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AQUATONE BRIEFING PAPER FOR THE JOINT CHIEFS OF STAFF  
RE GUIDED MISSILES, ATOMIC ENERGY, AND LONG RANGE BOMBERS

Gentlemen,

We propose to define for you the unique role which AQUATONE-type photography plays in the production of National Intelligence estimates, which provide the basis for important decisions affecting the National Security. All of the principal objectives we will discuss fall into those strengths that have been determined by the National Intelligence Community to be the most significant in the Soviet ability to strike at the United States.

These are: The Soviet guided missile system, the Soviet nuclear weapons production program, and the Soviet long-range bomber force.

Our present intelligence on all of these critical Soviet capabilities still contains major areas of uncertainties. A significant quantity of our existing information on these strengths is fragmentary, and, consequently, our present estimates, in some cases, admit to significant margins of possible error.

US defense plans, and budgets to support them, involve vast sums of money and allocation of effort, and, admittedly, are at present based on information having these margins of possible error. Accordingly, such plans and budgets can be materially affected by reducing these margins. And we feel that in the AQUATONE system we have an important tool in reducing these possible errors.

In the critical field of Soviet guided missile development, we find some of our major intelligence gaps. Other intelligence sources have provided knowledge of at least 260 ballistic missile firings on the KAPUSTIN YAR range since 1953. We have never seen a Soviet ballistic missile. We have had only limited information regarding launching pads, erection and handling equipment, guidance installations and equipment, test stands,

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fuel storage, and other associated launching devices. Data on these items are essential for a firm statement as to the size, type, and pay load of missiles, guidance systems, and types of engines used for propulsion. This type of information is vital for the production of estimates of present and potential Soviet missile capabilities.

During AQUATONE operations in July of 1956 two small probable missile facilities were photographed, but it was not until about two weeks ago that we had actually seen a major physical facility supporting the USSR ballistic missile test program.

Now, at TYURA TAM, we have photographed and can study in detail a relatively new rangehead still under construction. The overcast on the far oblique in this display obscures our ability to identify what is probably the actual launching area--with its associated equipment, and--conceivably--actual long-range missiles. There is, however, considerable information on the rangehead support elements. The TYURA TAM photography is the first visual evidence of a facility bearing on the Soviet ICBM test program. A complete, unobscured coverage could have given indications not only of the status of the program but possibly the timing--a critical element in the guided missile estimates, and--at the moment--would be particularly useful in an evaluation of current Soviet claims on ICBM progress. We intend to go back as soon as operationally feasible to clarify the launching site at TYURA TAM.

MOZHAYSK--which we stumbled on in a 1956 mission--has us baffled at the moment. We cannot say conclusively that it is associated with the atomic energy or the guided missiles program. A canvass of outstanding engineers in both these fields has failed to resolve this question. Additional photographic coverage now or in the near future may allow us to find the answer. If it is associated with the guided missile program, it could make vital differences in our estimates of the Soviet missile program.

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nuclear weapons program of sufficient quality to satisfy our needs. Now, we have our first pictures of what may be a uranium ore processing facility in the **FERGANA** Valley of south central Russia. This also was a fortuitous discovery, photographed in a mission directed against other objectives. It is expected that the photography of this plant--which may be a Soviet version of Oak Ridge--will permit an accurate assessment of the production of uranium-bearing ores and metals by this complex and give important information on Soviet processing techniques.

We also have obtained the first photographs of the nuclear weapons proving grounds at **SEMIPALATINSK**, at a moment when preparations had been completed for a test. If luck is with us, this photography--taken only a few hours before the latest Soviet nuclear test--should give us direct evidence of the scientific and military requirements of the Soviet nuclear weapons test program, its test instrumentation and effects arrays, and it should provide a valuable aid to the analysis of intelligence derived from other sources.

Satisfactory coverage of other known or suspected Soviet facilities for the production of materials critical to the nuclear weapons program, such as the cluster of installations in the Urals which includes **NIZHNAYA TURA**, **VERKH NEIVNSK**, and **KYSHTYM**, would give us information on electric power consumption, cooling water consumption, plant arrangement and size, new construction, and other physical details which, when analyzed, should enable us to make a much better estimate of Soviet critical material production. The validity of our production estimates bears directly on our estimate of the ability of the USSR to satisfy current and future requirements for all types and numbers of nuclear weapons and for the diversion of these materials to peaceful use.

This photography may have a significant bearing upon our ability to assess accurately the requirements and limitations of physical inspection of Soviet nuclear facilities under any potential disarmament and inspection agreement.

With regard to our needs for direct evidence of the numbers and types of stock-piled Soviet nuclear weapons, complete coverage of nuclear weapons stock-pile sites associated with operational Soviet military units should permit us to estimate the maximum storage capacity available to

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Our principal estimative problems with regard to the Soviet long-range bomber force relate to its capabilities for attack on the US, in numbers and types of delivery vehicles available to the force as well as the availability of nuclear weapons of various types. While our exploitation of a wide variety of intelligence data has permitted broad estimates of the strength and capabilities of the long-range bomber force, there are significant gaps which we believe could be narrowed by additional photographic coverage. Photography of MOSCOW/FILL, the only known producer of BISON jet heavy bombers, has enabled us to determine more precisely the production capacity of the plant. Similar photography of the aircraft factories at VORONEZH, KUYBYSHEV, KAZAN, and IRKUTSK--(identified from other sources as producing or capable of producing heavy bombers)--would enable us to measure their actual and potential production capabilities with a degree of precision not now possible.

Our knowledge of the true stature of the Soviet heavy bomber force has been limited not only by lack of precise information on production facilities but equally by the lack of first hand observation of the home bases of this force.

Analysis of various types of intelligence, [redacted]

[redacted] SARATOV/ENGELS in European Russia and UKRAINA in the Soviet Far East are major BISON bases and that CHEPELEVKA and BELAYA TSERKOV are major BEAR bases. Photography confirming this belief would provide bench marks enabling us to ascertain far more accurately than is now possible the size and deployment of Soviet heavy bomber forces.

Valuable intelligence by-products also can be anticipated as a result of the coverage of the primary systems we have discussed. Reute photography can be expected to yield significant details of other Soviet air installations, transportation systems, industrial facilities, and other economic and military targets which could be of a significance only slightly less than the information we anticipate on primary objectives. One of the outstanding bonus effects that we know will be derived by future exercise

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of the AQUATONE capability will be an increase in our knowledge of Soviet air defense capabilities.

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This increase in knowledge will result in a firmer basis for operational plans that involve employment of our nuclear strike force. And it also must be noted that the exercise of the AQUATONE capability over otherwise largely inaccessible areas of the Soviet Union could reveal installations and activities of a completely unknown but highly significant nature. In the TASHKENT area of the Soviet Union, close to the Afghan border where we had previously known only of the deployment of Soviet tactical aircraft, photography has revealed an airstrip of approximately 15,000 feet in length is under construction. The establishment of such a facility in an area not normally considered to be the site of long-range air force operations opens up a new region of research into possible Soviet plans for employment of its long-range aircraft. As a specific by-product, AQUATONE photography yields terrain information from which accurate radar navigation and bombing charts can be construed.

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