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BYEMAN-TALENT-KEYHOLE-COMINT  
Project IDEALIST-OXCART-CORONA-GAMBIT-  
QUILL- [REDACTED] -DORIAN- [REDACTED]

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**ANNUAL REPORT**  
**TO THE**  
**PRESIDENTS FOREIGN INTELLIGENCE**  
**ADVISORY BOARD**  
**ON THE**  
**ACTIVITIES OF THE**  
**NATIONAL RECONNAISSANCE PROGRAM**

1 NOVEMBER 1964 — 31 OCTOBER 1965

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IDEALIST/OXCART/CORONA/GAMBIT/QUILL

██████████ DORIAN ██████████

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models. The double replication method of producing this mirror is continuing but has less emphasis than formerly. Successful replications have been accomplished on flat mirrors up to 65" -- the stereo mirror size. This work will be continued although fused silica mirrors may also be used here on initial flight models.



DORIAN: In December 1964, agreement was reached between NASA, the Bureau of the Budget, the Secretary of Defense, and the

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President's Scientific Advisor to make the development of technology contributing to improved military observational capability a primary objective of the Manned Orbiting Laboratory (MOL) program.

A number of concurrent studies were initiated and resulted (in June 1965) in a recommendation to the Secretary of Defense to authorize the Contract Definition Phase. Primary emphasis was on development of manned optical reconnaissance system as a means of achieving the earliest capability of a ground resolution of [REDACTED]

[REDACTED] A camera incorporating a lens with an aperture of 60-inches would be the primary payload, with growth identical to systems capable of even better resolution.

In August, the major contractors were selected and the President publicly announced his decision to proceed with the MOL development. Although not announced, the primary mission of MOL was confirmed as high resolution photographic reconnaissance. The program proceeded with the requirement that the optical sensor be designed to function in either a manned or unmanned mode with essentially the same performance in each.

During October 1965, negotiations were completed for contracts for the definition phase with Douglas Aircraft Company for the Laboratory Module, the General Electric Company for the Mission

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Module, and Eastman Kodak for the Optical Payload. All reconnaissance aspects of the MOL program are protected in the BYEMAN security system under the codeword DORIAN.

RADAR: QUILL is a project to demonstrate on orbit the feasibility of satellite-borne radar for terrain reconnaissance and to define a more sophisticated radar designed for specific satellite reconnaissance application.

On December 21, 1964, the QUILL feasibility payload consisting of a modified off-the-shelf aircraft side-looking radar was successfully orbited by a THOR/AGENA booster combination. The equipment demonstrated a ground resolution capability of 100 feet or better, and obtained radar imagery data by both recovery and electronic readout methods. The radar signals received in the satellite were stored on film and wound into a standard MARK V recovery capsule. The data were also transmitted in real time to one of two tracking stations and recorded on both photographic film and recorded on a magnetic tape as an intermediate storage device from which pictures were later made. Thus, the QUILL feasibility demonstration produced three types and different quality products -- the recovered film, the film obtained from direct readout, and the film obtained from the intermediate storage on the ground tape recorder. Radar operation during this mission was

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