SECURITY INFORMATION

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Chief, SB Chief, EB Chief of Station, Frankfurt 16 May 1952

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HEDGOX/AERODYNAMIG

Transmittal of Progress Report for Project AERODINAMIG Period 15 April through 10 May 1952

Transmitted herewith is the Progress Report for the AERODYNAMID

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Project for the period 15 April through 10 May 1952, for your further

distribution.

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The resumption of W/T contact with last year's team did not have any immediate effect on the actual training program, although the planning side of the dispatch has of course been altered radically. On 28 April it was agreed, by the CASSOWARIES and the case officers, that the team should not know of the existence of W/T contact until it was absolutely necessary. This security scruple precluded any abrupt changes in the training schedule. ζ However now that CARTHAGES 10, 12 and 13, and no doubt 15 and 16, know that contact was re-established in late April, a substantial change in training becomes feasible, i.e., CARTHAGES 15 and 16 will begin intensive commo training on 12 May. It is therefore appropriate to describe in detail here and now what our training program has included during the weeks prior to the change (see Para 3 below on training). CASSOWARY 6 has lived with the team and trained with them during most of the period covered by this report. The morale of the team is exceptionally good.

The re-establishment of W/T Contact 2.

a. Security: By mutual agreement with the CASSOWARIES, it was decided that none of the CARTHAGES would be told about the revival of the radio link until it was absolutely necessary, i.e., until we have received DZ's and a reception committee has been arranged. Although nothing was said to the CARTHAGES on the subject at first, (CARTHAGES 10, 12, and 13 were officially informed by CASSOWARY 4 and 6 that the last team sent in had made W/T contact with the west. This was several days following the contact.) They claim that on 28-29 April they suspected the revival of the radio link by noticing smiles on the faces of several American staff members. However, and more to the point, by sitting near an adjoining room in which CASSOWARTES 4 and 6 were loudly and indiscriminately discussing the new contact, the CARTHAGES, including 15 and 16, unofficially learned of the good news. The CARTHAGES were nevertheless, discreet enough not to mention to anyone the fact that they knew what had happened, nor did they betray their knowledge by any exuberance. Actually it mattered not that they did find out about the W/T contact revival in the manner described above. CASSOWARIES 4 and 6 informed them officially shortly thereafter.

b. Net Effect on Planning: If we are provided with reception committee DZ'S and regular W/T contact, there should be no necessity for sending in the whole five-man team. If CAWNPORE requests the dispatch of additional W/T operators, CARTHAGES 10 and 12 would be the logical men to send. CARTHAGE 13, although fully trained in commo, is the last we have who is sufficiently familiar with methods of getting personal, local contact with CAWNPORE elements on the blind. It is therefore deemed preferable to hold him here at least until we get another man with this talent out of the Ukraine or until we are confident that there is a minimal danger of the commo link breaking down again. In the cases of CARTHAGES 15 and 16 we have two men who are untrained in radio. We propose putting these two men into commo training immediately. It will be remembered that CARTHAGE 15 has good aptitude for Morse and CARTHAGE 16 has practically none.

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However, have all seen how much patience, ambition, and concentrated energy this man has put into the other parts of his training course. All the case officers believe that his drive will overcome his lack of natural aptitude as it did in the case of CARTHAGE 1 back in 1949. CSOB/K has given its assurance that there is enough commo equipment on hand in Germany to meet any reasonable resupply request from CAWNPORE. More special rubberpadded bass and boxes for radios, dynamos etc, will now have to be built by of the Airborne Section, who has already lived through two drastic changes in packing plans.

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3. Training: The following subjects were taught the team during the period:

La. <u>Radio theory</u> and practical application of theory was taught by Karl J. Oshinsky to all members of the team and included:

i. Explanation of how various batteries work and how they may be used with the RS-1;

ii. Antenna theory with emphasis on radiation characteristics, orientation and length calculation;

iii. The electron theory and how it applies to the operation of vacuum tubes;

iv. Methods of radio tuning;

v. Practical repairs, i.e., how to change a tube, the replacement of minor components, how to allign the set when replacing it into its outer box;

vi. The functions of insulators and conductors;

vii. The functions of each part of the RS-1 transmitter and receiver.

b. <u>Basic electricity</u> was also taught to all the team members and included:

i. A description of electrical circuits in general;

ii. The components of electric circuits;

. iii. A discussion of various sources of electricity (generators, batteries);

iv. The theory of current flow;

v. The electron theory of positive and negative charges;

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vi. Comparison of water and electric current flow through various resistances;

vii. Ohms law;

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viii. The production of electrical energy by chemical action;

ix. Magnetism and electromagnetism;

x. Explanations of different electrical devices, i.e., how transformers, condensers, resistors, coils, fuses, etc. operate and how they are constructed;

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xi. Detailed coverage of motors, generators and meters.

c. <u>Map Problems combined with Cross-country hikes</u>: All the team members participated in this training along with the case officers and CASSOWARY 6. These problems included:

i. Compass reading;

ii. Map orientation;

iii. Map reading;

iv. The drawing of azimuths;

v. The location of one's exact position on a map.

The team members were divided into two groups at the beginning of each problem. Each group was told to march five to eight kilometers to a designated point along the most direct cross-country route. The routes were worked out by the men themselves and then they drew their azimuths on their maps. After each group reached its point, then worked out an azimuth from its first point to a predetermined rendezvous spot where both groups joined up and proceeded on foot back to CSOB/K. Since each such problem was an all-day affair covering a distance of over 20 kilometers, the physical conditioning aspect was invaluable in preparing the group for any future long-distance marches they might have to take. This type of training will be continued until the CARTHAGES are dispatched.

[e. <u>Demolitions</u>] This training was conducted by ______ in the manner listed below:

i. The first four hour period of instruction consisted of terminology, safety precautions, familiarization with equipment, and practical work with non-electric equipment. Materials used were blasting caps, time fuse, fuse lighters, primacord, TNT, and composition C-3.

ii. Practical work consisted of each of the CARTHAGES preparing, placing and setting off small charges, tamped and untamped. Simultaneous charges were set off with primacord with emphasis on complete primacord circuits for double firing efficiency.

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iii. The second four hour period consisted of terminology, safety precautions, familiarization and practical work with electrical hookups. Materials used were electric caps, wire reel, blasting machine, galvanometer, primacord, TNT, and composition C-3.

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iv. Each of the CARTHAGES prepared and set off electrical charges, working in teams with one man placing the charge and the second man checking the circuit with the galvanometer from the point where the electrical charge was to be applied. Charges were set off in series using one electrical cap per charge. Simultaneous charges were set off in series using one electrical cap plus primacord.

v. Before the next period of practical instruction in the field, the CARTHAGES received a two hour lecture on the calculation of charges, placing of charges, and the benefits of tamping. This material was not presented until after the CARTHAGES had worked in the field, giving them a better understanding of the material presented.

vi. The third day of practical work in the field was devoted to the cutting of railroad tracks and timber at Landsberg area "B". Both electrical and nonelectrical hook-ups were used. Several different sets of charges were set off to allow the CARTHAGES to demonstrate to themselves the proper amount of charge, and the most practical spacing of charges for removing the desired length of rail.

vii. In cutting timbers the CARTHAGES placed charges on various sizes of trees and cut the trees in such a manner that the tree fell in a direction indicated.

viii. The fourth day in the field the CARTHAGES were given the assignment of knocking out eight iron reinforced concrete (20" x 20") posts supporting a concrete overhead, simulating a bridge span. Six pounds of composition C-3 were placed at the base of each post and was well tamped. The charges were fired with a non electrical hook-up using primacord. The results were good; Each post was blasted completely free of its base.

iz. The CARTHAGES have retained well all demolition material presented them thus far, and have proven to be excellent students, very thorough and safety conscious.

f. <u>Driving</u>: Since all CARTHAGES already know how to drive, the present training is merely intended to increase their proficiency. This requires only two hours per man per week. An army jeep is used for this course.

g. <u>Photography:</u> Although all five members of the team had some photo practice during this period, CARTHAGES 15 and 16 spent more time at it than any of the others. CARTHAGES 15 and 16 have shown more aptitude in this field and it was felt that they should be the "specialists" in photography just as

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CARTHAGES 10, 12 and 13 are in commo. (All the men in the team are competent at photographing documents, etc. under field conditions, but CARTHAGES 15 and 16 are superior.) Even before it was determined recently that they will also be trained in radio, (see para 1 above) the case officers had to impress upon these two new men that they are not just being sent along to lug equipment and crank a generator. Eight hours were devoted to realistic practice with the Minox camera during this period.

h. <u>Simulated Communication between Field and Base:</u> ran extensive code, danger signal and message composition problems separately with each of the CARTHAGES W/T men. <u>Jacted as "the Base" and, using</u> "live" code pads (similar to those used on the actual W/T link), composed and exchanged messages, cable correspondence with "the Field", i.e. CARTHAGE 10, 12 and 13. This private tutoring included:

a. Encode and decode practice;

b. Meticulous practice in the correst use of the actual danger and control indicators assigned to each man for his forthcoming mission;
c. Cable composition and editing.

Not only was private, individual instruction required to ensure that each operator understood the use of his danger indicators perfectly, but the assignment of a completely different set of such indicators to each man made private instruction indispensible to the security of the indicators. Thirty hours was devoted to this instruction. Both the case officer and the trainees learned a great deal during those hours.

i. <u>Physical Training:</u> (Except on those days when dawn-to-dusk field problems were scheduled (See Para 3c above), the CARTHAGES received a daily dose of indoor exercise lasting an average of one hour. This exercise comprised long distance runs, rigorous calesthenics and volley ball. All three American staff members usually took part in this hour.

i. Discussion of what will be carried by whom;

ii. Improved methods of packing;

iii. The elaboration of ways to reduce weight or bulk;

iv. Discussion of what will be done with each item of equipment after the team has landed, i.e. what will be buried and what will each man keep;

v. Modification of equipment;vi. Subdividing and packing of money and maps;

vii. Waterproofing equipment by using plastic, bags and dubbing;

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viii. Saddle-scaping of boots and all other leather items;

ix. The construction of leather thongs and belts.

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Since it still has not definitely been decided who goes and who stays the preparation of equipment and supplies for each man will continue until the final packing and carrying method has met every one's satisfaction. Even if a message should come from the field radically changing our packing and supply plans, the hours spent to date will not have been wasted for a tremendous amount has been learned by the case officers about what a team should and should not carry if it is going in on the blind to survive independently in the woods. It should be remembered that this is the fourth team prepared for dispatch under Project AERODYNAMIC. It should also be remembered that only in this project have there been agents in training who come out of the Soviet Union after 1947 (two came in 1949, six in 1949 and two in 1950, i.e. ten all told,) with three to eight years experience in woodland survival already under their belts. It clearly follows that this project has taught more about the do's and dont's of supplying teams for black survival than any other project. What has been learned over the past four years is the subject of a study report now in preparation.

4. Special Requests for Headquarters:

a. If John Reshetar's book on the 1917-21 period of Ukrainian history has come off the Princeton University Press yet, we would like five copies.

b. Failing and policy commitments or other forms of official encouragement to CAWNPORE, we wish that Headquarters would collect and forward to CSOB a collection of newspaper and periodical clippings from the U.S. mon-Ukrainain press so that we may send in to CAWNPORE some printed evidence that they have political support in the U.S.

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5. CARTHAGE 3:

The issue of what the future bodes for this man will be handled in a separate memo since the issue has not yet been finally decided.