20.
3. Ibid. p36.

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recorder were installed on a shelf built into the back of the truck. Power was furnished by a small, portable generator. The truck was used on daily patrols, weather permitting, at a site on a hill outside of Neustadt, approximately seven kilometers northeast of Coburg.¹

Another experiment using an L-19 reconnaissance plane for daily border patrols was tried in July, but did not result in any interception. Reception was excellent at the patrol site at Steinbach, but generally poor at Coburg and Neustadt. About 1 August 1953, a second R/T hut was sent out to the patrol at Steinbach, with sixteen more operators.

On 5 August 1953, a four man roving patrol set out on an extended patrol of the zonal border. The patrol went first to Tann, a small town east of Fulda. Later they moved to Berg, north of Hof.² Results were very encouraging and the patrol was maintained for fifteen days. The superior mobility of the 3/4 ton truck paid off in that the patrol found several good sites that 2½ ton trucks could not have reached. On 20 August 1953, the patrol was recalled to Coburg. Two days later the patrol at Steinbach was recalled.³

In late August, the section began making preparations for a combined effort with elements of the 334th CRC at the town of Altefeld, 40 kilometers east of Bad Hersfeld. On 27 August 1953, the section left in a convoy of six trucks and arrived at Altefeld the same evening. The patrol consisted of [] Equipment consisted of [] R/T huts, each containing two BC-1004 receivers, one AR-88 receiver, one radio repair truck,

1. Ann Rept, 332d CRC, fy 1954, p37.

2. Ibid. p37.

3. Ibid. p38.

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two 2½ ton trucks (baggage and personnel), and three PE-95 power units. At Altefeld, the R/T sections of the 332d and 333d CRC's were combined into one. Two 95 foot steel masts were erected on the site and vertical antennas suspended from them. On 2 September 1953, a third voice hut arrived from Coburg with [] new operators. R/T interception at the site, insofar as the mission was concerned, was negligible with several notable exceptions.

A second experiment, using the L-19 reconnaissance plane, equipped with the GRC series 108, 109, and 110 receivers, was conducted at this time.¹ The area covered extended from Neustadt, ten miles north of Coburg, to a point east of Fulda. As in the first experiment, results were negative.²

On 3 November 1953, the Altefeld patrol was pulled back to Coburg. The 3/4 ton patrol vehicle was stripped of radio equipment and put in operation as a company personnel carrier. One R/T hut was installed in a small compound in the barracks area and the remaining two huts were returned to the operations area. A small control shack on a 1½ ton trailer was furnished for use as a transcribing hut and a [] transcribing section was set up. This section was later increased to [] men to handle the increase in traffic. At this time an intercept hut was closed down and later altered for use in transcribing. At the end of November, the hut which had been altered for transcribing was returned to R/T intercept.³

On 6 December 1953, a new air mission calling for [] positions was assigned. Development of this mission along procedural lines laid down by Air Force technicians who had briefed the section was carried out during the month.

1. Ann Rept, 332d CRC, fy 1954, p38.
2. Ibid. p38.
3. Ibid. p39.

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During the period 5 - 7 January 1954, the company moved to a new site in Bamberg. Operations were set up in an area about three miles from the company barracks. Operations commenced at 1600 hours 9 January 1954.¹

Strength of the section was [] operators and [] traffic analysis personnel. During the period 1 February to 4 March 1954, the section continued its air mission. Results were fair to good and activity was normal.

On 4 March, special classes were set up for the entire R/T section to prepare R/T operators and traffic analysis personnel for summer operations.² Those were to include a large R/T intercept patrol composed of R/T elements of the 331st and 332d CRC's to be located close to Helmstedt in the British Zone, and a small roving patrol which was to test the border area between Fulda and Hof. These classes continued for six weeks and covered such subjects as receiver tuning, antenna construction, site choosing and camp layout, as well as driver's training, power equipment maintenance, R/T operational procedure, and several other related subjects.

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During this same period three existing R/T huts were modified into three position huts, providing a total of [] positions. Two of these huts were scheduled to go to Helmstedt. The other was to be used by a small roving patrol

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The hut for the small patrol was set up for [] R/T positions and [] CW position.³ Each R/T position was equipped with two receivers (one AR-88, one R-388/URR) and one RD-74/U tape recorder. The single CW position was set up to include one Super-Pro BC-1004 and one BC-342-N with space for a

1. Ann Rept, 332d CRC, fy 1954, p39.
2. Ibid. p40.
3. Ibid. p40.

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frequency meter and typing rack.¹ Special folded dipole antennas (both vertical and horizontal) covering both high and very high frequency were constructed. German-made 300 Ohm FM cable was used in the construction of antennas (both antennas and lead-in) and later proved very effective, particularly on very high frequency.

By 20 April 1954, modification of the three huts was completed, and all R/T operators and R/T traffic analysis personnel had been briefed. On 21 April 1954, the smaller of the two R/T patrols departed from Bamberg in convoy, arriving late in the afternoon of the same day in Friedrichshof, a small village about twenty-five miles northeast of Fulda on the East Zone Border. The patrol consisted of [] men, one three position hut (two R/T and one CW), one 2½ ton utility truck, one ¼ ton truck with an AN/GRC 9 transmitter and receiver, and one wire truck which contained antennas and other equipment.²

By mid-afternoon of the following day the site had been chosen, all equipment had been set up, and the patrol was ready to start operations.³ The hours of operation were from 0500 to 2100 each day, to be worked in two [] A transcriber's position was set up in a walled tent and was manned by [] R/T transcribers. Power was supplied by two PE-95's. Each day a courier was dispatched from Bamberg and the patrol site, meeting at a point half way between two locations for the purpose of exchanging the previous day's CW and R/T traffic, for rations, mail, etc. Every eleven days a three man guard detail was sent out from the company and would return to Bamberg for a week prior to another trip.

1. Ann Rept, 332d CRC, fy 1954, p41.
2. Ibid. p41.
3. Ibid. p42.

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Antennas used on this patrol consisted of one 4.5 mc doublet, two 27.0 mc vertical folding dipoles, one 27.0 mc horizontal folding dipole antenna, one 2.5 mc horizontal folding dipole, one 4.0 mc horizontal folding dipole (for use of the two receivers at the CW position), and one short whip antenna. Each of these antennas could be connected or switched instantly with any of the receivers by means of a central antenna patch board which was located in the hut.¹

The PE-95 proved to be an excellent power source for a patrol of this type, furnishing power for both the hut and for lights in the transcribing tent and command post tent.²

Equipment breakdown was a major problem, particularly the RD-74/U tape recorder which was regarded as the principal cause of failure of the mission at Frederickshof. Reception, however, was very good. The site was located at the top of Englesberg mountain (approximately 2500 ft elevation) with two large Russian training areas, Eisenach and Ohrdruf, not more than 25 to 30 miles away. The gunfire from their maneuver areas and artillery impact areas could sometimes be heard quite clearly.

On 1 May 1954, while the small patrol was still at Friedrichshof, the large patrol departed in convoy for Helmstedt, where it joined the 331st CRC in setting up that installation for the coming R/T effort. This group consisted of approximately men, most of them R/T operators with a small group of R/T traffic analysis and CW personnel.³ This large patrol was expected to remain in the vicinity of Helmstedt until November 1954.

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1. Ann Rept, 332d CRC, fy 1954, p42.
2. Ibid. p42.
3. Ibid. p43.

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The equipment set up within the two position voice huts on this patrol was the same as that mentioned earlier in describing the small patrol hut, with the exception that all positions were R/T positions with CW operating directly with 331st CRC operators.¹

On 31 May 1954, the small patrol at Friedrichshof was ordered back to Bamberg in preparation for trial of a new site at Coburg. The amount of useful traffic on the Friedrichshof patrol was not large. However, the amount of low level military R/T traffic heard but not copied because of mechanical breakdown of recorders, too few positions, not enough experienced operators, and other reasons was never approached at any other site tested by the company in the past two and one-half years.²

Most of this traffic was intercepted between 25.0 mcs and 28.0 mcs with the majority of the nets falling between 27.0 and 27.5 mcs. One Military net was intercepted on 27.220 mcs with reception loud and clear, an indication of training very close to the site. Many of the nets heard were using FM.

On 4 June 1954, the small patrol left Bamberg in convoy for Coburg, arriving at noon of the same day. Operations were set up temporarily on an athletic field adjoining the company area. Due to very heavy Morse interference, the site was moved on 9 June 1954 to the airstrip (Flugplatz) on a hill just outside of Coburg. Organization was the same as that used on the Friedrichshof patrol including receivers, antenna, etc. All tapes were sent directly to the company for transcribing. R/T and CW operator were

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1. Ann Rept, 332d CRC, fy 1954, p43.
2. Ibid. p44.

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added to the patrol, making four shifts of eight hours each, thereby enabling the patrol to work 24-hours per day. Results were very encouraging, both on HF and VHF.¹ Strength of this section at the close of the report period was

enlisted men.² P.L. 86-36
 Printer EO 3.3(h)(2)

At the beginning of the report period, the Printer Section was located at Coburg. Although an average of enlisted men comprised the section throughout the year, the lack of qualified replacements for operators due for separation was a major problem.

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Operations were conducted from an HO-27 hutment, mounted on a 2½ ton truck. In August 1953, the HO-27 was replaced with an S-44/G type shelter which greatly improved working conditions.³ A DEN-35 was also received. This equipment, in conjunction with a modified BC-1016, replaced one Boehme 5-C and 6-E. Results from the new equipment were below those formerly obtained from the Boehme equipment.

In January 1954, the section was out of operation six days while participating in the move to Bamberg.⁴ During the first month of operation at the new site the section was continuously troubled by power failures, poor atmospheric conditions, and equipment failures. After trying several different antennas, a doublet and an inverted "L" was decided upon.⁵

In February 1954, ASAN-6 shorties were replaced with DEN-24's. The new equipment was much more efficient and required less space. One DEN-24 was

1. Ann Rept, 332d CRC, fy 1954, p44.
2. Ibid. p44.
3. Ann Rept, 331st CRC, fy 1954, p34.
4. Ibid. p35.
5. Ann Rept, 332d CRC, fy 1954, p35.

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utilized in place of the modified BC-1016 since it gave better results.

The section was out of operation during the period 2 - 9 April 1954 while the company was engaged in range firing. The hutment was moved to a new site within the operation's enclosure where a folded dipole and beverage antenna were erected. Both were cut for the 1.5 and 3.0 mc band. Results from these two antennas were found to be much better than those obtained from the doublet and inverted "L" antennas.¹

In May 1954, two receivers were replaced with new R-388/URR receivers. Excellent results were obtained when used with the beverage antenna.²

Radio Direction Finding

During the report period, the 332d CRC maintained three direction finding outstations, designated as Detachments "A," "B," and "C," which were located at Schweinfurt, Furth, and Straubing, Germany. Alternate control was located within the confines of the company.³

Detachment "A" was located at Memmingen, from the beginning of the fiscal year to 19 August 1953 at which time it was recalled to the company and re-established 28 September at Schweinfurt. Personnel assigned to Detachment "A" were attached to Heavy Mortar Company, 16th Infantry Regiment, 1st Infantry Division.

Detachment "B" was located at Roetz until January 1954, at which time it was moved to Straubing for better logistical support as the former location was too isolated for proper maintenance. Personnel assigned to Detachment "B" were attached to Straubing Detachment, for rations, quarters, and logistical

1. Ann Rept, 332d CRC, fy 1954, p36.
2. Ibid. p36.
3. Ibid. p7.

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support.

Detachment "C" was located at Roth, from the beginning of the fiscal year until the latter part of November, 1953 when it was moved to Furth on a test basis.¹ This location was approved as a permanent site on December 1953 and was still active as the year ended. Personnel assigned to Detachment "C" were attached to Hq Co, 39th Infantry Regiment for rations, quarters, and logistical support.²

All outstation and alternate control facilities received major inspections by Hq ASA personnel during the report period.³

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f. 334th Communications Reconnaissance Company, Herzo Base

During fy 1954, the main body of the 334th CRC was located first at Mannheim, then Bad Hersfeld,⁴ Eschwege,⁵ back to Mannheim, and finally Herzo Base,⁶ a permanent change of station to be effective 1 July 1954. The bulk of operations were carried out at field stations in the Hersfeld-Eschwege Area.

At the start of the report period, the company was operating [] continuous wave (CW) positions, [] radio-telephone (R/T) positions and [] direction finding (DF) positions. At the end of the fiscal year, there were [] CW positions, [] voice positions, and [] radio printer positions in operation.⁷

1. Ann Rept, 332d CRC, fy 1954, p8.
2. Ibid. p8.
3. Ibid. p45.
4. Ann Rept, 334th CRC, fy 1954, p3.
5. Ibid. p4.
6. Ibid. p5.
7. Ibid. p7.

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For the first nine months of the report period, the CW mission was [redacted] positions on Czech Internal Security, [redacted] position on Polish COMINT nets, one position on Polish military, and for a short period, the East German Police net, Yugoslav military, two positions of Joint Soviet-Satel-

[redacted]

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net. The best intercept coverage from this assignment was on the Czech internal and Polish COMINT nets.

[redacted]

On 1 May 1954, the company was assigned the Czech problem.² The mission consisted of [redacted] positions on [redacted], and [redacted]

[redacted]. This net proved interesting as these nets maintained regular schedules, passed a considerable volume of traffic, and intercept coverage was very good.

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At the end of the report period, the company had [redacted] positions

[redacted]

1. Ann Rept, 334th CRC, fy 1954, p7.
2. Ibid. p8.

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military search. Intercept on this assignment was poor, but appeared to be improving gradually. Prior to assuming responsibility for the [] mission, the company trained [] Morse code interceptors during the period 2 March - 7 April. This provided sufficient operators to handle the mission satisfactorily.

The Traffic Analysis Section underwent radical changes in personnel utilization during fy 1954 to support the technical requirements of the mission.¹ During the period in the field at Hersfeld, the section worked in squad tents and resolved most of the problems under field conditions. At Mannheim, the section sent half its personnel into the field.

During the first three months of 1954, approximately 50% of the section's experienced personnel rotated to the ZI and a slight decline in efficiency resulted until the arrival of replacements. When the company moved to Eschwege on 1 April 1954, the section was divided into two echelons, one to move prior to the main body on 1 April 1954, thus providing continuous traffic processing and forwarding.

The section, in fulfilling its requirement for the Morse mission, remained organized as it was during fy 1953 until 1 May 1954 when the [] problem was assigned.² This change of mission required a reorganization of the section to process the increased volume of traffic and supply additional analytical support. Five teams were set up: Team 1 worked [] Team 2 worked [] Team 3 worked [] Team 4 worked [] and Team 5 worked all [] cases. This organization remained intact at the end of the report period.³

1. Ann Rept, 334th CRC, fy 1954, p8.

2. Ibid. p9.

3. Ibid. p10.

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The Radio Printer Section of the 334th commenced operations on 3 September 1953 with [] operators, [] single channel positions utilizing modified BC-1016 Waters-Connelly recorders, and [] two-channel position utilizing ASAN-6 demultiplexing equipment. A modified shelter HO-17 was used to house the section. When the company moved to the field at Hersfeld on 17 September 1953, the section moved with it and operated with doublet and long wire antennas. In October, a DEN-35 was installed and used to intercept frequency shift-keyed signals, as the modified BC-1016 did not prove adequate for FSK signals. At this time, the mission was [] search.¹

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EO 3.3(h)(2)

Two DEN-24 demultiplexing units and two frequency shift converters, Boehme 5-C, were installed in December, thus providing [] single and [] two double channel positions. The use of the DEN-35 for FSK signals was discontinued at this time. A Radio Printer Analysis Section was organized during this month also. This team consisted of [] radio traffic analysts, with only [] translator.² Additional translators and radio traffic analysts were assigned during the month.

Due to a lack of TT-42/FG (Handyman) printer equipment, it was not possible to produce page copy at first. Perforator tapes were sent to FS 8606 where page copy was produced, the tapes and page copy were then returned for distribution. At Hersfeld, R/P traffic analysis was conducted in the operations tent. Upon return to Mannheim, this activity was carried on in the operations building.

1. Ann Rept, 334th CRC, fy 1954, pl0.
2. Ibid. pl1.

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Prior to the move to the field in April 1954, terminal equipment was installed in a truck K-53. A truck-mounted shelter was set up as an analysis shelter, and Handyman printers installed. The section utilized a doublet, whip, and long wire antenna until a sloping V with 98 foot tower, was erected in May.¹

In addition to the [] Search, a mission assignment was received consisting of [] single channel links. This part of the mission was completely changed in February when all [] assignments were dropped and a new single channel assignment consisting of the [] and a two channel assignment covering the [] series between military districts was received. The average monthly intercept group count from January through June 1954, was 400,000.²

At the start of fy 1954, the Voice Section of the company consisted of [] positions located at Hersfeld. On 24 August 1953, the section moved to a site at Altefeld for co-location with a similar section of the 332d CRC. These two sections became Detachment "F," and operated under control of the 502d CRC. The mission for this period was [] search ranging from 23 to 27.5 mcs. On 3 November, the detachment returned to Hersfeld.³

When the 334th returned to Mannheim, the mission was changed to []

1. Ann Rept, 334th CRC, fy. 1954, p11.
2. Ibid. p12.
3. Ibid. p14.

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[redacted] main line links, one position of [redacted] (to be used when unable to identify armed forces activities not identified as to any other specific [redacted])

[redacted] position of [redacted]

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(23 to 30 mcs). This latter position was changed from Category A to C in February, 1954. Intercept on this mission was very limited, with the exception of two cases of [redacted]

[redacted]. In March 1954, the mission assignment was changed to another [redacted] search.

At Altefeld from 1 - 29 April, the section carried on its mission and trained new operators. A team of personnel from NSA and ASAE arrived for TDY during May and June to assist in the installation of an antenna field (Rhombic, sloping V, three long wires and two verticals), train and supervise operators on the job.¹

The mission assignment for the summer field operation was [redacted] search between 3 - 30 mcs. Frequency range was extended from 2 - 32 mcs. The first voice traffic was intercepted 17 May 1954, and results continued productive throughout the course of the operation.

With the assumption of the [redacted] mission by the company, it was necessary to set up Detachment "E" for [redacted] voice intercept. Voice personnel were transferred to the company from FS 8606. Two operating positions, one voice, one CW were built in a 3/4 ton truck, and additional equipment for one portable voice position was allocated the mission.²

1. Ann Rept, 334th CRC, fy 1954, pl5.
2. Ibid. pl7.

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On 15 May, the detachment departed for a site near Eisenstein. The site selected required considerable work since portable equipment was located at the crest of a hill and the 3/4 ton truck at the base. Power for the hilltop site was a problem at first, but a power line from generators at the base of the hill solved this.¹

All supplies had to be carried up to the hill crest as it could not be reached by vehicles. The detachment's mission was one position R/T search and one position search. Tapes were forwarded to ASAE direct.²

At the beginning of the report period, four DF sites were in operation as follows:³

<u>Detachment</u>	<u>Location</u>	<u>Logistic Support</u>
A	Butzbach	7842 Ordnance Rebuild Det
B	Wackernheim	Btry A, 78th FA Bn
C	Karlsruhe	Det A, 7809 SigC Unit
D	Freiburg	Station Allowance

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The average strength of these detachments was . The AN/CRD-2 was used by all four sites and control was maintained by radio, utilizing SCR 399 and SCR 188 radio sets.

Detachment "A" was moved from its temporary site at Butzbach to Sinzig, Germany, and began operations from this site on 26 July 1953.⁴

On 18 August, Detachment "B" was deactivated, its personnel and equipment returned to the company. The DF net, with the exception of Detachment "C", was closed out 30 December 1953. C Detachment was placed under control of the 502d CRG and continued to operate the Karlsruhe site.

1. Ann Rept, 334th CRC, fy 1954, pl8.
2. Ibid. pl7.
3. Ibid. pl3.
4. Ibid. pl4.

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until 24 March 1954, at which time they returned to the company Morse code interceptors.¹

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g. Field Station 8606 AAU, Herzo Base

Throughout fy 1954, FS 8606 AAU remained located at Herzo Base, and conducted operations in this area and at sites located at Bremen and Berlin.² The station was organized along functional lines with specific sections devoted to meeting requirements of the operational mission.³

Among the administrative accomplishments during the report period was the transfer of administrative and operational control of the radio alert net from the Radio Direction Finding Section to the communication center to keep these closely related functions under a single supervisor and to achieve more efficient operation. Second in importance was the consolidation of the MOA and RFP Sections to form the Special Identification Section. This was done to bring the two sections into conformity with TD 93-8606.⁴

A number of special projects were initiated during the report period which were carried out by the various operations sections. These included:

- 1) Test for the establishment of FS 8613 AAU. This project was initiated 21 June 1953 and completed 8 August 1953. Personnel were supplied by the station and the 334th CRC.
- 2) Installation and the beginning of an operational field test on DEN-31 equipment on 18 November 1953. This

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1. Ann Rept, 334th CRC, fy 1954, p14.
2. Ann Rept, FS 8606 AAU, fy 1954, p14.
3. Ibid. p26.
4. Ibid. p29.

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equipment was eventually added to the station, a MOA Sub-Section of the Special Identification Section.¹

- 3) Test missions of radio-telephone and CW transmissions in the VHF band, on the Czech-German border during the period 2 September 1953 through 22 April 1954. Test periods varied from one to thirty-nine days; length of the test being determined by the results attained at the site of operation.
- 4) Coordination and logistical support for Project 49X, a mission to Turkey for intercept purposes, which left for Turkey from the station on 22 April 1954 and returned 26 June 1954.²
- 5) On-the-job training for members of other ASA Europe units as well as for members of intercept units of the other US Armed Services in the theater.³

Specific developments within individual sections on the operational mission during the report period were extensive. Reference to these follow:

Traffic Control

The mission of the Traffic Control Section during the report period underwent a substantial change although the overall pattern of technical support remained intact. Very often methods and procedures varied from any standard of operation, which was a direct reflection of the fluctuating mission assignment and local conditions.⁴ Accordingly, the entire structure of the section underwent substantial revision. The primary elements were a control officer and an assistant, an NCOIC, and four major subsections: Morse and Voice Traffic Analysis, Printer Traffic Analysis, General Search, and Administration. Basically, this organization was a

1. Ann Rept, FS 3606 AAU, fy 1954, p30.
2. Ibid. p30.
3. Ibid. p31.
4. Ibid. p32.

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reflection not only of the decisive alterations in the intercept mission, but the corresponding increase in traffic analysis personnel assigned to cope with the altered mission.¹

For example, during most of the report period, [] Morse intercept [] was assigned a majority of the Morse intercept positions. On 1 April 1954, however, nearly all of the [] problem was dropped in favor of additional [] positions as well as a very substantial []

This required major reorganization and shifting of analytical units within Morse T/A in order to provide necessary technical support to the intercept operators and process resulting traffic.

Variety and complexity of the intercept assignments also necessitated the implementation of five distinct working schedules within the section. The majority of the analytical personnel in both Morse and voice T/A and general search worked straight days.² This allowed for more personnel on duty during the heaviest intercept hours and permitted research and development on extensive analytical problems beyond routine scanning and reporting. Control clerks (intercept guidance personnel) in the manual Morse intercept area of both sections, worked a "trick" schedule which corresponded to that of the intercept operators. Within the Morse and Voice T/A Subsection, one man in each unit worked an "odd trick" schedule of straight days, breaking on Wednesday and Thursday. This assured the presence of adequate personnel, technical summaries, and traffic analysis

1. Ann Rept, FS 8606 AAU, fy 1954, p34.
2. Ibid. p35.

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reports on any analytical problems which might arise.

The Administrative Subsection was divided into three units: clerical, document register and control, wrapping and forwarding. Clerical and document register units worked the normal straight day schedule, while the wrapping unit worked six days on, three off.¹

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There were no major changes in the Printer T/A Subsection during fy 1954. The subsection operated on a six days on, three off schedule which proved to be the most efficient method of maintaining the necessary personnel on the job at all times, including weekends and holidays. One translator on each team assisted in general analysis as well as translating plain text and chatter passed between operators.

The most significant revision within the Traffic Control Section was the addition of the General Search Subsection.² Other changes included the division of the Compilation Section into three administrative units, the establishment of an RDF, RFP, and MOA liaison unit, the changing of the Morse T/A Section in August 1953 to Morse and Voice T/A Section due to the assumption of B/T responsibility.³

On 1 April 1954, manual Morse general search positions were established. This was the only major effort on manual Morse general search within ASA Europe. The project was directed by NSA, supervised and processed by NSA

The first step toward implementing this assignment was taken when station personnel were assigned TDY in England during March. Following

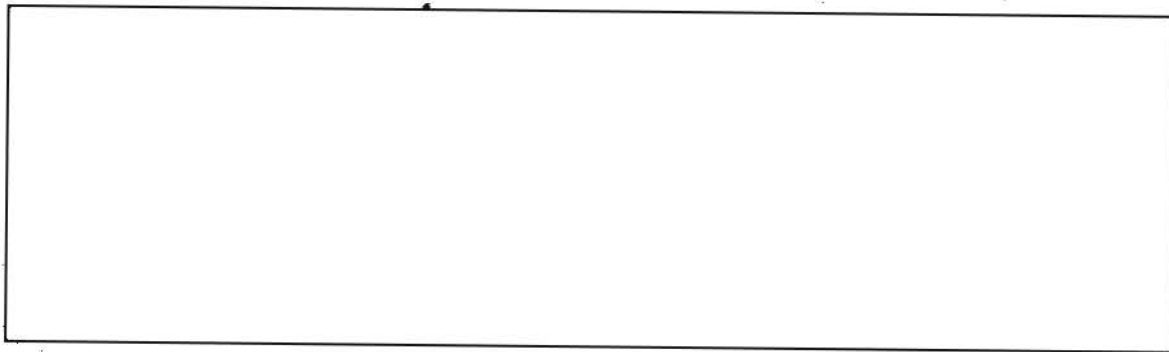
1. Ann Rept, FS 8606 AAU, fy 1954, p35.
2. Ibid. p36.
3. Ibid. p37.

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this, the intercept area was prepared. ASA Europe forwarded all available technical data, and [] traffic analysts were transferred to the project from other ASA units. After the general search mission had been in effect one month, four technical advisors arrived to add their experience in particular fields to the established system of operation.¹ Enlisted traffic analysts from the 6910th Security Group assisted in air traffic identification and the Navy helped to standardize all Naval identifications. From these combined efforts, an expedient pattern of control came into operation. As of 30 June 1954, [] analytical personnel were on duty with intercept operators in the general search area.²

The Morse and Voice T/A Subsection devoted more attention to detailed analysis of each intercept problem during fy 1954 than at any previous time. Problems were isolated by country and service, according to intercept mission, and assigned to separate analytical teams, which assumed the primary responsibility for research, analysis and, depending upon the apparent success of the studies, the compilation and writing of special reports as follows:



1. Ann Rept, FS 8606 AAU, fy 1954, p37.
2. Ibid. p38.
3. Ibid. p38.

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[] R/T- This report was in final stages of preparation when all but a fragment of the [] mission was dropped from station assignment 1 April 1954.¹

The remainder of the Morse and voice intercept mission was treated with equal priority. In the case of [] problems, research and analysis was too extensive to complete prior to April, 1954, when the bulk of this mission was dropped from the assignment. With the advent of general search at the station (1 April 1954), and the corresponding revision of the entire Morse intercept mission, all pending reports were postponed indefinitely.

The basic equipment of the [] Printer Traffic Analysis Subsection remained unaltered, consisting of two ASAN 16A Handymen (which were Teletype Corporation M15 teleprinters modified with an automatic carriage return and [] pallets welded onto an English basket) and two ASAN 16B Handymen, which were manufactured TT 42/FG teleprinters with TT 43/FG transmitter distributors. Two new ASAN 16A Handymen were requested, in order to increase the value of the hard copy of intercepted traffic, as existing machines were unreliable and often printed incorrectly.²

Scrambler activity on printer links increased from one [] link reported in fy 1953 to approximately twenty-six [] links and several commercial 6TP links using scrambler as of 30 June 1954. Approximately ten of these links were top priority on the station printer assignment. Copy was produced on AMPEX 3160 and AMPEX 400 tape recorders. It was apparent that the majority of [] links would be employ-

1. Ann Rept, FS 8606 AAU, fy 1954, p40.

2. Ibid. p39.

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ing this method of transmission in the future.¹

Throughout the report period, the Morse and Voice T/A and the Printer Subsections conducted semi-monthly conferences with intercept operators from the respective intercept areas to keep all operators informed on the scope of their particular mission as well as any unusual activity within an individual group. The greatest single gain in these conferences was derived from the operators whose questions helped to rectify many discrepancies and misunderstandings, which inevitably arose between T/A and Intercept Sections.² In the case of general search, the conferences were of particular value during the early indoctrination and instruction period of both operators and analytical personnel. The Morse, Voice, and Printer T/A Subsections were also assigned personnel from other units for instruction and training in different aspects of traffic analysis during fy 1954.³

Morse Operator Analysis

The MOA Section was organized in Area A-2 on 18 November 1953, at which time equipment was installed, and an operational field test was begun.⁴

The initial assignment consisted of four mainline nets, which were active constantly. On 25 November 1953, seventeen additional nets were added. On 7 April, the assignment was again changed by the addition of twelve nets.⁵

EO 3.3b(3)
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1. Ann Rept, FS 8606 AAU, fy 1954, p41.
2. Ibid. p44.
3. Ibid. p44.
4. Ibid. p64.
5. Ibid. p65.

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During the total period of operation, the section took 2,564 shots. Of this number 48% were saved. Of those saved, 18% were matched, 71% of which were correct.¹

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Radio Fingerprinting



DEN 17-1, used by the section, was out of operation 341 hours and 35 minutes during the year. On 26 March 1954, DEN 17-2 was received and subsequently installed adjacent to DEN 17-1. Assignment for this equipment paralleled the Morse assignment of the 502d CRG. Tip-off from that unit over the DF landline teletype circuit supplemented production.⁴

Manual Morse Intercept

The Manual Morse Section of the station was organized on a four trick rotating basis. The number of qualified operating personnel steadily increased during the report period from a low of [] operators to a high of [] operators in June 1954.⁵

1. Ann Rept, FS 8606 AAU, fy 1954, p66.
2. Ibid. p60.
3. Ibid. P63.
4. Ibid. p61.
5. Ibid. p67.

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The section operated within two areas of the operations building. Twenty-four double receiver operator positions were provided which were supervised in groups of twelve from a dual supervisor console. Receivers were Hammerlund Super Pro type. The BC-1004, BC-799, and BC-794 with their co-related power supplies, comprised the SCR. Antennas from twelve direct trunk lines were wired into two adjacent "RF" racks, emanating from the main "RF" distribution frame. A series of ten multicoupler units, five on each rack, afforded a variety of antennas for the operators. The supervisor console had ten antenna outputs, patched direct to the position from the "RF" rack.¹ A similar arrangement for other programmed positions was established in another area of the operations building.

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In December 1953, a detachment consisting of [] enlisted men from the section was assigned a special mission in the vicinity of Berghans Sonnefels to search on all bands to determine the possibility of assigning future detachments to that area. Equipment utilized on this mission included Receiver AR-88 for CW transmissions; R-274/FRR for voice transmissions; and an RD-74/U Recorder. This equipment was powered by a mobile power unit (PE-75). Very cold weather in the area hampered operations somewhat, particularly, the operation of power units.

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The section also furnished [] men to Detachment "F" at Berlin for the purpose of operating one manual Morse intercept position. As of 30 June 1954, an additional [] men had been furnished to man three additional positions. Two operators were also furnished by the station to perform duty with Project 49X for a period of forty-five days.²

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1. Ann Rept, FS 8606 AAU, fy 1954, p68.
2. Ibid. p69.

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After 1 April 1954, [] manual Morse general search positions were in operation at the station. This represented the only concentrated effort of manual Morse general search within ASA Europe. The assignment was placed into effect by NSA who supervised the intercept effort. Processing of the intercept product was accomplished by NSA and GCHQ. The first step toward implementing this assignment occurred in March 1954 when station personnel were placed on TDY in England.¹ After the mission had been in effect for one month, four technical advisors arrived at the station, to set up a procedure, and to establish a system of operation. The entire mission was a joint operation, utilizing the knowledge and facilities of the Manual Morse Section and the Local Traffic Control Section, as well as analytical advice from the Navy, Air Force, and GCHQ. From these combined efforts, a definite expedient pattern of control and operation was effected with all problems met jointly and improvements made on a continuing basis.²

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Automatic Morse

The Automatic Morse Section operated on a 24-hour basis throughout fy 1954. A four brick system was utilized to conform to the assigned mission. The number of personnel fluctuated only slightly. An average of [] operators were assigned during the report period. At the close of the fiscal year, there were [] qualified operators and [] supervisors assigned.

There were [] operating positions ([] low frequency, [] on/off keying and [] frequency shift) in use during the report period. Of the [] positions utilizing on/off keying, [] were diversity positions, consisting

1. Ann Rept, FS 8606 AAU, fy 1954, p69.
2. Ibid. p70.

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of the OA/53 FRC type units mounted in a DR-89 rack. [] tape transcribing positions were employed and fifteen direct trunk lines emanated from the main "RE" distribution frame. Antennas were fed into multicouplers, affording a variety conforming to the mission.¹

In April 1954, the section furnished one position, for Project 49X, for approximately forty-five days. The installation of fifteen direct trunk lines from the main "RF" rack with six multicoupler units during May, 1954 afforded a wider selection of antennas, a frequency meter, SCR 211, was installed and mounted on the side of the "RF" rack. This allowed accurate measurement of unknown frequencies, and consequently aided in the continuity and development of unknown signals.²

Non-Morse Intercept

At the close of fy 1954, the Non-Morse Section of FS 8606 consisted of the following sub-sections:

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- [] internal single channeled circuits)
- Taper Simplex Section .. [] internal single channeled circuits)
- MUX Section (Multi-channel [] internal commercial circuits)
- [] Section (Two channel and single channel military, air, and naval transmissions)
- PIX Section (Photo facsimile transmissions)
- Signal Analysis Section (Construction and identification by analysis of all unidentified signals)

At the beginning of the report period, [] qualified operators, and [] on-the-job trainees were assigned. An average of [] qualified operators and [] on-the-job trainees were assigned. A peak strength of [] operators was reached in May, 1954.

1. Ann Rept, FS 8606 AAU, fy 1954, p71.
2. Ibid. p72.

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A team consisting of [] operators was provided for a survey test team which went [] on TDY from 21 June 1953 to 7 August 1953.¹

Status of equipment during the report period follows:

- 4 DEN-35 Double Frequency Shift (DFS) demodulators were installed.
- 21 ASAN-17A printers installed.
- 2 ASAN-13BA's replaced by ASAN-13BC's.
- 2 Boehme 5C's replaced by 2 CV-62/U's.
- Precision tuning equipment (DEN-47) installed for 6 TP flexible multiplex position.
- 4 DEN-24-2's installed to replace four ASAN-6's.
- 4 RD-6C/U Recorders installed to record pilot Morse when it occurred on service 2B links.
- 3 ASAN-17D printers installed, one of which, printed a composite of the other two.

Considerable maintenance trouble was encountered with the overheating of motors of the AMPEX 400 magnetic tape, and many minor additional equipment changes and modifications were made in order to comply with mission assignments.²

The station's [] mission remained virtually unchanged until 1 March 1954 when the entire assignment was deleted and replaced by other links,

[]

On 30 July 1953, the section was alerted to search for and record on perforator tape an [] single channel teletype link between [] and [] expected to use a scrambler system. The link was first intercepted on 20 October 1953 and notated [] The link was later renotated [] On 15 February 1954, printers were installed to intercept this circuit; first for the [] terminal, second, the [] terminal, and the third, the composite, to insure cipher continuity by printing both

1. Ann Rept, FS 8606 AAU, fy 1954, p74.
2. Ibid. p75.

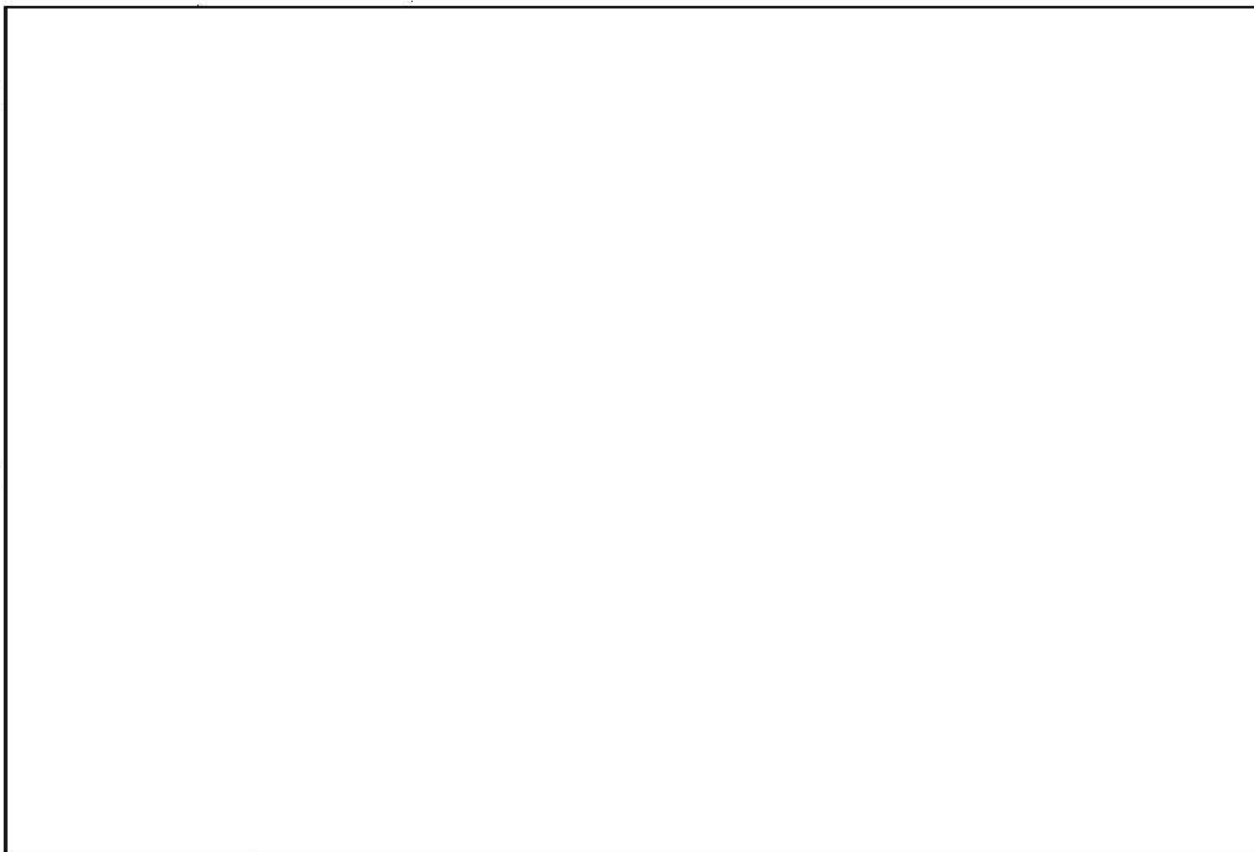
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transmissions on a single tape in sequence. These links, when in cipher, did not normally transmit simultaneously. From 4 February to 23 April 1954, duplicate copies of these transmissions were forwarded to Senior US Liaison Officer for the duration of the Berlin Conference.¹

From 19 April 1954, seven days prior to the Geneva Conference, and continuing to the end of the fiscal year, certain portions of the traffic were duplicated locally and transmitted electrically to ASA Europe. From 19 April to 18 May 1954, it was necessary to provide two couriers per day to Frankfurt to insure that the traffic was in the hands of analysts within eighteen hours after intercept.²

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1. Ann Rept, FS 8606 AAU, fy 1954, p75.
2. Ibid. p75.
3. Ibid. p76.

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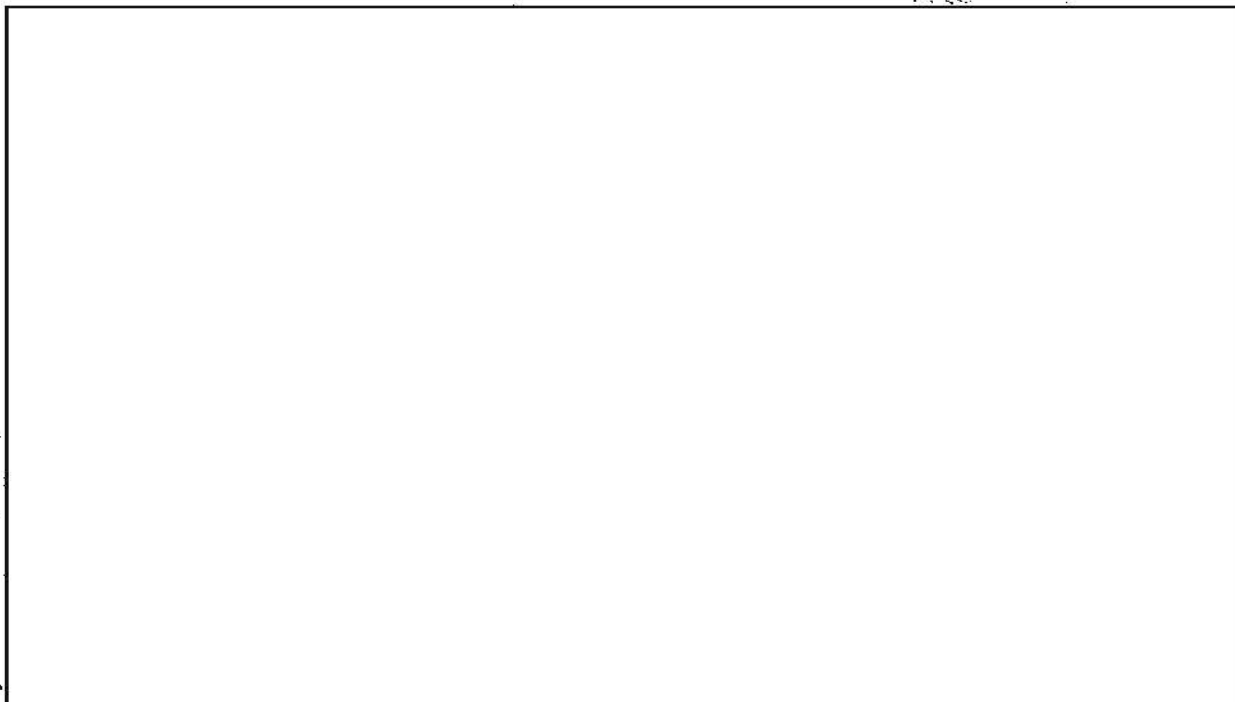
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passed. The circuit characteristics most helpful in alerting the intercept operator that a "set-up" was about to be passed was reversal of the signal polarity.



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Service transmissions were broken into two main groups: mainline, which were controlled; low level, which were corps and army controlled. All service type transmissions were copied by the radio printer of the Manual Morse Sections before they were considered desired targets.

Schedules and transmissions were effected during maneuver periods of the assigned low level targets. Operating schedules remained uniform on known cases although traffic volume increases were observed during unit movement; decreases, when situations became static.²

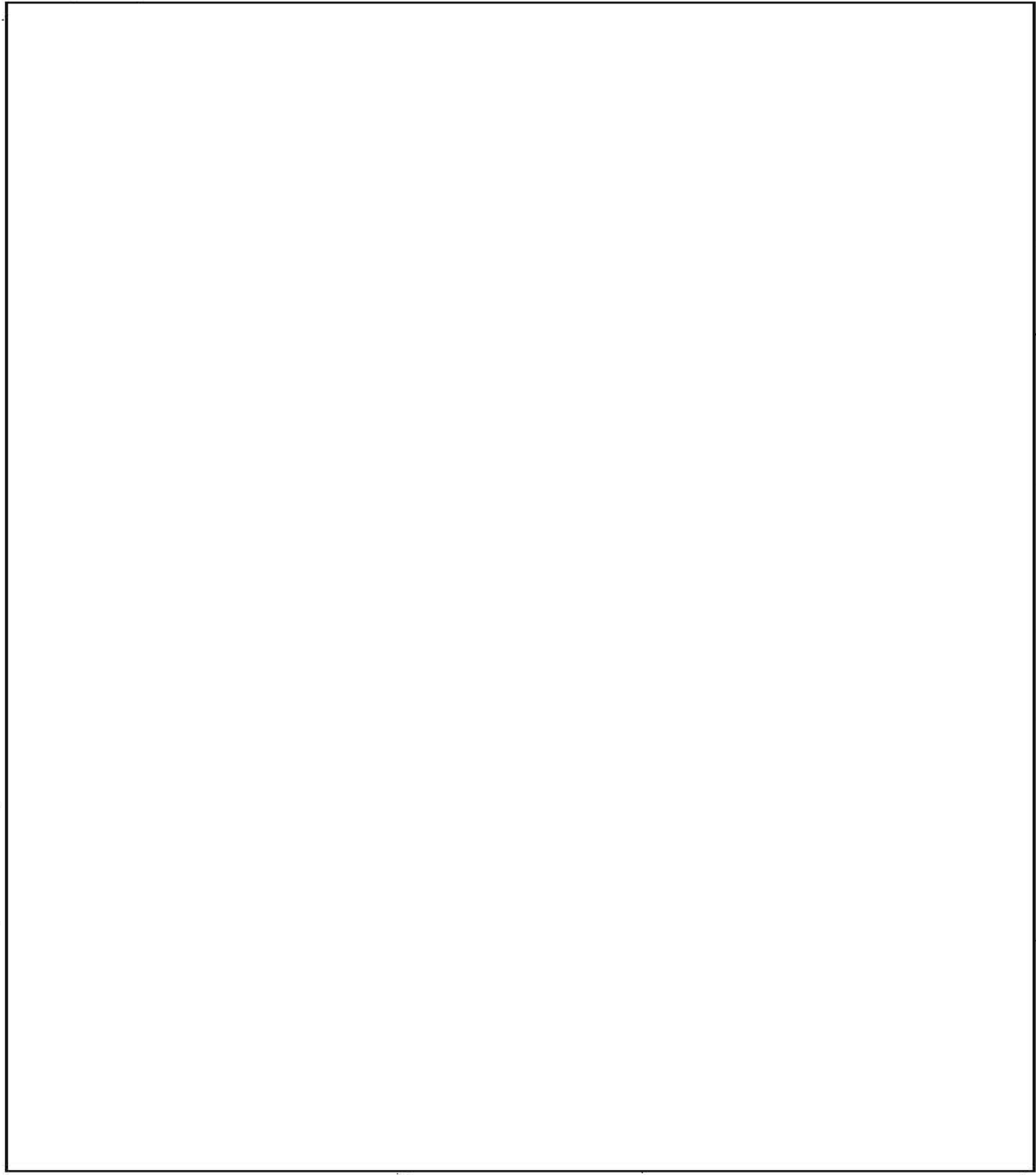
1. Ann Rept, FS 8606 AAU, fy 1954, p76.
2. Ibid. p77.

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1. Ann Rept, FS 8606 AAU, fy 1954, p77.
2. Ibid. p78.

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Although signal analysis was stressed during the year, few unidentified signals were heard which necessitated an analytical breakdown. Equipment used by signal analysis personnel during the report period consisted of AX-9 (facsimile recorder), CXDB (disc recorder), BC-1016 (undulator tape recorder), AMPEX 400 (magnetic tape recorder), and all necessary tape and page printer equipment.¹



Radio Telephone

Organization of the Radio Telephone Section remained unchanged during fy 1954. Primary targets were the intercept of [redacted] and [redacted] voice transmissions. All personnel assigned intercepted cases during 24 hours of each day. Since voice intercept operators were

1. Ann Rept, FS 8606 AAU, fy 1954, p78.
2. Ibid. p79.

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qualified linguists, they also transcribed recorded intercept. A schedule of six days duty and three days off was maintained which afforded the greatest possible coverage on assigned cases, with a minimum number of voice operators.

The section operated a maximum of three voice positions during the evening and midnight shifts, depending upon the number of voice operators available. The day shift covered two positions on [] voice and one position on [] voice. The primary target during the evening and midnight shift was []¹.

A great deal of emphasis was placed on intercepting and developing [] voice nets. To accomplish this, voice intercept missions were assigned by country and type only. This permitted voice operators to search the entire band 24 hours per day. It also aided in maintaining continuity on [] unidentified nets. Identified [] air nets were dropped, since it was assumed the US Air Force was adequately covering them. With the exception of the Voice of America, no [] voice traffic was intercepted at the station.²

The section participated in five test missions on the German-Czechoslovakian border during the report period. These were initiated to compare readability and signal strength with the station's reception, attempt to intercept [] low level transmissions, and to search for any unique traffic.³

Tests were conducted during the following periods with results as

1. Ann Rept, FS 8606 AAU, fy 1954, p82.
2. Ibid. p82.
3. Ibid. p83.

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follows:

2 September-19 October 1953 - The first test site was established at Phillipsreut on 2 September 1953. Intercept was accomplished primarily from [] voice nets copied at the station during the time, comparing readability and signal strength. Operations were continued through 7 September, the majority of the intercept time being devoted to search for unidentified nets. [] transmissions were more plentiful than at any time previously. The test mission moved to the vicinity of Bayerische Eisenstein on 9 September where suspected low level [] traffic was copied on the 20-30 mcs band. On 14 September, moving steadily northward along the border, the unit established a site near Waidhaus where no military traffic was heard.¹ [] traffic was copied on the 30-40 mcs band, but with a weaker signal than was experienced at the two former sites. On 16 September, the unit returned to Eisenstein and established two sites, one 500 meters south and 300 meters higher than the original base camp. Intercept continued at these sites until 16 October when the unit returned to Herzo Base.

17-19 December 1953 - The second voice test mission reestablished the dual site at Eisenstein on 17 December.² Special emphasis was given to the high bands and a manual Morse position was maintained along with the voice positions. Some continuity was maintained with nets heard on the previous mission, though overall intercept was not as productive as the first mission in Eisenstein.

16-19 February 1954 - Further intercept operations were conducted in the Hof-Schoenwald area, near the German-Czechoslovakian border.³ A test site north and west of Hof was established on 16 February, and all nets regularly intercepted were heard with good readability. Intercept on high bands from 20-30 mcs produced only commercial broadcasts and carrier wave. On 17 February, a new test site was selected on a hill west of Schoenwald, about 1½ miles from the border. Continual search was conducted on the high bands by both voice and manual Morse positions.

16-18 March 1954 - A new test site near Eisenstein was established on 16 March 1954. Because the area formerly tested

1. Ann Rept, FS 8606 AAU, fy 1954, p83.
2. Ibid. p83.
3. Ibid. p84.

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was inaccessible due to heavy snow, a site was selected near the village of Lam which afforded a fair breakaway and operations commenced 17 March. Search on the high band from 20-30 mcs produced nothing. The nets regularly copied were heard with good readability, but not copied. Operations were suspended on 17 March.¹

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21-22 April 1954 - Voice intercept operations were conducted in the Hof-Schoenwald area on 21 and 22 April.² On the 21st, at a test site southwest of Schoenwald, a continual search was conducted on the 20-30 mcs band, but only a few carrier waves and transmissions were heard. A new site, near the town of Sommerhau was selected on the 22d, but despite the fact that artillery and small arms fire were audible, no low level voice was intercepted. Nets regularly copied were checked with good readability.³

Radio Direction Finding

Throughout the report period the ASA Europe fixed DF net was composed of one control station, one alternate control station and six DF operational sites. Responsibility for personnel, equipment and administration at the sites was divided between control, FS 8606 AAU, and alternate control, FS 8608.

As an additional function, the station operated as control of the ASA Europe tip-off net. This net was comprised of control and three outstations. Its mission was to inform, track and aid component units of the net in the event of a special mission assignment, suffix calls, or a major call sign change.

The ASA Europe alert radio net was also attached to the DF organization of the station from 1 July 1953 to 28 September 1953 at which time it was transferred to the station's communication center.⁴

- 1. Ann Rept, FS 8606 AAU, fy 1954, p84.
- 2. Ibid. p84.
- 3. Ibid. p85.
- 4. Ibid. p52.

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Communications affiliated with the functional control of the ASA Europe fixed net were divided into two sections.¹ One was concerned with communications with the actual net, the other with components of the tip-off net.

During fy 1954, the ASA Europe tracking code was employed as the means of tracking possible missions on the ASA Europe fixed DF net. This code was utilized on a conference, half-duplex, operational type circuit. Search was conducted by all stations within the net. As a station located a desired target, it assumed control of the net and tracked the target to the net using the special code in conjunction with a letter equivalent tracking decoder. Other stations within the net made their DF observations and submitted results by means of on-line, half-duplex, operation M-294 converters (SIGNIN equipment). Reporting circuits were direct to each of the outstations.²

On 29 October 1953 and on 5 January 1954, attempts were made to use rotors on the conference circuit in conjunction with the SIGNIN equipment. This proved impractical, because extra impulses caused by repeater stations made rotors on some equipment "step" with a resultant loss of synchronization. Because of this, it was necessary to revert to the tracking code which remained in use for the remainder of the report period.

The ASA Europe DF tip-off landline net was established for the purpose of interchanging and relaying highly desirable information concerning mission assignment and necessary tracking instructions from one control station

1. Ann Rept, FS 8606 AAU, fy 1954, p52.

2. Ibid. p53.

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to other control stations within ASA Europe. FS 8606, FS 8608, 502d CRG, 328th CRC and the 331st CRC were members of this net. As very little effort was made to coordinate action for use of the tip-off net and considerable confusion existed as to mission and responsibility, a conference was held on 5 April 1954.¹

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One major factor considered was the installation of new [redacted] equipment. It was the intention of ASA Europe that the station and the 502d CRG would utilize this equipment for coverage of the group's mission. The 502d indicated this would bring closer coordination on the tip-off net, as it could be utilized for tip-off to RFP as well as RDF.²

As the AFSAG-1244 MACO and the ASA Europe tracking code were the only systems employed on the tip-off net, a series of pads were issued to all member DF stations, and designated for use on the ASA Europe DF tip-off net.³

As control of the ASA Europe fixed RDF net, the station was responsible for equipment utilized in mission coverage at control, outstations, and Detachments "A," "B," and "C." RDF used at all three sites was AN/CRD-2A, and modified by MC-551. TG-7 teletype equipment was utilized by all RDF sites and RDF control on the conferences or tracking circuit. In the case of Detachment "B," SIGNIN cipher equipment was utilized between the RDF site and RDF control on the reporting circuit. The reporting circuit from Detachment "A" was terminated with a TG-7 on one end and a SIGNIN cipher equipment on the other. The SIGNIN did not operate in cipher, and

1. Ann Rept, FS 8606 AAU, fy 1954, p54.
2. Ibid. p54.
3. Ibid. p55.

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was utilized as a normal teletype equipment. This could be done, since Detachment "A," was physically located only a quarter of a mile from control, and was connected with approved landline. Lines from Detachment "C," were terminated with a TG-7 at the Berlin end, and a SIGNIN equipment, operating as normal teletype, at the control end. All reporting by Detachment "C" was by means of MACO code for security reasons.

On 9 December 1953, Detachment "C" was moved to the Gatow airfield at Berlin. Since the location of the site was proximate to the Russian Sector, ASA Europe did not deem it advisable to install cipher equipment.¹

In order to maintain administrative coordination between the site and control, SIGNIN operation was maintained between Detachment "F" (located in the Grunewald Section of Berlin) and control. For this reason, one operational and two stand-by SIGNIN equipments were assigned to Detachment "F."

The ASA Europe fixed DF net produced a total of 21,865 fixes during fy 1954. This represented production on actual mission targets, and excluded missions referred to the net for the purpose of accuracy studies. It was the policy to flash, during each 24 hour period, at least five missions for the purpose of obtaining bearings on known targets, so that accuracy studies could be made on the net. Until 1 March 1954, all accuracy studies for the net were made at ASA Europe. Beginning 1 March, the station assumed responsibility of this function.²

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Control for ASA Europe RDF net was located in the rear of Area "A"

1. Ann Rept, FS 8606 AAU, fy 1954, p56.
2. Ibid. p57.

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in the station's operation building.¹ The control of operator used RFP and MOA operator positions, within the immediate area, tip-off from out-stations in supplying possible targets or missions. Although the assignments of the RFP and MOA positions did not parallel the RDF assignment, coordination was such as to prove helpful. On 14 January 1954, Search "H" position, (later redesignated Search "A") was assigned to the RDF control as an additional aid to search. Little physical change in the equipment assigned to control took place during the report period; the principle change being installation of a new control console on 14 April 1954.

On 11 August 1953 work began at Detachment "A" to improve the site area. The counterpoise was repaired, and poles carrying wiring to the site building were replaced where necessary, along with a complete new wiring job. Work was completed 26 August.²

The site remained operational, with no major outages until 12 April 1954. At that time, equipment was dismantled and utilized in a test for a new site location for Detachment "B." Equipment was out of operation until 13 May 1954. At that time, the site re-opened and remained operative at the close of the report period.

The major problems of Detachment "B" at Bremen were logistic support of personnel and securing a location for the installation of a permanent site. Personnel manning this site were quartered and rationed at Camp Grohn, until 21 August 1953. At that time, the camp was deactivated and

1. Ann Rept, FS 8606 AAU, fy 1954, p57.

2. Ibid. p58.

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all personnel placed on a per diem basis and quartered at the Hotel Pension Zeisner in Bremen.¹ On 10 December 1953, the men were moved to a military-controlled confiscated house in Bremen and placed on subsistence allowance. During the period 1-16 September, a test was conducted by personnel of the 331st CRC and Detachment "B" at the Bremerhaven POE to determine the feasibility of moving the site to that area.² During the period 1 April to 25 May, 1954, three other tests were made in the Bremen area. Two were conducted at Garlstedt, with equipment from Detachment "A," and by operators from the 334th CRC. The third test was conducted by Detachment "B" in the vicinity of the Bremen civil airport; outside airport property. Results of the third test proved the best. Erection of a permanent operations site and billets in that area was under consideration by higher headquarters as the year ended.

From 1 July 1953 to November 1953, Detachment "C" at Berlin operated in the same physical location at Detachment "F." During this period, the station was found to be highly erratic. The exhibited error was adjudged "site error," and a new location for the site was sought.³ On 19 November 1953, an operational test began at Gatow Airfield, Berlin. The test proved satisfactory and on 9 December 1953 the site at Gatow became operative within the net. Commercial power was supplied 15 January 1954.⁴

1. Ann Rept, FS 8606 AAU, fy 1954, p58.
2. Ibid. p59.
3. Ibid. p59.
4. Ibid. p60.

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Detachment "F," located in Berlin, was operationally controlled by the station at Herzo Base, and attached to the Berlin element of 8620 AAU, which in turn was attached to Hq & Hq Co, 7781st (Special Troops) Army Unit Battalion for quarters and rations. Strength of the detachment consisted of 1-0, 50 EM, who occupied positions in the following subsections: Administration, Manual Morse, Intercept, Radio Telephone Intercept, Radio Direction Finding, Traffic Analysis and Maintenance. The billeting area for enlisted personnel was located at Andrew Barracks, approximately six miles from the operational area, located at Grunewald.

The primary mission of the detachment continued to be the interception of low level military transmissions emanating from the eastern zone of [redacted]. The detachment was fairly successful in intercepting low level military voice transmissions during [redacted] maneuver exercises and assisted in ferreting out low level manual Morse military nets of [redacted] origin and interception of what was believed to be the first [redacted] net. Reasonable success was attained in the search for [redacted] nets operating in the eastern zone of [redacted]. On 7 February 1954, a [redacted] net operating on radio telephone was heard on 128,000 kcs. Subsequent to that date, four other nets were heard operating between 101,000 kcs and 142,000 kcs, but were not identified. Primary targets were a special mission of the [redacted] coverage on CW transmissions, and two positions assigned to the intercept of voice transmissions, copying all low level

1. Ann Rept, FS 8606 AAU, fy 1954, p89.

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[redacted] The mission assignment was changed on 17 August, 1953 to include four [redacted] cases and one [redacted] case. On 21 May 1954, new assignments were added.¹ Construction and modification of the facilities of the detachment included the erection of six double doublet antennas between 75 foot poles. These antennas were put into use on 12 July 1953. Two vertical 60 foot antennas were erected to supplement the double doublets. In June 1954, a 120 foot aluminum tower was erected for use as a vertical antenna. Fair results were obtained.

On 1 September 1953, specifications were drawn up for a building at Gatow to house DF operations. In March 1954, the building was turned over by the Berlin Engineer Section and on 18 March, operations commenced. The power shorted out on 22 June, and DF reverted to the use of generators as a power source.²

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h. Field Station 8608 AAU, Scheyern

Operations Headquarters of FS 8608 remained at Scheyern throughout the report period. The Morse Intercept Section consisted of three subsections (Morse, Non-Morse, and Voice) which were divided into four tricks on which a record of coverage and receiving conditions on all targets was maintained.

Information, i.e., frequency rotas, call signs and time schedules, to enable intercept operators to locate and identify assigned targets was

1. Ann Rept, FS 8606 AAU, fy 1954, p90.
2. Ibid. p91.

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provided by the Intercept Control Section. This was further complemented through verbal instructions.¹

Equipment installed in the Non-Morse Section permitted the intercept of both ends of a two channel link and both ends of a [] link as well as five [] terminals. An no Morse parallel cases were assigned with associated cases during the report period on the Morse assignment, all signals were intercepted through search.²

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Information relative the non-Morse assignment was provided non-Morse search operators by the printer analysis team. Changes in assignment and special missions were relayed to non-Morse personnel by the Intercept Control Section. Guidance was further supplemented by verbal instructions.

Equipment available to the Voice Section included six double receiver console positions with BC-1004 or R-274 receivers. Only one voice position was assigned at the close of the report period. The other five voice positions were available for use as manual Morse positions. Two recorder-producers RD-74U, were used. Essentially the same methods and procedures were used in maintaining coverage and control in the Voice Intercept Section as were employed in the Morse and Non-Morse Intercept Sections.³

The mission of the Traffic Analysis and Control Section during fy 1954 was primarily satellite with only the [] main star and its lateral nets assigned from the [] Group.

[]

1. Ann Rept, FS 8608 AAU, fy 1954, pl6.
2. Ibid. pl7.
3. Ibid. pl7.

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of basic station dummies appeared in the net construction. QAM indicators, however, remained the same allowing continuity on nets to be established.

The [] call sign was squared in July, 1953. At the time, it was noted that the top echelon [] was using automatic tapes. Suffix activity was recorded during this month for [] Navy nets, and maneuver activity was suspected. In August, it was found from intercept of [] nets that they were repeating April calls, which was the first indication of what later proved to be a fixed rota. [] military 06300 nets were found to be employing a new changeover time for their calls; 06002 replacing the normal 2300Z.¹

In September, it was discovered that [] nets were using a three letter call [] used in that quarter. A similar circumstance was noted in March 1954 when [] [] and in July when [] was employed.

A [] dummy was discovered in traffic of 16 to 26 September, 1953 as well as 23 October. Only one transmitter was observed to be working with an unknown number of operators. Indications were that one man was operating, imitating outstations, and answering himself under an assumed fist characteristic.²

1. Ann Rept, FS 8608 AAU, fy 1954, p18.
2. Ibid. p18.

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Along with the normal [] change in the []
 [] which occurred in the month of October, an additive of minus
 [] Maneuver activ-
 ity continued during the first three weeks of the month. Further indica-
 tion of a fixed rote for [] nets appeared when it was found
 that June's calls were repeated in October along with the call sign keys.
 A change in the [] net construction and BSD allocation also took place
 at this time. [] completely disappeared in November and []
 [] each acquired an outstation. This condition remained to the end
 of the report period.

In January 1954, three nationality groups underwent extensive changes.
 [] was again used after an
 absence of one year during which [] were in evidence.¹

In the [] communications network, there was a major
 change consisting of a reallocation of basic station trinomes, frequencies,
 schedules and page notations.² Schedules similar to those used in 1953
 were again discovered in the [] nets; these schedules along with
 trinome address groups were instrumental in the recovery of daily call sign
 keys and in the establishment of continuity on individual stations of the
 [] nets changed from [] on the
 first, but through QAM indicators and operators recognition, continuity
 of the nets could be maintained. A system was worked out whereby [] fre-
 quency references could be followed.

1. Ann Rept, FS 8608 AAU, fy 1954, pl9.
 2. Ibid. pl9.

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During the month of January, [redacted] nets which were later renotated to [redacted] were added to the mission. The [redacted] assignment was dropped, and the [redacted] series renotated during January. The Morse parallel of the [redacted] net was intercepted for the

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first time on CW, precipitating a renotation of the net to [redacted]. In the Radio Printer Section, [redacted] were found to have changed from fixed calls to daily changing calls using the Weasel Key. The largest volume of traffic was noted on [redacted] Printer between 1 January and 1 April. After 1 April, there was a very noticeable decrease in the amount of traffic copied at the station.

The major [redacted] change occurred on 15 April and was probably tied in with the unusual activity noted during the last week of March when the high echelon nets [redacted] deviated from their normal schedules [redacted]. The major [redacted] military irregularity occurred only on the high echelon nets and consisted

[redacted]

In the middle of the month, the [redacted] nets were dropped from coverage at the station.³ In the [redacted] assignment, there were indications of outstations of the high echelon net [redacted] either co-located with, or acting as, control of subordinate nets. Analysis

1. Ann Rept, 8608 AAD, fy 1954, p20.
2. Ibid. p20.
3. Ibid. p20.

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substantiated the theory that there were at least seven stations in []

[] Basic station dinomes were derived from a frequency chart kept on basics heard on these nets for each day from March through June.

On 26 April 1954, the high echelon [] underwent another call sign and frequency change with new basic station trinomes

[] It was found that instead of a common control for [] there was a trinome for each net.

In May, indications of maneuvers were seen in the progressive loss of nets beginning with [] and continuing on down to []¹

Heavy usage of other nets was noted during this silence, however. Only a partial continuity was maintained as it was determined that these, in addition to other unknown nets, were in fact [] and

[] High echelon nets began operation between 25 and 26 June using their normal frequencies, schedules, and trinome address groups. Nets previously reported as lost remained silent. [] along with the [] nets remained on the air throughout this period with no appreciable loss of contacts and transmissions.

[] nets were dropped from the mission during May and replaced by the [] In November, information was relayed by the station to the [] to assist the units in the intercept of [] nets, respectively.²

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1. Ann Rept, FS 8608 AAU, fy 1954, p21.
2. Ibid. p21.

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The annual changeover which occurred on 1 January 1954 radically affected radio operation methods of the satellite countries and made a natural dividing line for the reporting of activity on these nets. The

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assigned mission of the station was predominantly [redacted] and military. Excellent coverage and continuity was maintained on all [redacted] [redacted] nets, however, because of weaker signals, only fair intercept was possible on lower echelons.¹

From July through December 1953, [redacted] nets used call signs [redacted] [redacted]. The [redacted] changed their basic station trinomes monthly until January, using two basic ranges.

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[redacted]

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[redacted]

On 1 January, all [redacted] nets changed call sign [redacted] and frequencies. As a

1. Ann Rept, FS 8608 AAU, fy 1954, p29.
2. Ibid. p30.

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result; most of the first two months' take was due to the ability of the operators to recognize [redacted] nets. By the end of March, all the nets were cased either with permanent or temporary case notations.¹

[redacted] basics, the Traffic Analysis Section was able to announce by the end of April that the new [redacted] call sign book [redacted]. The change of 1 January involved the use of new calls which resulted in the development of the new book. Basics were also changed in the [redacted] nets on a bi-monthly basis except during May and June. At this time they were extracted from the matrix in a diagonal pattern which resulted in an unusual allocation. One set of monthly keys, daily changing, was employed until 30 April for page 1 row, and column. On 1 May, a new set of monthly keys was introduced.² Monthly frequency rotas were employed during the first six months of 1954 by the military nets. Frequencies were changed [redacted]

Four elements went into the make-up of the station's Direction Finding Section during the report period. These included alternate control, located in the operations building, Scheyern; Detachment "A," Memmingen; Detachment "B," Malmshein; and Detachment "C," Kassel. Monthly inspections of the sites were conducted during the year. The SIGNIN (ASAM-4)

1. Ann Rept, FS 8608 AAU, fy 1954, p30.
2. Ibid. p30.
3. Ibid. p31.

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on-line cipher device was used on the reporting loop.

During the first week of July, 1953, the site at Vieht, was closed and the equipment used to perform a test of locations for a new site. After a brief re-opening, Vieht was deactivated. Memmingen was chosen in September above other localities for a site since the 332d CRC had reported the location adequate.¹ Six operators were dispatched to the Memmingen area, and by 27 October, landline installation put the station officially in the ASA Europe fixed RDF net.² In November, the operations hut was redesigned and in February placed in the third quadrant of the compass.

In March, Detachment "B" at Straubing ceased operations and all personnel and equipment were moved to the parent station prior to relocating at Karlsruhe. On 24 March, the site was operating but after five days of operation it was determined that the Karlsruhe location was improper for successful functioning. On 29 March, notification was given to take only known target bearings for an accuracy study.

During the first of April, Detachment "B" at Karlsruhe was operating as part of the fixed RDF net with unfavorable results. On 2 April, construction of the site had to be stopped pending selection of a new area for operations. On 4 May, personnel and equipment were moved from the Karlsruhe area to Malsheim.³ Construction and installation of teletype lines were being scheduled by ASA Europe at the close of the report period.⁴

REF: VOL. I P. 170

- 1. Ann Rept, FS 8608 AAU, fy 1954, p24.
- 2. Ibid. p25.
- 3. Ibid. p25.
- 4. Ibid. p25.

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i. Field Station 8611 AAU, Baumholder

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Field Station 8611 AAU was located at Baumholder throughout fy 1954.¹ The Operations Section was organized into six sections. Personnel were assigned to one of [] four of which were operating platoons and worked three shifts on a continually rotating schedule.

Personnel of the Manual Morse Section were assigned to four operating platoons. At the beginning of the report period, [] operators were assigned, [] of whom were qualified. At the end of the report period, [] were assigned, with [] qualified. With new personnel, the mission was gradually increased. At the start of the report period, seven positions were required on a 24-hour basis plus two positions for an additional 13 hours daily to cover the assigned mission. At the end of June 1954, [] positions were required on a continuous basis.²

[] double receiver manual Morse intercept positions and two trick chief positions were installed. Seven of these were in a new console-type mounting, while the others were in racks. The positions were divided into two rooms, each containing [] positions and one trick chief position.

At the beginning of the report period, [] operators were assigned to the Non-Morse Section. This number increased to [] Although the section experienced no serious personnel problems during the year, there was a constant loss of well-trained operators through expiration of enlistment.

1. Ann Rept, FS 8611 AAU, fy 1954, p7.
2. Ibid. p12.

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The assignment [] to the station's mission occurred 1 May 1954. Prior to this, additional [] links were added. Beginning in January 1954, many of the [] links began a new type of [] transmission. This process was continued throughout the rest of the year,¹ and was further expanded to include some military cases. This development greatly hampered the intercept effort, since sufficient [] equipment [] [] was not available. The transmissions were recordings using the Ampex Precision Recorder (S-3160).² The effect [] on intercepted traffic was evident in message totals, for example, in July 1953, 120,960 msgs were intercepted as compared to 48,911 msgs during July, 1954. The installation of additional precision recorders was expected during fy 1955.³

The Control and Traffic Analysis Branch of the station was further subdivided into three sections, viz., Manual Morse, Traffic Analysis, and Non-Morse Traffic Analysis. A total of [] were assigned.⁴

The work load of the section increased considerably over fy 1953 due to the increase in number of manned intercept positions. The training of sufficient personnel to handle this addition was complicated by an extremely high replacement rate.

The station encountered no outstanding technical problems in traffic analysis. Information on some assigned cases remained limited, probably

1. Ann Rept, FS 8611 AAU, fy 1954, pl3.
2. Ibid. pl3.
3. Ibid. pl4.
4. Ibid. pl6.

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due to difficulties in interception of an appreciable volume of traffic on nets located quite distant from the station.¹

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j. Hq ASA Austria, 8618 AAU, Salzburg

Hq ASA Austria was located in Salzburg, Austria throughout fy 1954.² In addition to operations conducted in this area, the 328th CRC, located in Bad Aibling, Germany (USAREUR); and Detachment "D" of the company at Trieste (TRUST) provided direct support.³

Broadly stated, the mission of the headquarters continued to be that of providing cryptologic support to the CG, USFA, and that of providing COMSEC support to the CG, Trieste United States Troops (TRUST). In addition, the headquarters furnished COMINT support to NSA, higher ASA headquarters, Communications Headquarters (British), and other major commands in Europe.⁴

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Throughout the report period, the control, processing, and reporting of COMINT on the [redacted]

[redacted] and para-military targets were performed by the Operations Division of the headquarters. Reports were made directly to the CG, USFA, and technical support provided on the target areas to US [redacted] COMINT agencies. In fulfilling this mission, the Operations Division controlled and supervised the collection effort at the 328th CRC and Detachment "E," FS 8608. Coordination was maintained with other ASA Europe collection

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1. Ann Rept, FS 8611 AAU, fy 1954, pl6.
2. Comd Rept, Hq ASA Austria, 8618 AAU, fy 1954, pl2.
3. Ibid. pl3.
4. Ibid. p2.

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units. The division also performed analytical processing of raw and semi-processed material received from collection units and performed the major COMINT reporting effort from the European Theater on these four specific targets.¹

To provide organization capable of fulfilling its mission, the Operations Division was divided into three separate branches ("A," "B," and "C") for the first three quarters of fy 1954 with a division chief directing the entire COMINT effort. Responsibility for control of mission assignment, Texta Control, Direction Finding (DF) evaluation, and general administration were delegated to "A" Branch; "B" Branch was charged with the analytical and reporting effort on the entire problem; and "C" Branch was made responsible for the analytical and reporting effort on the problems.²

During April and May, 1954, a reorganization was effected which added one additional branch ("D") to the division. All DF activities were removed from "A" Branch and placed in "D" Branch to provide a more concentrated effort on the DF problems.³

During the last half of the report period, considerable emphasis was placed on the preparation and use of the technical summary (TECSUM). A continuous flow of constructive criticism was directed to the 328th CRC and Detachment "E," FS 8608 to improve the summary. After sufficient progress had been made, analysts in both "B" and "C" Branches were required to use the summary as basis of their analysis, thereby eliminating

1. Comd Rept, Hq ASA Austria, 8618 AAU, fy 1954, p22.
2. Ibid. p22.
3. Ibid. p23.

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much duplication in [] establishing schedules, extracting pertinent chatter, etc.

Increased emphasis was also placed on intercept and analytical processing of [] traffic. In August, 1953, a test team was organized at the 328th CRC to conduct reception tests, with emphasis on voice, along the [] Results of the test indicated that the area just north of Passau, Germany was suitable for voice intercept; consequently, a voice detachment was established there for three months during the fall.¹

The detachment was removed during the winter months because of the difficulty in providing logistic support, but was re-established at the end of the report period with more than satisfactory results.²

One voice position was operated at Wels and one at Vienna during the report period. It was believed that results of the intercept and analytic effort on the [] voice problem would produce concrete results with a definite tie-in to the manual Morse nets.

Radio printer (R/P) activity was stepped up during the report period, and the 328th CRC assumed the major effort on R/P intercept on the [] [] targets during the third quarter. Analytical effort on the R/P traffic was intensified and the utilization of linguists to perform T/A on R/P traffic showed a decided improvement in results obtained.³

In an effort to improve intercept facilities on manual Morse (CW)

1. Comd Rept, Hq ASA Austria, 8618 AAU, fy 1954, p24.
2. Ibid. p24.
3. Ibid. p25.

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targets at both the 328th CRC and Detachment "E," FS 8608, stress was placed on improvement and, as necessary, new installation of antenna facilities. During the second quarter of the report period, a completely new antenna array was constructed at Detachment "E" utilizing a 130 foot tower for the sloping "V." This provided a 40% increase in coverage. During the early spring of fy 1954, plans were developed to erect three Rhombic antennas at the 328th CRC. Construction of these antennas was 50% completed at the end of the report period. It was anticipated that these Rhombics would improve CW intercept in the low frequency range and provide increased coverage on the R/P targets.

Establishment of an adequate baseline for the mobile direction finding net of the 328th CRC presented a major problem since the net was first established. The baseline at the beginning of the report period was too short and, in many instances, approximate fixes could not be obtained as sites were shooting along almost parallel lines. In an effort to improve this situation, a test site was established at Trieste during the early part of the second quarter of the report period. This site, while not as accurate as had been anticipated did provide a good southern terminus for the 328th CRC mobile DF net and was placed in a full operational status during the second quarter. Another site, Detachment "C," was moved further north to Weiden, Germany to provide a good northern terminus to the net. This site proved effective. During the second quarter, negotiations were started to test the area around Graz, for a possible southern terminus in the event US troops were withdrawn from Trieste. As this area was in the British Zone of Austria, negotiations

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were conducted through the CG, USFA for permission to utilize this area.¹ Approval was received during the third quarter and actual testing was done during the fourth quarter. Equipment difficulties delayed a decision as to the operational desirability of this area, but at the end of the report period, indications were that the Graz area would prove operationally desirable with the actual site to be located in the immediate vicinity of Thalerhof.

To provide COMINT consumers and technical agencies with a timely product, efforts by analytical personnel of the Operations Division were published in report form, bulletin form, as special releases, and as weekly notes. In support of technical agencies, the Operations Division published weekly technical notes on each of the missions assigned.² In support of consumer agencies, the division published special releases and studies as events occurred. A continued increase in the use of cable facilities for the exchange of technical data produced a well coordinated effort between all headquarters working on missions under study.³

Decentralization of the military problems from NSA to ASA Austria received strong consideration during the report period. During the last quarter, NSA and ASA representatives arrived to effect decentralization of these problems during the first quarter of fy 1955.

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"A" Branch

The strength of "A" Branch at the close of the report period was

1. Comd Rept, Hq ASA Austria, 8618 AAU, fy 1954, p26.
2. Ibid. p26.
3. Ibid. p27.

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¹ [redacted] In keeping with the operational expansion and increased workload, the branch was reorganized in April, 1954 with the DF plotting and evaluating team separated from "A" Branch and redesignated "D" Branch. Section organization consisted of Texta control handled by [redacted]. Here, Texta material was received from NSA; [redacted] and ASA Europe which was processed, posted and then distributed to other interested branches of the division and to subordinate units.²

Effective 1 March 1954, destruction of all Texta not pertinent to the mission of headquarters or subordinate units was authorized.³ This permitted smoother operation and dispensed with much wasted effort. At the close of the report period, 2,225 Texta cards covering 700 cases allied to the mission assignment of the headquarters were available. In June, the Mission Assignment Section was granted permission to contact NSA direct on problems related to specific assignments of interest.

"B" Branch

The mission of "B" Branch covered analysis of [redacted] [redacted] elements. This included traffic analysis, cryptanalysis, translation, and reporting responsibility for each of the analytical efforts.⁴ Operational strength of "B" Branch at the close of the year was [redacted] which represented a gradual increase. Coincident with personnel expansion, three individual processing sections were created, viz: translation, cryptanalysis and traffic analysis.

[redacted] nets were under

1. Comd Rept, Hq ASA Austria, 8618 AAU, fy 1954, p28.
2. Ibid. p29.
3. Ibid. p30.
4. Ibid. p31.

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analysis during fy 1954. OB studies were expanded on [redacted] networks and [redacted] networks. Although [redacted] intercept was received, no concrete analysis was being performed other than routine clerical traffic analysis and scanning of plain text language transmissions.

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The completion of [redacted] and [redacted] call signs were taken, facilitated the rapid identification of networks during the basic station trinome changes of July, September, and November. [redacted] also afforded traffic analysts more time in which to study the general workings of their nets and to compile statistical and operational data in preparation for an anticipated major call sign and basic station trinome changes on 1 January 1954.¹

The major development noted through traffic analysis during 1953 was the reorganization, accompanied by a reduction in force, which took place on the [redacted] network beginning early in October 1953. In November, the introduction of new basic station trinomes evidenced that the network was reduced by the disappearance of seven nets consisting of 32 stations. Simultaneously, it was noted that the basic station trinome allocation was also reduced by 35 trinomes. The basic station trinomes appeared to have been allocated in an OB sequence similar to the allocations for the period 1 January - 30 April 1953.

The change of 1 January 1954 included: keys, basic station trinomes,

[redacted]

networks, however, remained unidentified at the close of the report period

1. Comd Rept, Hq ASA Austria, 8618 AAU, fy 1954, p31.

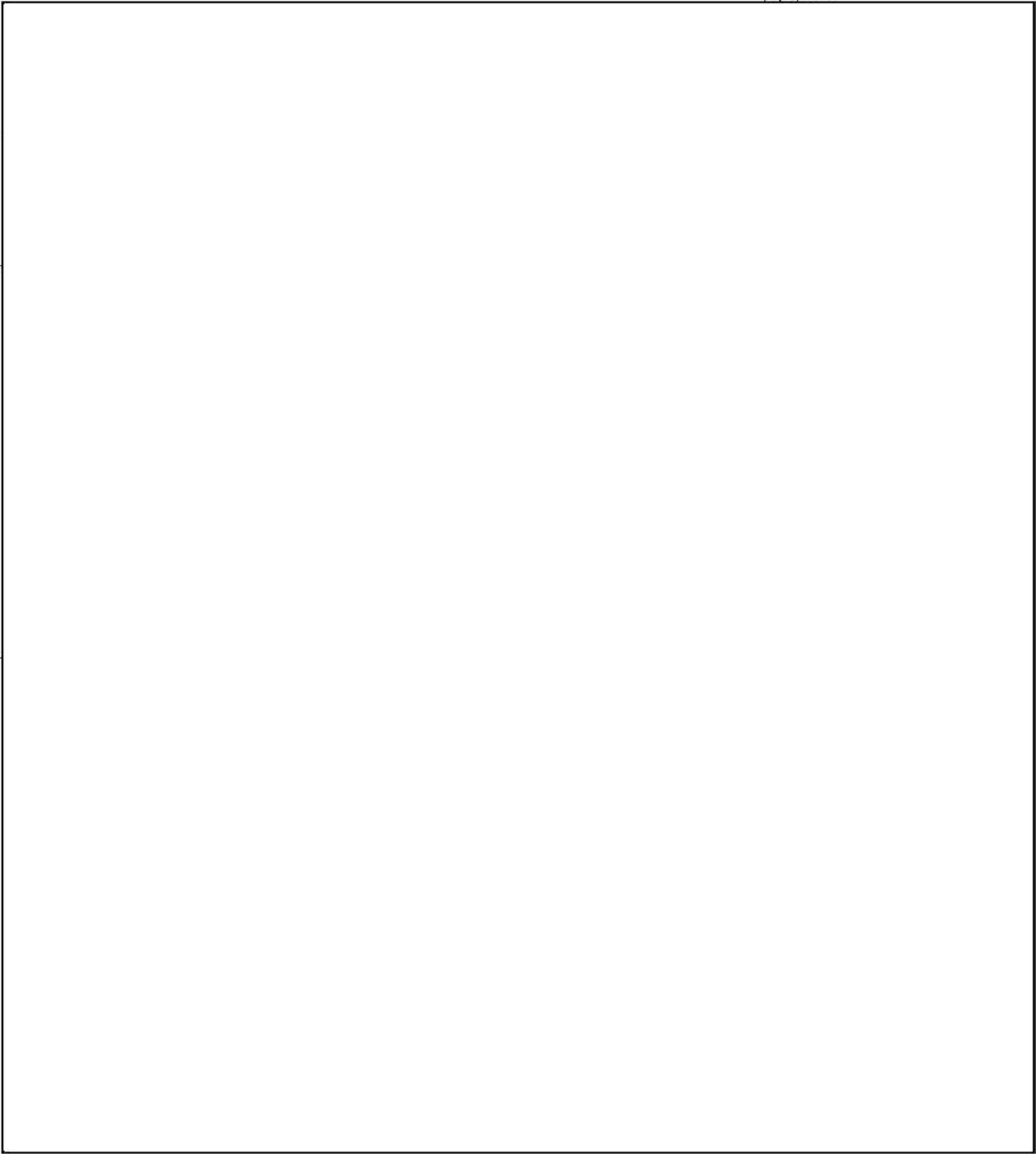
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due to lack of concrete evidence in establishing true identities.¹

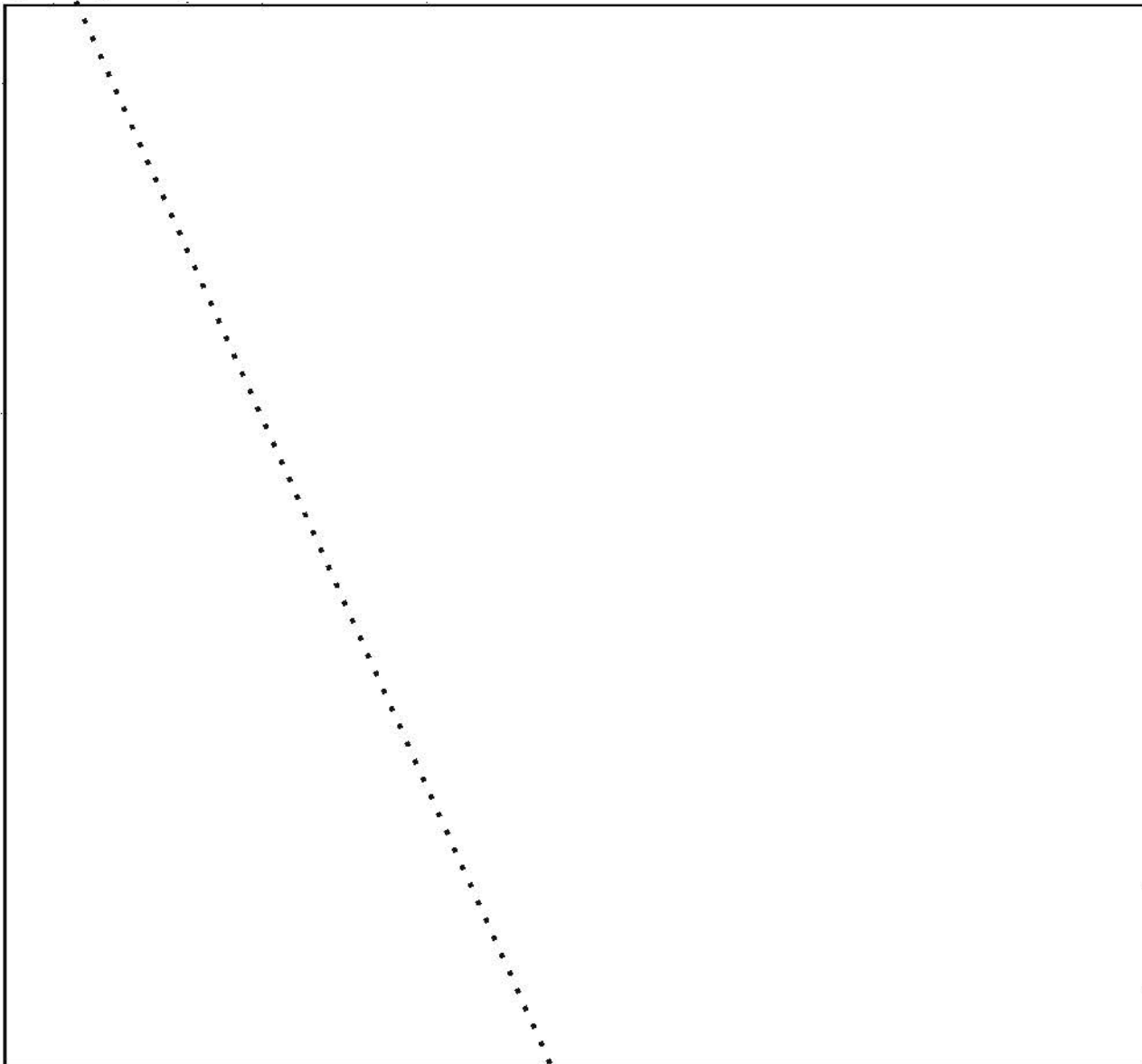
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1. Comd Rept, Hq ASA Austria, 8618 AAU, fy 1954, p32.
2. Ibid. p33.
3. Ibid. p33.

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During the report period, military Morse and Radio Printer (R/P) circuits serving the operated as in past years and reflected to some extent the intensity of various periods of field training and communications exercises.³ In some instances, it

1. Comd Rept, Hq ASA Austria, 8618 AAU, fy 1954, p34.
2. Ibid. p34.
3. Ibid. p34.

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was impossible to determine the exact meaning of some of the unusual activity occurring on these nets, due to the high degree of COMSEC characteristic of [] procedure. Suspected bonafide traffic on this problem yielded almost no results when attacked by cryptanalysts, and only one low level operator system was broken. Traffic analysis performed on the nets proved very profitable and continuity was maintained on major units of [] throughout the report period.¹

In July 1953, roughly the midpoint between the start and peak of the [] training cycle, the main net and several subordinate nets of [] were apparently involved in field training which had begun about the middle of June. This activity continued through July and became more intense throughout August. It was believed that a dummy net operated as the main net from 5 through 20 August 1953, to serve as cover for extensive training. After 20 August, unusual activity subsided gradually through September and October, until November, when only slight indications of field training were evident. During December, evidence of field training was observed in varying degrees on the lower echelon nets. On 11 January 1954, evidence of field training was once more apparent, becoming quite heavy during one period of the month and then tapering off during February. Following a lull which lasted until 11 February, indications of training became more intense on the lower echelon nets and continued through June 1954, with an occasional suspension during these months.²

1. Comd Rept, Hq ASA Austria, 8618 AAU, fy 1954, p35.
2. Ibid. p35.

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Procedure for this group was similar to that employed in years past,



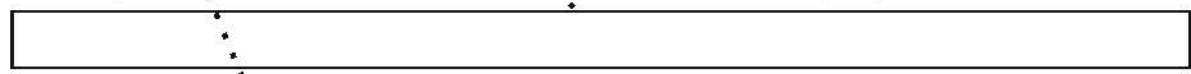
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Indications of field training activity were observed during the period 1 July - 15 October 1953. This activity could be divided into at least three phases. In November and December, it was believed that some type of communications exercise was in progress.¹

On 1 January 1954, [redacted]

[redacted] the main net consisted of one less outstation. A

new link appeared, apparently assuming the functions of the lost outstation on the main net. No continuities of identified subordinate nets were established during the report period. It was noted that the



employed by [redacted] nets could not be determined during the first eleven days of each month of the first quarter. On 1 March 1954 RMI nets unexpectedly switched to the use of "Weasel" keys.²

1. Comd Rept, Hq ASA Austria, 8618 AAI, fy 1954, p36.
2. Ibid. p36.

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This change was possibly due to the interference which occurred during the year 1954, when nets, [redacted] serving different areas, were noted. Indications of possible field training were observed commencing 8 March and continuing through 7 May. Summer field training was believed to have begun on 11 June and continued up to the end of the report period.¹

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Activity of nets serving the [redacted] was considered normal during the period July-September, with a very low volume of traffic being intercepted. On 1 October 1953, a period of suspected field exercise activity commenced, involving the lower level nets. On 9 October an extensive exercise was believed to have started, involving all nets serving the [redacted]. This period was believed to have ended about 18 October. Following this development, nets serving the [redacted] were more active than in previous months. Again on 5 December a probable exercise period began and ended about 27 December.

Commencing on 1 January 1954, "Chipmunk" keys were employed, but a complete re-allocation of basic station trinomes took place. A system of day and night trinomes with complete frequency rotas was introduced and the main net changed from operation as a series of links to operation as a star.² Activity on nets serving the [redacted] increased greatly during the period 1 January through 25 March, when another training period was believed to have started. This period of possible training extended through 13 April. On 15 May another possible

1. Comd Rept, Hq ASA Austria, 8618 AAU, fy 1954, p37.

2. Ibid. p37.

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phase of field training was noted which continued through June 1954.¹

"D" Branch

During the first and second quarters of fy 1954, the DF Plotting and Evaluation Section remained under the direct supervision of the OIC of "A" Branch and consisted of four DF analysts. The section remained as such until April, 1954 when a new branch was formed consisting of analysts to supervise the 328th CRC mobile DF net as well as the plotting and evaluating as performed by Hq ASA Austria.²

Throughout the report period, this branch relied on the 328th CRC mobile DF net and on the ASA Europe fixed net for all daily bearings received. "Shots" were then averaged and plotted every five days until the end of a fixed month at which time DF status and monthly notes were produced.³

In late July 1953, Detachment "C" located at Landshut, Germany was discontinued, leaving the 328th CRC mobile DF net with only Detachment "A" at Bad Aibling, Germany, Detachment "B" at Straubing, Germany, and Detachment "D" located at Wels, Austria. This left a base line of approximately 64 miles but, with bearings received from the ASA Europe fixed DF net, it was possible to plot and report the assigned mission. In October 1953, Detachment "D" (located at Wels) was redesignated Detachment "C." Immediately following this, Detachment "D" started testing at Trieste, and in the latter part of October, 1953, became operational once again, thus giving the mobile DF net a good base line.⁴

1. Comd Rept, Hq ASA Austria, 8618 AAU, fy 1954, p37.
2. Ibid. p38.
3. Ibid. p38.
4. Ibid. p39.

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On 9 November 1953, Detachment "C" ceased operations at Wels, Austria and moved to Weiden, Germany. This station did not become active until 20 November 1953, as considerable difficulty was encountered in re-locating the equipment. On 7 December, Detachment "C" became operational after several weeks of constant testing and Detachment "B" ceased operations.

On 2 April 1954, Detachment "B" departed Bad Aibling, Germany for Thalerhof Camp in the British Zone of Austria to test a possible DF site, thus providing for the establishment of a southern leg for the 328th CRC mobile DF net.

Much difficulty was encountered with the equipment brought to the Thalerhof Camp and in the first months, the unit was productive only fifteen days. Because of the urgency of putting Detachment "B" in operation, it was decided to rotate the equipment with that of Detachment "A" of Bad Aibling.¹ This located the older, more defective equipment close to the parent organization and also near a source of repair.

As the 328th CRC DF net was mobile, DF fixes reported were in accordance with the ASA DF SOP. As a result, reports reflected a great deal of MU (mobile unreliable) fixes, as the equipment and base line would not normally produce a fix of closer accuracy than 25 miles. In addition, this meant that no concrete assumptions on moves of target transmitters could be made other than in monthly reports.²

[REF: VOL. 7 P. 175]

1. Comd Rept, Hq ASA Austria, 8618 AAU, fy 1954, p39.
2. Ibid. p40.

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E. Africa

1. Field Station 8604 AAU, Asmara, Eritrea

During fy 1954, the operational mission of FS 8604 AAU (US Monitoring Station #4) remained basically unchanged from previous reports. Fundamentally, this consisted of intercepting, processing, logging and forwarding of selected radio traffic copied on assignments directed by Hq ASA and NSA in Washington.¹ The station went under NSA Europe control during the report period for technical support, including Texta.²

Internal organization of the station remained functionally unchanged. Organized under TD 92-8604, dated 28 December 1951, and effective 1 February 1952, the table provided a wide latitude for internal organization commensurate with availability of officer and enlisted personnel, mission assignment, and operating facilities.³

The Operations Branch, had a full complement of officers for the entire report period. At the end of the fiscal year, the station had 11-0. Enlisted strength of the branch at the outset of the fiscal year numbered approximately 117, however, commencing in November 1953 and continuing throughout the report period, an influx of operating and support personnel began arriving at the station until, despite the TD, strength at the end of the report period numbered 267, representing an overstrength of 2-0 and 65 EM.⁴

1. Ann Rept, FS 8604 AAU, fy 1954, p56.
2. Ibid. p66.
3. Ibid. p56.
4. Ibid. p58.

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Automatic Morse assignments remained essentially the same during the report period with the exception of dropping certain [] targets from the assignment.¹ In general, the []

[] At the beginning of the report period over 90 links were on assignment. This total had increased to 120 at the close of the report period. A definite trend was noted among [] stations changing from on-off keying to frequency shift keying (FSK) type transmissions. In April 1954, FSK intercept positions were increased from four to eight. Reception in all collection sections was generally fair throughout the year.

In the Manual Morse Section, the highest priority was afforded radio links and nets with control in [] and outstations lo-

[] Emphasis shifted from these assignments in October 1953, although it remained in effect [] manual search targets. As the number of operators increased, targets in the [] area increased.²

In January 1954, one general search position was assigned followed by an additional general search position assignment in March, 1954. From April 1954 and continuing throughout the report period, all available manual Morse positions were manned and operated 24 hours a day.³

At the start of fy 1954 the [] Voice assignment consisted of

1. Ann Rept, FS 8604 AAU, fy 1954, p60.
2. Ibid. p62.
3. Ibid. p63.

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[redacted] areas, plus search targets. This mission, assigned to one operator, was deleted from assignment in August, 1953. It was reinstated in December with emphasis on [redacted] targets. In April, 1954 the mission was changed with emphasis being placed on [redacted] and reverse. The voice mission was discontinued in June 1954 by NSA.

The Radio Printer mission for the station during the report period

Included [redacted]

[redacted]

[redacted] Teleprinter links included [redacted] and reverse, [redacted] and reverse, [redacted] and reverse, [redacted] (facsimile) and [redacted] (facsimile). In addition, search was to be initiated for new, inactive and/or unidentified [redacted] links, and unique type transmissions.

[redacted] Service Radio Printer links consisted of cases [redacted] and [redacted]. Search included all categories.

The [redacted] Radio Printer assignment included the Saigon to [redacted] link which was copied until October, 1953 then dropped from assignment.

Special missions included [redacted]

1. Ann Rept, FS 8604 AAU, fy 1954, p62.

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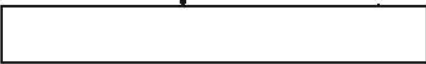



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P.L. 86-36

The Radio Printer Section was moved during June, 1954 in its entirety to a new location. Little or no intercept was lost during the move.

Analytical effort of the station during the report period included operator aid, traffic processing, and identification of unknown Morse and non-Morse cases.² Operator aid included identification of unknown call signs, preparation of logs and reports, systematic filing and posting of incoming COMINT information and employing the information, once obtained, to produce call sign generation, frequency rota and schedules required by intercept sections.

Traffic processing carried on included the checking of  traffic for validity, scanning of manual Morse traffic for changes in type of transmission, frequency and schedule changes, etc., segregating messages and forwarding desirable and prescribed traffic for transmission by electrical means.

Identification of unknown cases was introduced as a section function during the report period in view of the fact that manual Morse and Radio Printer assignments were such as to allow identification.³ Identifications made included, but were not limited to, 

 cases copied on general search were too numerous to enumerate.

1. Ann Rept, FS 8604 AAU, fy 1954, p62.
2. Ibid. p64.
3. Ibid. p64.

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The percent of cases identified increased from about 6% to 50% of all cases copied.¹ Radio printer identifications were not as high in view of limited copy.

The general scanning mission of [redacted] traffic was discontinued in December, 1953.² An early scanning mission replaced this, requiring the use of linguists not authorized by TD.³

During the first part of the report period, the Direction Finding Section assignments consisted of targets in [redacted]

[redacted] The DF mission was discontinued from December, 1953 until May, 1954, at which time, the section was reactivated and assigned a mission on all assigned targets parallel to that of manual Morse and Radio printer two-channel missions. DF results were considered generally fair during these periods.⁴

REF: VOL. I P. 187-

1. Ann Rept, FS 8604 AAU, fy 1954, p64.
2. Ibid. p65.
3. Ibid. p66.
4. Ibid. p62.

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F. Special Projects (TICOM)

Considerable information of value to the COMINT effort was obtained through TICOM activities in Europe throughout fy 1954.¹ In spite of increased security and a feeling of independence on the part of German nationals, important information relative European cryptologic and communications development was received. Sources were more fully exploited, and many important German contacts re-established. Some of these contacts resulted in foreign cryptologic devices being made available for inspection by NSA. Defector interrogation produced important information of a cryptologic and general communications nature, and constant liaison was maintained with defector centers.

An additional TICOM officer was assigned to the TICOM Section of ASA Europe during the report period. This resulted in increased production. Through liaison with NSA and other intelligence agencies, additional requirements in the fields of UHF, VHF, micro-wave and decimeter were assigned the section for exploitation.²

Although no TICOM activity, as such, is included in the ASA Pacific mission, information of value to the COMINT effort continued to be received from the Far East. This information was obtained through regular intelligence channels. At the end of the report period, planning had been initiated to establish a TICOM program at Hq ASA Pacific.

1. Qtrly Rept, ASA Programs, 1st Qtr, fy 1954, p26.
2. Ibid. 3d Qtr, fy 1954, p33.
3. Ibid. 1st Qtr, fy 1954, p26.

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