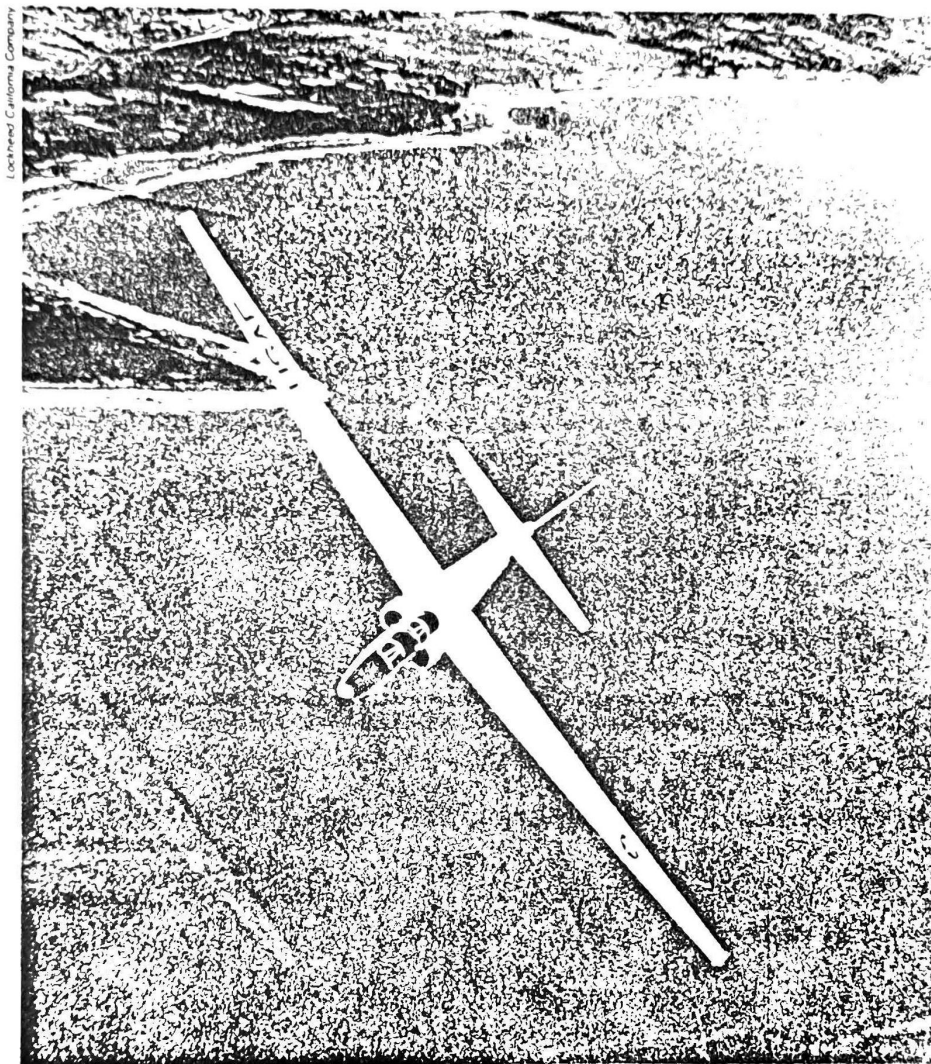


Lockheed U-2

by Jay Miller



Prototype TR-1B, 80-1064, poses for Lockheed photographer Bob Ferguson during a pre-delivery test flight off the California coast

Aerofax, Incorporated
Austin, Texas

PREFACE

Born, bred, and sustained in a hotbed of secrecy and intrigue, Lockheed's enigmatic U-2 has doggedly carried out its surreptitious surveillance and research missions day in and day out over a period that has now spanned nearly a third of a century. Somewhat surprisingly, age has detracted little from the U-2's mystique and undeniably incredible performance. Capable of routinely cruising at altitudes that had been considered, at its birth, the domain of only the most exotic experimental research aircraft types, the U-2 remains unparalleled in the art of sustained high-altitude flight.

When the high-altitude reconnaissance aircraft program leading to the U-2 was first conceived in late 1953, it was established by the preliminary proposal team that a high-cruising altitude capability in excess of 70,000 feet would be manda-

tory for the specified mission. The U-2, after "winning" the rather unorthodox design competition, went on to achieve that required altitude, and significantly higher, almost from the day of its first flight. It was, and still is, a feat unmatched and virtually unchallenged in the annals of subsonic aircraft development.

In 1983, although changed considerably from the first configurations to enter production, the U-2, under the TR-1 designator, is once again in series production for the USAF. Additionally, the U-2R, on which the TR-1 configuration is based, has reentered production for sale to the Air Force and several non-indigenous intelligence agencies.

Because of the classified nature and awesome performance capabilities of the U-2, the aircraft has grown in stature and mystique as the years since its first unveiling have passed. What follows

is the most authentic and technically accurate history of this precedent-setting aircraft yet published. From design study to present production status, the U-2 story is herein documented.

And readers please note. Like many of his colleagues, the author has become sensitized to items that are truly politically and/or militarily sensitive. Readers will not find such material in this book. As a point of interest, every statement, fact, or figure presented in this publication has been gathered from unclassified or declassified documents and all interviewees were given editing privileges. Additionally, it should be mentioned that many aspects of the U-2 program remain classified due to their direct relationship to current sensitive U-2 configurations and mission profiles. Again, nothing about these facets of the program appear in this volume.

Jay Miller
July '83

ACKNOWLEDGEMENTS

The published history of the Lockheed U-2 has been a long time in coming. The reasons for this are seemingly manifest in the aircraft's *raison d'être*, but suffice it to say that this was only the first of many barriers that had to be overcome. The author found, like many researchers before him, that the aura of secrecy surrounding the U-2 was at times more smoke-screen than legitimate barrier. It was only through the efforts of people who were truly intimate with the program and who had legitimate insight into the author's objectives that the story was eventually told at all.

For the first time, the efforts of many individuals and agencies intimately involved in the U-2 program have been brought together in order to create a virtually definitive work covering all aspects of the aircraft and its history. As readers might expect, there were several contributors

who requested that their efforts remain unacknowledged. I grant that wish with regret. To you select few, special thanks.

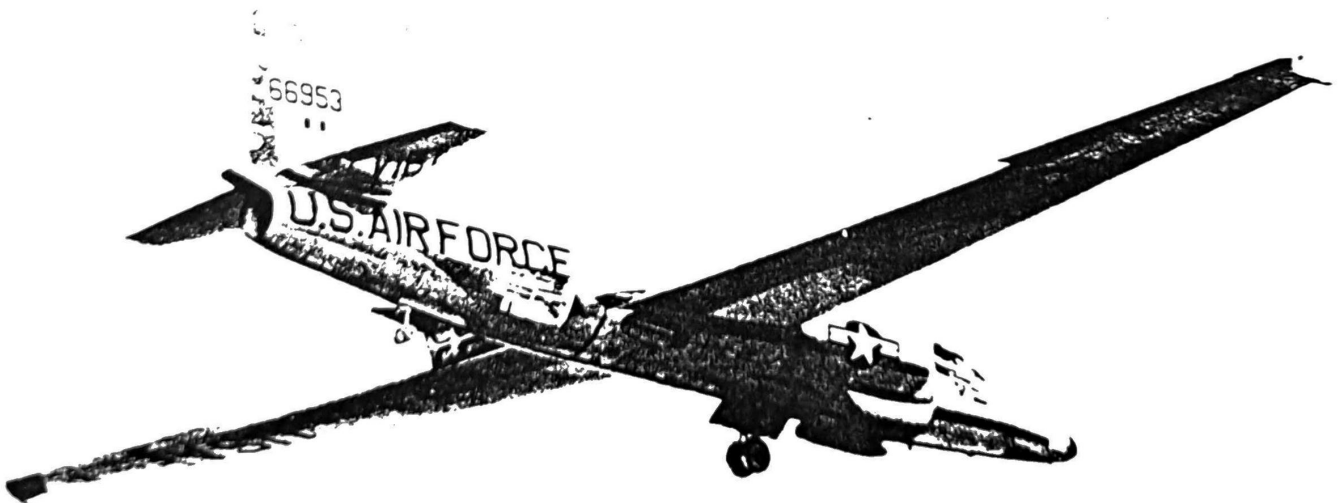
What follows then, is a list of friends and associates who made innumerable important contributions to this book, and who deserve all the thanks I can bestow through the written word:

John Andrews of the Testor Corporation, Jim Goodall, Bob Lawson, Pat Groves, Bruce Halllock, Don Webster, Tommy Thomason, Chuck Hansen, Ben Koziol, Harvey Lippincott and Harry Keiner of the United Technologies Corporation, Bob Ferguson, Ben Rich, Ray Goudey, and Jeff Fellows of the Lockheed-California Company, Bob Birkett, Bob Schumacher, Robert Archer, Chris Pocock, Tony LeVier, Vinko Dolson, Doug Campbell, René

Francillon, Ph.D., Chris Borden and Bob Danielson of NASA Ames, Paul Swendrowski, Dave Menard, Dick Hallion, Ph.D. and Lucille Zaccardi at the Edwards AFB Historian's Office, Brian Rogers, David Anderton, Col. George E. Daniels and the staff at *Air University Review*, Paul Binder of the Lockheed Missiles and Space Co., Danny Schweers, Ted Bear, Walter Boyne of the National Air & Space Museum, Gerald Balzer, Joe Newland of Tracor Aerospace, Lewis and Janet Shaw, Deke Hall, Tom Ivie, Chuck Banks and Aero Publishers, Theron Rinehart of Fairchild Industries, and Chuck Davis (for the outstanding and meticulously executed multi-view drawings that grace many of the pages in this book).

Last but far from least, Susan Miller, Anna Miller, and Miriam Miller are offered a special word of thanks—with love.

Allent Gable and Chris Pocock



U-2A, 56-6953, landing at RAF Upper Heyford in 1962, during an early TDY assignment in England. Air Force U-2's were still several years away from being painted in all-black, low visibility paint scheme. Note the particulate sampler on port side of fuselage, just ahead of the main gear well.

tive of forming a number of advisory groups to examine the various aspects of military planning and weapons both here in the US and around the world. James R. Killian, then president of the Massachusetts Institute of Technology, became chairman of one of these committees, which was saddled with the responsibility of determining the possibility of a surprise attack by the Soviets. Thanks to the efforts of a peripheral intelligence panel, the Killian Committee was soon introduced to the Air Force's new high-altitude reconnaissance airplane program and shortly thereafter on November 18, 1954, was briefed by Seaberg on the four contending configurations proposed by Bell, Fairchild, Lockheed, and Martin.

The Seaberg briefing took place in the DoD office of Lt. Gen. Donald Putt, Air Force deputy chief of staff for development. Seaberg recalls that he was not introduced to the 15 or so distinguished scientists making up the majority of the Killian Committee, but he recalls that there were a number of prominent faces in the crowd.

"Nobody announced who they were (tight security measures were really starting to close down). But from the technical questions I got I could tell there were aerodynamicists, propulsion, optics or camera, and other experts in the group. Dr. Edwin Land may have been there, but I really met him as an individual much later (1957 or 1958). This group was aware of Johnson's (CL-282) proposal by the time of this meeting. What I did was present the results of my comparative analysis of all four designs. I showed the relative high altitude performance capabilities of all four. I pointed out that aerodynamically the Bell, Fairchild, and Lockheed designs were close. Martin's B-57, being a modification, was not quite as capable. I stated that, in my opinion, the J73 would not be good enough to do the job in Johnson's airplane. And further, I overlaid a curve showing that with the J57 installed, it would then be competitive with the Bell and Fairchild designs."

Because of Johnson's ability to move freely within the confines of the Department of Defense (DoD) and intelligence communities, his contact with the CIA's Charyk proved an important foot in the door during the critical decision making period that led to the high-altitude reconnaissance airplane program hardware contract. While work on the Bell Model 37 and RB-57D programs moved ahead rapidly under the direction of the Air Force, Charyk and CIA director Allen Dulles saw, with a little prompting from Johnson, that Lockheed's CL-282 proposal had merit and might, indeed, prove to be an exceptional sensor system platform on its own if mated with the proper powerplant. They also concluded that a far more clandestine intelligence community effort might be more appropriate than the Air Force's and that a diversionary program, in the form of the Model 67, might not hurt the intelligence community's proposed project. The latter, to all intents and purposes, offered the same intelligence gathering capability with substantially less red tape.

The Killian Committee was not long in being convinced that the Lockheed aircraft, with a change in powerplant, was ideal for the proposed mission. Johnson, by that time, had agreed to completely redesign his CL-282 and incorporate the recommended J57 powerplant. Conveniently, a decision to uprate the F-104 to the new General Electric J79 was also in the mill in the Lockheed advanced development projects office at this time, and though the J79 and J57 were not related in any way, the redesign of the F-104's fuselage laid the groundwork for the redesign of the J57-powered CL-282.

Johnson's CL-282 design team consisted of some twenty-three select engineers including his immediate assistant design chief, Dick Boehme

The team operated out of a small facility within the confines of Lockheed's Burbank, California plant. Nicknamed the "Skunk Works" after Hairless Joe's foul smelling Dogpatch Kickapoo Joy Juice factory in the Al Capp *Li'l Abner* comic strip that appeared regularly in newspapers around the world for almost half a century (Al Capp referred to it as the "Skunk Works," Lockheed has since trademarked the name Skunk Works to avoid a conflict of interest with the Al Capp title) the operation had been in existence as Lockheed's advanced design projects office since the days of the company's P-80. Low key and ruled absolutely by Johnson, the "Skunk Works" was (and still is) one of the most efficient in-house design and production plants in the US.

The Killian Committee's opinion was soon delivered to Secretary of Defense Charles Wilson and Central Intelligence Agency Director Allen Dulles. In late November, convinced of the merits of the program, Wilson and Dulles decided to brief President Eisenhower. Eisenhower would later recall, "Back in November 1954, Foster Dulles, Charlie Wilson, Al Dulles, and other advisors had come to me to get authorization to go ahead on a program to produce twenty special high-performance aircraft at a total cost of about \$35-million. A good deal of design and development work had already been done. I approved this action."

At this time, Charyk brought Richard Bissell, an economist who had taught at both Yale and MIT, in to direct the CIA side of the new program. Bissell recalls, "Towards the end of November (1954), I was summoned one afternoon into Allen's (Dulles) office and I was told, with absolutely no prior warning or knowledge, that one day previously President Eisenhower had approved a project involving the development of an extremely high-altitude aircraft to be used for surveillance and intelligence collection over 'denied' areas in Europe, Russia and elsewhere. And Allen, after perhaps 15 minutes of explanation of the background of this undertaking told me that in half an hour I was to go over to the Pentagon and present myself in Trevor Gardner's (Under Secretary of the Air Force for Research and Development) office. When I arrived, Trevor Gardner, Gen. Don Putt, Gen. Irvine, and several others were already there. We were to decide, between us, how the project was to be organized and run. My most vivid recollection of this meeting is of the telephone call put through at the end by Trevor Gardner to Kelly (Johnson) in which he gave him

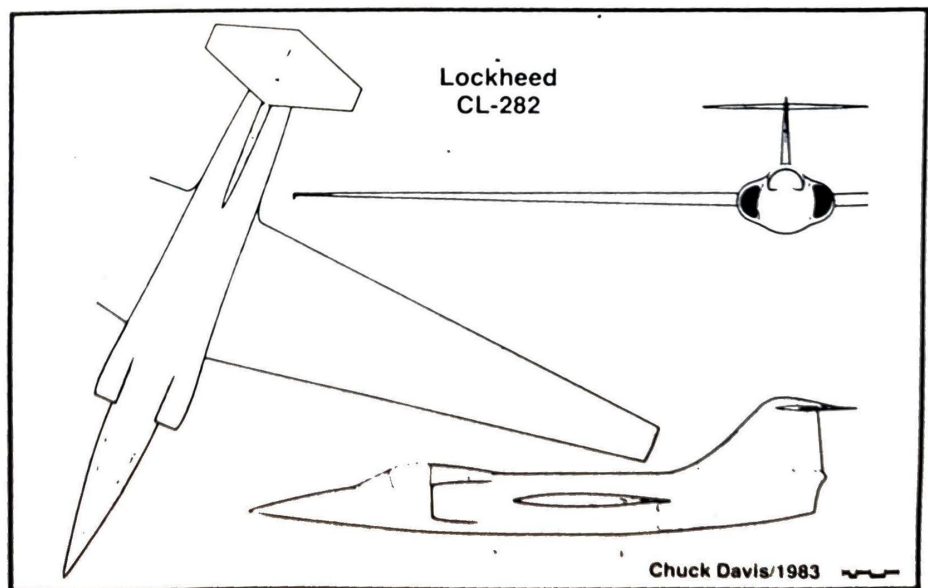
a go-ahead on a program to develop and produce 20 aircraft."

Eisenhower had agreed that the funding and direction of the project, soon to be code-named *Aqualone*, would be through the offices of the CIA with Richard Bissell selected to head it. Though some Air Force money was to be utilized in the acquisition of J57 powerplants for the program, the service's main job (with Jean Kiefer working under Bissell as the chief liaison between the service and the Agency) initially would be to act as a front for the Agency and contract with Lockheed for development of the aircraft. The special engines would be mixed in with a contract for conventional J57's ordered to power Boeing B-52's, North American F-100's, and Convair F-102's. Because of the sensitivity of the project, the Air Force would handle its part directly from headquarters.

At a later date, it was expected that the Air Force would absorb U-2's into its inventory, these coming both directly from the Lockheed production line, and also from the CIA inventory. Additionally, a decision was also made to create cover publicity by releasing information stating that the aircraft had been developed as a high-altitude research tool for use primarily by the National Advisory Committee for Aeronautics (NACA).

Funding for the new aircraft, the contract for which was signed on December 9, 1954, was to come from a secret CIA special reserve fund. Eventually, some \$54-million was allocated, with \$8-million being returned by Lockheed following a 15% underrun (yet another example of Kelly Johnson's masterful program directorship).

On November 9, 1954, Trevor Gardner visited with Lockheed President Robert Gross and Kelly Johnson at Lockheed's Burbank, California facility. Following a review of the full-scale U-2 mock-up, Gardner gave them official confirmation of project approval. As both parties knew that Bell's Model 67 (by now officially designated X-16 as a cover by the Air Force) program was moving ahead rapidly, it was agreed that the completion date and first flight of the new Lockheed aircraft would have to be expedited. Johnson promised that the first aircraft would be in the air no less than eight months after the first metal was cut. Finished drawings were already rolling from Lockheed drawing boards and actual construction of the first aircraft was scheduled to begin in early January. "Kelly's Angel," as the new aircraft would soon be called, had just taken wing.



Chapt. 3: KELLY'S ANGEL

In November of 1954, with the new recce aircraft approved for production, Johnson and a small team of about fifty engineers began putting in 100-hour weeks in order to meet the promised 8-month first flight date deadline. From a design standpoint, the new aircraft was technologically demanding. Because of the extraordinary cruise altitude requirement, weight and drag became the overriding design considerations. Every facet of the airframe structure and external shell design was governed by its relationship to the basic empty weight of the aircraft and its total drag at cruising altitude.

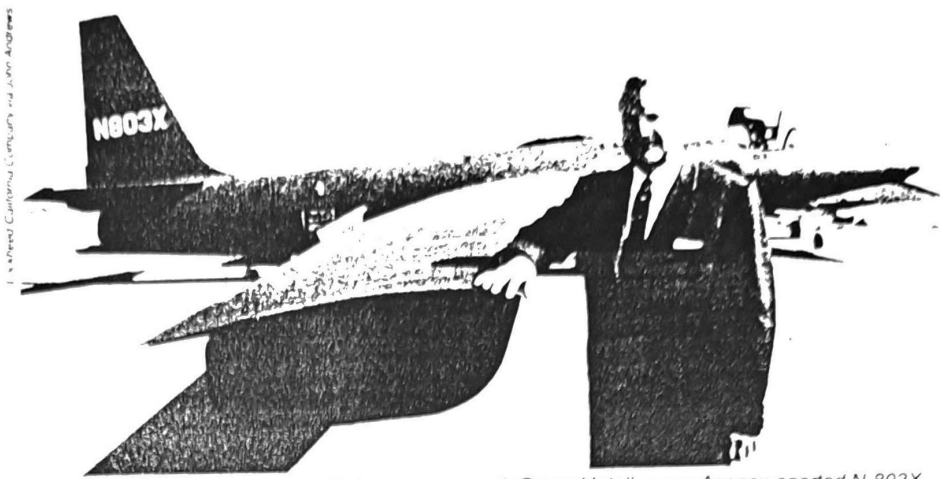
Among the unique weight-related accomplishments of the design program were the following: wing weight was kept to an almost unbelievable 4 lbs. per sq. ft.; the landing gear was a bicycle arrangement with the heaviest component consisting of a single main strut (jettisonable pogos mounted mid-span on each wing were provided for balance); the tail assembly was attached at the empennage section to the fuselage by only three bolts; the side-opening canopy was manually opened and closed; the control system was unboosted hydraulically actuated systems were kept to the bare essentials; there was no cockpit pressurization; and the pilot emergency egress system was manual—there was no ejection seat.

The Agency had agreed to the acquisition of an initial batch of twenty aircraft. These were to be built at the Burbank plant (and later, as additional orders for the aircraft were placed, in a plant at a small town called Oildale, near Bakersfield, California) and then transported to a newly dedicated secret flight test facility in south central Nevada on the southwest corner of the three-and-a-half-miles-in-diameter Groom Dry Lake.

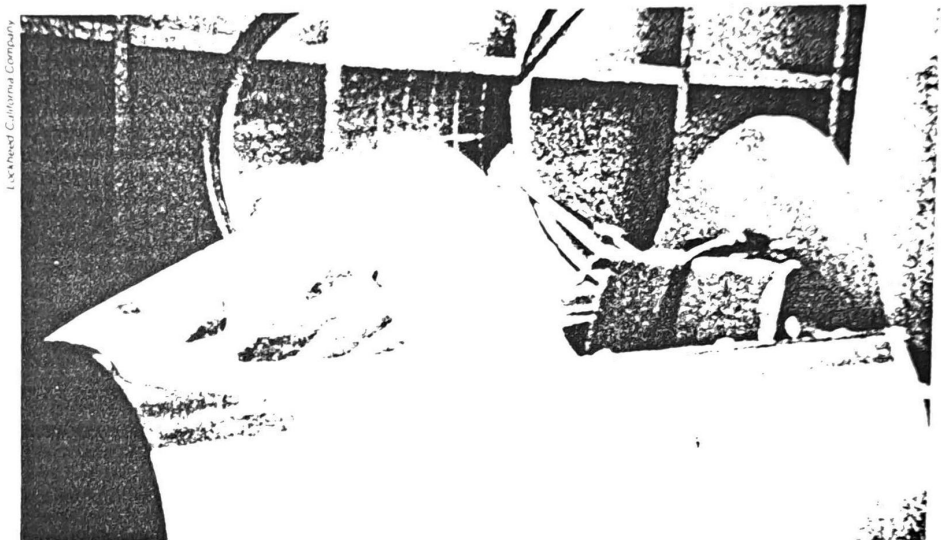
The Groom Lake operation was the end result of a decision to conduct the flight test program, and later, the pilot training program, under the tightest security constraints possible. While construction of the first aircraft got underway at Burbank, Lockheed test pilot Tony LeVier, who had been assigned to the high-altitude recce aircraft project as chief test pilot, had been given the responsibility by Johnson of locating a suitable site ("remote, but one not too remote") for the forthcoming flight test program.

Before embarking on the search and find mission, LeVier spent several days plotting a circuitous route covering hundreds of potential test base sites in southern California, Nevada, and Arizona. Taking chief Skunk Works foreman Dorsey Kammerer with him, he commandeered a company Beechcraft Bonanza and departed Burbank on a two week mission to photograph and explore desert areas offering potential as flight test bases. The search eventually led LeVier to the Groom Lake site. After returning to Burbank, he reviewed the many areas he and Kammerer had visited, and, following a detailed appraisal, placed his conclusions on paper in the form of three prioritized choices. Groom Lake, approximately 100 miles northwest of Las Vegas, Nevada, and literally within rock-throwing distance of the nation's largest nuclear weapons test facility, was ranked number one.

Johnson's initial reaction to the site was decidedly negative. He was not at all excited about conducting a flight test operation near an active Atomic Energy Commission nuclear weapons test site, and the lakebed was significantly farther



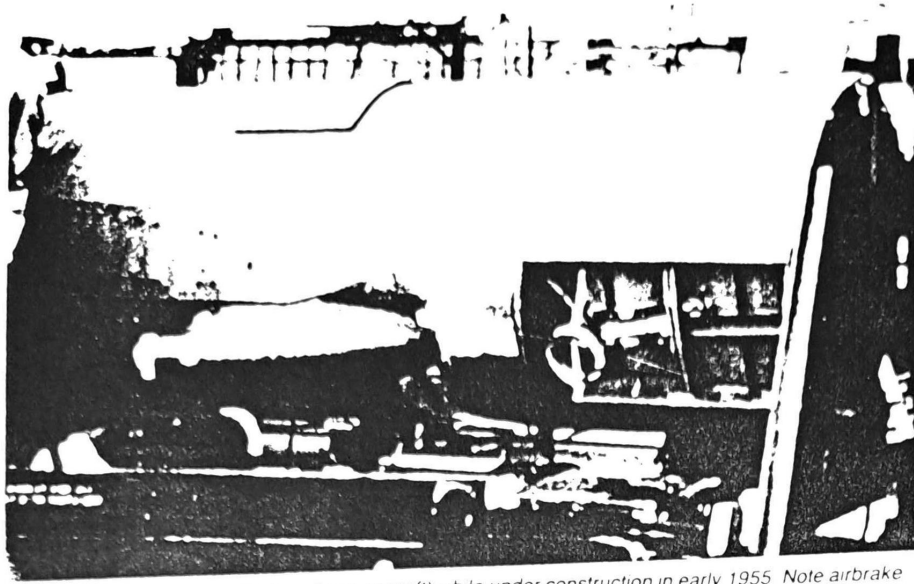
The inimitable Clarence L. "Kelly" Johnson poses with Central Intelligence Agency-operated N-803X. Agency aircraft were the first to be painted black overall. Note "sugar scoop" under exhaust nozzle.



First published photo of the U-2 forward fuselage mock-up. Note that canopy was hinged on the starboard side of aircraft and that there was no ejection seat.



Still, taken from Lockheed film about the U-2, shows the first two prototypes (top center) under construction inside Lockheed's Burbank, California Skunk Works facility. Wing jigs are visible in the lower left of photo.



Lockheed California Company

Starboard side of Article 341 (number 1 aircraft) while under construction in early 1955. Note airbrake well and powerplant section oil cooler intake.



Lockheed California Company

Skunk Works personnel hand-carry the vertical fin for Article 341 prior to installation on the aircraft. Article 341 fuselage is in the background.

from Burbank than what he had in mind. Following a reappraisal, however, and the realization that the AEC security restrictions would, in effect, act as an umbrella for the Groom Lake operation, Johnson recanted and agreed to accept LeVier's recommendation. Shortly afterwards, LeVier, Johnson, and Bissell flew to Groom Lake for a more detailed inspection.

Similar in most geological and environmental respects to the well-known flight test facility at Edwards AFB, Groom Lake offered the attributes of an expansive dry lake bed and exceptional remoteness. Flight test operations from the site would definitely not draw much attention—unless Johnson was concerned about the spying activities of tarantulas and tumbleweeds.

Once the site was located and approved, a construction team volunteered by the AEC was sent to Groom Lake in order to build a single north-south runway and rudimentary accommodations for the flight test team. These were placed on the southwest corner of the dry lake along with several water wells, two large hangars, several fuel storage tanks, and several temporary buildings. Unfortunately, most of the Groom Lake con-

struction took place during the hottest part of the year in Nevada and work crews suffered tremendously in the 100-plus degree heat.

While work on the facility took off at a high rate of speed, LeVier spent nearly a month driving around the lakebed in a pick-up truck cleaning up rocks and other surface debris. At this time he also put together a proposal calling for four 3-mile long runways (technically giving a total of eight different take-off and landing directions) to be marked on the lakebed. LeVier knew from experience that such visual references would be important during the forthcoming flight test program as dry lake beds offered few visual clues for depth perception during landing. Somewhat surprisingly, when Johnson was presented with the runway idea and the fact that it would cost a nominal \$450 to accomplish, he turned it down. The money, he said, simply was not available in the budget.

By July of 1955, the first aircraft was nearing completion. Due to the security surrounding the project, an official designation had yet to be allocated, so in-house at Lockheed and the Agency it was simply referred to as the "Angel" or the

"Article" (the Agency had assigned a series of in-house article numbers to the new Lockheed aircraft; the first aircraft was Article #341). Additionally, pilots were called "drivers," and the Groom Lake site was known as "home plate." The latter would later be semi-officially designated Watertown Strip and still later nicknamed "The Ranch," but for now, secrecy prevailed and the officially allocated sobriquets, stuck.

In early July, the number-one aircraft (assigned in-house Lockheed number 001 temporarily and flown without it), was loaded in a disassembled state aboard two Douglas C-124s and flown to the Groom Lake test site for final assembly and the initiation of the preliminary flight test program. Upon arrival, the main fuselage and wings were off-loaded via special transport trailers and moved into one of the two large Groom Lake hangars. Once inside and devoid of the special canvas covers protecting the wing and lightweight aluminum skin from damage, Lockheed technicians flown in from Burbank began the task of final assembly.

Some two weeks were consumed in the final assembly process, and after completion, the aircraft was pulled from its metal hangar by truck and trailer for the first time. Unpainted and unmarked except for the US insignia on the intakes and a small 001 on the vertical fin (the only released static photo of the U-2 prototype shows these numbers at the top of the fin, but there is some evidence to support claims that they were airbrushed on the photo, and actually were not on the real aircraft), it was now prepared for the first static engine runs.

Being a prototype, Article 341 was significantly different in detail from its successors to follow. Among the more noticeable prototype indicators were a canvas sunshield mounted on support cords (later aircraft would have the sunshield painted on the inside of the canopy); skid fairings that extended to the wingtip trailing edge; no drag chute housing above the engine exhaust port; no driftsight dome; no tracking camera dome or fairing; no fairing on the main landing gear door; and no bolt access panel forward of the empennage section break line.

Static engine tests were initiated in late July and these were followed on July 29th by preliminary taxi trials. The runs were made about 100 yards off to one side of the single north-south runway, on the lakebed proper. As LeVier recalls the event, Johnson had requested that the first run be made at a speed of 50 knots. After ingressing the aircraft and strapping in, LeVier started the engine and signalled that all was in the green in the cockpit.

The first run was in a northerly direction roughly parallel to the runway. With the aircraft manually aligned by the tow truck, LeVier now advanced the throttle and watched as the airspeed indicator wound rapidly to the 50 knot mark. The throttle was then retarded and the brakes gently applied. LeVier noted immediately that brake response was poor, and commented to that effect when Johnson and the other team members drove up in a chase car. Johnson claimed the brake problem was due to the fact that the brakes had not yet been broken-in. He commented to LeVier that there was nothing to worry about.

A second run to 60 knots, in an easterly direction, was now requested. Moments later, LeVier and the "Angel" were again on their way. Sixty knots was reached without difficulty and when LeVier attempted to decelerate, he again noted the brake problem. When Johnson and his observers arrived after LeVier had rolled to a halt

LeVier again mentioned the faulty brakes.

On the third run, which Johnson requested be made to 70 knots, the aircraft was aimed in a southwesterly direction. LeVier advanced the throttle again and watched as the airspeed indicator needle moved toward the 70 knot mark. As 70 knots was reached, the throttle was retarded and LeVier began to work the ailerons in order to develop some feel for how they might perform during a real landing. It was only then that he became aware of the fact that the control response was for real: the Angel, sometime back, had quietly parted company with Groom Lake.

LeVier's lack of depth perception on the lakebed, and the lakebed's glassy, smooth surface had failed to give him any sensory indication that he was actually airborne. Unfortunately, the realization of flight occurred after the throttle had been retarded, and as many Angel pilots to follow him would soon discover, the J57 was not an engine noted for quick throttle response at low airspeeds. Nevertheless, LeVier now slammed the throttle forward in an effort to accelerate. Stall buffeting had begun to shake the aircraft and as LeVier quickly discerned, he was headed for trouble unless he could make a prompt recovery. Seconds later, the Angel returned to earth, hitting the lakebed hard and blowing both main gear tires before bouncing back into the air one or two more times as the engine surged to life. The throttle was now retarded again, and this time, the Angel settled to earth to stay. Brake application netted little response, and the airplane rolled for over a mile before coming to a stop.

All of this had, of course, been witnessed by Johnson and the other team members on the lakebed. By the time they arrived at the stationary aircraft, LeVier had begun to extricate himself from the cockpit and had already reached several conclusions. A debriefing session followed, at which time he placed heavy emphasis on the fact that the brakes were extremely poor and that the lack of runway markings was extremely hazardous. That evening work was initiated on the installation of dual brakes on the main gear assembly while the runway marking request remained undecided.

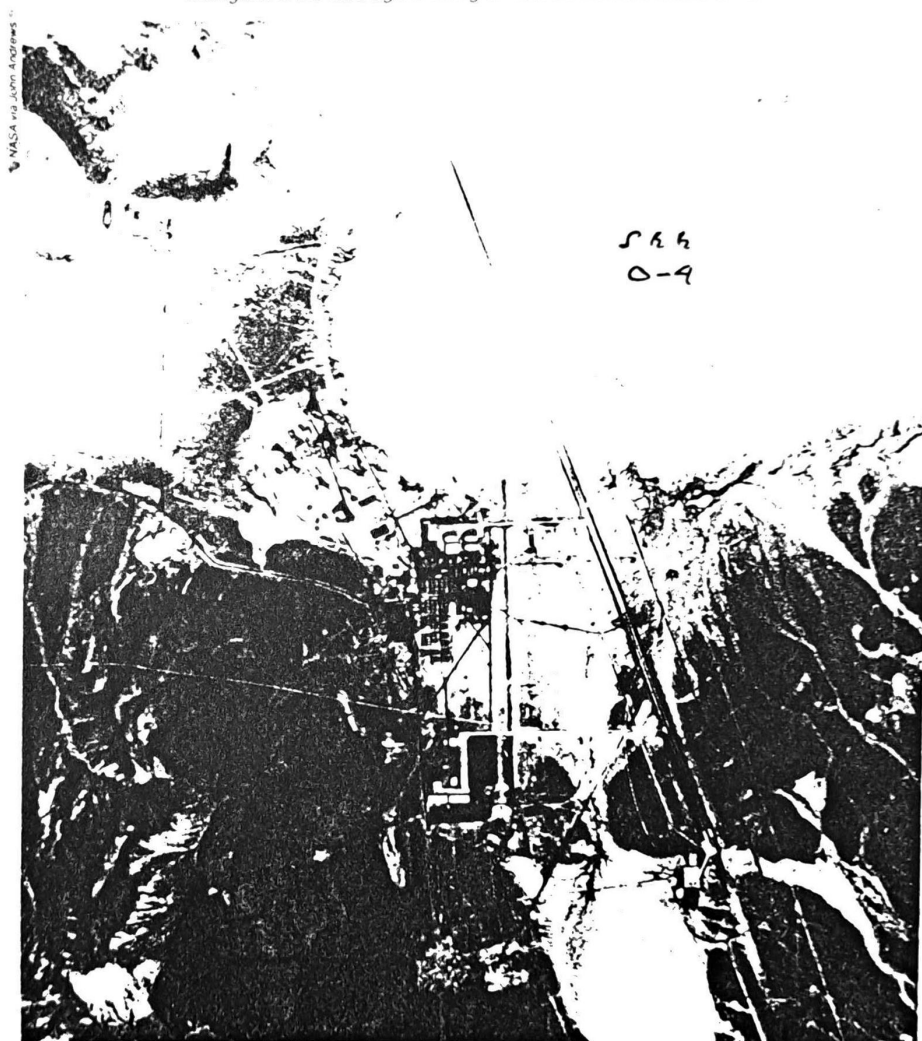
On the morning of August 1, 1955, Kelly Johnson, Ernie Joiner, Glen Fulkerson, Bob Murphy, and several other team members watched as LeVier climbed into the prototype "Angel" in preparation for its first legitimate flight. Given the call sign of "Angel 1," the aircraft was to be chased by a company-operated T-33 with Johnson and test pilot Bob Matye (who was soon to become the second pilot to fly the "Angel") as observers.

LeVier recalls that prior to the first flight he had several conversations with Johnson concerning the landing technique to be utilized. Because of its unique zero track landing gear, Johnson insisted that the Angel be landed main gear first. LeVier, antithetically, had argued that it should be stalled-in with the tail wheel touching first. Johnson rebutted, insisting that the "Angel's" high-aspect-ratio wings differentiated it from the landing characteristics of such bicycle gear equipped aircraft as the swept wing B-47 (pilots of which LeVier had interviewed at some length in order to prepare for the first "Angel" flight). In the end Johnson's philosophy prevailed, and at take-off time, LeVier promised to attempt to land the aircraft as Johnson had recommended.

LeVier recalls that the first take-off and climb went perfectly and that he encountered no problems or difficulties during the ascent. Leveling at 12,500', he spent the following 45 minutes cycling the landing gear, deploying and retracting the



Wings for Article 341 are off-loaded from a Douglas C-124 at Groom Lake on arrival day. In the background the fuselage is being off-loaded from a second C-124.



One of the least-known major flight test facilities in the world, Groom Lake is located about 100 miles northwest of Las Vegas and just south of 9,000' tall Bald Mountain.

Dear Mr. Johnson;

Sir, I know that you will have no way of remembering me, but I was among the first whom you hired and trained as an aircraft installer in Bakersfield for work at unit 80 in Oildale, Calif. from Feb. 1956 to Nov. 1957.

Thankyou for that opportunity which training has permitted me to remain in the Aerospace industry and to grow into my present position as an infrared research technician.

Noting your activities in the past, I know of no one else better qualified to ask the following questions of-

1. Enclosed in "A" is a document which purports to be true. Research into the subject seems to justify that concept i. e. "B" enclosed underlined. Do you know Sir if this document is true?

2. It has been a number of years since the production of the U-2's. Those who worked on that project (no doubt) are very proud of the contribution they made in building a vehicle which has been such a great service to this country in keeping us aware and prepared for the machinations fomented by the Soviets. Noting the current trend to belittle or degrade the importance and purpose of such projects in the public eye, will such past projects as the U-2 ever be de-classified so that those who worked on same may take pride in the public awarness for so doing as did Mr. Garry Powers?

Sir I would appreciate and respect a reply to my query though I know that you are a very busy man.

Thankyou for your time.

Sincerely

Lee M. Graham
L. M. Graham
526 W. Maple
Monrovia, Calif.
91016

LOCKHEED CORPORATION

BURBANK, CALIFORNIA 91520

C. L. JOHNSON
SENIOR ADVISOR

5 November 1980

Mr. Lee Graham
526 W. Maple
Monrovia CA 91016

Dear Mr. Graham:

I do not have any comments on Enclosure A of your letter regarding flying saucers which you document so well.

In regard to discussions on the production of the U-2's, we have never been freed from the security regulations as to how many, or where the U-2's were built. Gary Powers was given special permission to publish his experience, but I don't know who to ask for getting the information on production birds.

Sincerely,

C.L. "Kelly" Johnson

Clarence L. Johnson

The White House Years

WAGING PEACE

1956-1961

Dwight D. Eisenhower



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The U-2 reconnaissance program had been born of necessity. In the middle fifties the United States found itself, an open society, faced by a closed Communist empire which had lost none of its ambitions for world conquest, but which now possessed, in airplanes and guided missiles armed with nuclear weapons, an ever-growing capacity for launching surprise attacks against the United States. As long as the Communist empire remained closed, this capability would become ever more dangerous. It could grow without our knowledge; it could mobilize for instantaneous attack; at the very least its hierarchy could continue to attempt blackmail campaigns, boasting of a nuclear strength and delivery capability out of all proportion to that which actually existed.

To anyone bearing responsibility for the security of the United States, the situation was highly unsatisfactory. When I had submitted the "Open Skies" proposal at Geneva in 1955 we knew that, if taken seriously and agreed to by the Soviets, it would have done much to reduce this danger to the United States and the chances of a global war. The Soviets were unwilling to present to the world this valid evidence of a desire for the peace they professed to want. The proposal was never even seriously considered.

Obviously we had to have accurate intelligence. In the circumstances Allen Dulles believed that the answer was a new type of aircraft being built specifically for high-altitude reconnaissance missions.

Back in November of 1954, Foster Dulles, Charlie Wilson, Allen Dulles, and other advisers had come to see me to get authorization to go ahead on a program to produce thirty special high-performance aircraft at a total cost of about \$35 million. A good deal of design and development work had already been done. I approved this action.

"Go ahead and get the equipment," I said, "but before initiating operations come in to let me have one last look at the plans."

Foster agreed with the decision.

"Of course difficulties might arise out of these operations," he said, "but we can live through them."

Secrecy was of the essence. Any leak of information either at home or abroad could compel abandonment of the entire idea. Consequently, all conferences affecting it were held only at the highest level; even the manufacture and assembly of the plane were so conducted as to minimize the chances that its intended purpose might be exposed to public gaze. Within the White House itself, according to my recollection, the only persons aware of the existence of these planes were General Goodpaster, Gordon Gray, and, somewhat later, Goodpaster's principal assistant, my

son. The son
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son. The small consultative group I assembled had as its members the Secretary of State, the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, the Director of the Central Intelligence Agency and one of his special and trusted assistants, Mr. Richard Bissell.

The importance of the effort at that time cannot be overemphasized. Our relative position in intelligence, compared to that of the Soviets, could scarcely have been worse. The Soviets enjoyed practically unimpeded access to information of a kind in which we were almost wholly lacking. For example, some years earlier a book had been published by a member of the Atomic Energy Commission giving detailed descriptions and locations of several of our most important nuclear establishments. At almost every book store in important cities accurate maps of important bridges, industrial establishments, highways, and railroad centers in the locality were available to any traveler in the country. No so in the Soviet Union, a region in which information of this kind was known only to a selected few, and to no foreigners. On top of this we knew that the Soviets maintained in America an active and comprehensive spy system from which there was constantly pouring into the Kremlin information of the kind that in the event of war might be decisive. Considering all these things, I approved the recommendation of the intelligence chief that he employ the U-2 reconnaissance planes over Soviet territory.

The U-2 was more of a flying glider than a conventional airplane. So large were the wings and so light the construction that wheels were provided for the wingtips to prevent them from dragging on the ground on landing and taxiing. Several characteristics made the U-2 an almost ideal craft for its purpose: It was constructed in such a unique configuration that there was little chance of its being mistaken for a bomber; it was capable of carrying heavy camera equipment to altitudes well in excess of sixty thousand feet, high enough to be safe from any known Soviet fighter interceptors. Proof of the plane's capacity to produce photography of excellent definition was striking. I was shown photographs, taken from an altitude of seventy thousand feet, of some of our important cities. On these we could easily count the automobiles on the streets and even the lines marking the parking areas for individual cars. There was no doubt about the quality of the information to be obtained.

We then tested the probability of the U-2s being discovered by the Soviets as it flew over the territory of that nation. So, a number of test flights were made over our own country. Even though our radar systems had been warned of strange airplanes flying over our national territory, the U-2 flights were either unseen or were tracked imperfectly. This gave us confidence that, in the then-existing state of radar efficiency and the inability of fighter planes to operate at altitudes above some fifty thou-

A-13
A-12

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RICHARD M. BISSELL, JR.

THE EXCHANGE, FARMINGTON AVENUE, FARMINGTON, CONN. 06032 TELEPHONE 203 - 677-2043

30 July 1987

Mr. Lee M. Graham
526 West Maple
Monrovia, California 91016

Dear Mr. Graham:

I received the material you sent me under date of 29 June about the Majestic 12 operation. I read it with very great interest but, despite my deep involvement in overhead reconnaissance and, more generally, in technical intelligence matters during the '50s, I have no previous knowledge of this operation. I'm afraid, therefore, that I cannot make any informed comment on the authenticity of the briefing document, which was under enclosure B4. I knew many, indeed most, of the members of Majestic 12 therein listed, but this was an investigation of which I had no knowledge then and, until receipt of your communication, have had no information since.

I'm sorry I can't be helpful. The document certainly looks authentic. On the basis of the material you have sent me I personally have little doubt that it is authentic. As to your view that it has been deliberately released to influence governmental decisions, this is a matter on which I cannot form a judgment.

Very sincerely yours,

Richard M. Bissell, Jr.
Richard M. Bissell, jr.

ftp

Washington Roundup

Secret Range

U. S. Air Force has closed 90,000 acres of public land in the Groom Mountain range contiguous to the eastern boundary of the north secret test range of Nellis Air Force Range, Nev., without fulfilling legal requirements for an environmental impact statement. John O. Rittenhouse, deputy for installations management to the deputy assistant secretary of the Air Force for installations, environment and safety, told the House Interior and Insular Affairs public lands and national parks subcommittee that top-level Reagan Administration officials made the decision to close the range to public access for "national security reasons." This area is to be used only as a buffer and not for the siting of any targets or other "environmentally significant activities," he said. The Groom Mountain site is next to the 2.94-million-acre Nevada Test Site for advanced technologies, such as the stealth fighter and Strategic Defense Initiative hardware and was the place that Lt. Gen. Robert Bond, vice commander of the U. S. Air Force Systems Command, was killed in a crash in April (AW&ST May 7, p. 13).

Real growth in defense spending averaged 9% annually from Fiscal 1981-84, versus the Reagan Administration's March, 1981, proposed real increase of 13% over the last Carter Administration projection for the period. According to an analysis by the Library of Congress, actual appropriations totaled \$983.4 billion, \$25.5 billion or 2.5% below original Administration projections. Congress approved 97.5% of Reagan's Fiscal 1981-84 budget spending level in real terms. This realized \$90.9 billion, or 10.2% more, than the Carter Administration budgeted for the same period.

Commercial Space

NASA briefing to industry on the Reagan Administration's new commercial space policy drew about 100 corporate representatives—a strong turnout since only about one day's notice of the meeting was provided. Primary interest focused on tax incentive provisions (AW&ST June 25, p. 40; July 30, p. 16). The Administration will use executive orders to enact as many of the provisions as possible.

Sen. Malcolm Wallop (R.-Wyo.) startled a meeting of the House Republican Study Committee last week by charging that the Defense Dept. was not behind President Reagan's \$26-billion research program on a space-based defense against intercontinental ballistic missiles. Wallop praised Air Force Lt. Gen. James A. Abrahamson, director of the Strategic Defense Initiative Organization, who was present, but added, "Apart from Gen. Abrahamson, the people working on this effort in the Pentagon are conducting business as usual without enthusiasm to build defensive weapons on their watch." Abrahamson countered: "I believe I have very, very strong support."

Computer Delay

Interagency decision to attach access conditions to a \$12.5-million Cray X-MP/22 supercomputer system to be sold to Japan means shipment to Nippon Telegraph and Telephone will be delayed up to 30 days. Access restrictions, to prevent technology diversion, are like those applied to similar exports to Europe, according to Cray and Defense Dept. officials. "Nippon will be getting their system later than we or they had planned on," a Cray official said, but such delays often beset supercomputer exports. Nippon will use the system for design of complex electronic circuits.

An argument between two House members has blocked House action on an \$11.3-billion bill to fund the Transportation Dept. and related agencies for Fiscal 1985. Rep. James Howard (D.-N. J.), chairman of the House Public Works Committee, accused Rep. William Lehman (D.-Fla.) of trying to write legislation with an appropriations bill by earmarking some funds for mass transit projects. Lehman contends there is precedent for his actions and won't compromise. The agencies may have to be run by temporary funding bills after Oct. 1.

Critical Report

Congressional Office of Technology Assessment (OTA) has refused a Defense Dept. request that it withdraw a report critical of the Administration's plans to build a space-based defense against strategic ICBMs. William H. Taft, 4th, deputy secretary of Defense, requested that OTA withdraw the report because it contained serious technical errors (AW&ST June 11, p. 16). Last week, OTA Director John H. Gibbons wrote Taft that OTA had three outside experts review the report, and they approved it. Gibbons said it was not "appropriate" to withdraw it. —Washington Staff

24 December 1985

INFORMATION

Department of the Interior
U.S. Geological Survey
NCIC Western
345 Middlefield Rd,
Menlo Park, CA.
94025

Dear Sirs:

I am writing, seeking a copy of the enclosed photograph (See enclosure A), which I am led to believe, you make reproductions of, as- frame #147, image identification #1VBSLX0000002.

I would appreciate knowing, if you have a photograph, which shows the complete length, of the Groom Lake, Nevada runway, a greater enlargement of the aircraft facilities, seen in (See enclosure A), and the cost of such reproductions.

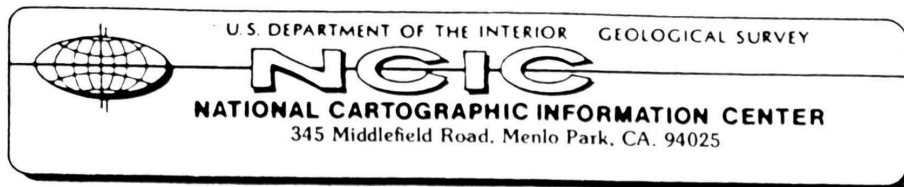
I would also like to know, if you have an aerial photograph (like that of Groom Lake), of the new air base near the Tonopah Test Range (See enclosure B), near Tonopah, Nevada, and if so, how much a similar photograph (like that of enclosure A), would cost?

My interest in seeking such photographic evidence, is in connection with the enclosed (See enclosure C) document, which indicates that the United States is test flying a "recovered Alien aircraft", at one or both of these facilities.

Thankyou for your time Sir.

Most Sincerly

Lee M. Graham
Lee M. Graham
526 W. Maple
Monrovia, CA
91016



January 9, 1986

Mr. Lee M. Graham
526 W. Maple
Monrovia, CA 91016

Dear Mr. Graham:

This letter is in response to your inquiry of December 24, 1985. It is possible to obtain a copy of #IVBSLX0000002-147. All we need is prepayment, along with a written order (see enclosed order form and price list).

As for the other photos you requested, it is possible that we have what you are looking for. It would be of great help to us if you could complete and return the enclosed inquiry form. With the information you provide, we will be able to send you a computer listing of all the photos in our data base that fit your description. At that point we recommend that you come to our office and identify the photos yourself. If this is not possible, we can select a photo for you. However, we cannot guarantee that it will fit your needs and it cannot be returned once it has been ordered. Your order will be processed as soon as possible after it is received.

If you have any questions, you may contact this office by calling Jacquelyn Gaskill at (415) 323-8111, extension 2426.

Sincerely yours,

Richard J. Zorker
Chief, National Cartographic
Information Center-Western

Enclosures

1 March 1986

RICHARD J. ZORKER
Chief, National Cartographic
Information Center-Western
U.S. Department of the Interior
Geological Survey
345 Middlefield Road
Menlo Park, CA
94025

Dear Mr. Zorker:

Sir, enclosed, please find a money order of \$12.00, for one black and white film negative (9in, code 03, unit price \$12.00) for a copy of #1VBSLX0000002-147, and \$5.00 for one black and white paper (9in, code 23, unit price \$5.00), for a copy of #1VBSLX0000002-147, plus \$3.00, for handling and shipping costs, total= \$20.00.

I would, also, like to know if you have any more recent photographs of the same air base, than the above 1968 one?

Thankyou for your time, Sir.

Most Sincerly

Lee M. Graham

Lee M. Graham
526 W. Maple
Monrovia, CA
91016

REPUBLIC MONEY ORDERS, INC. ISSUER		88-314 1119
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PAY TO THE ORDER OF	<i>National Cartographic Information Center</i>	
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62-4-1-0-9		
PAYABLE AT Republic Bank Henderson Henderson, Texas	<i>Lee M. Graham</i> <i>526 W. Maple</i> Monrovia	
1111903148062 03803789		REPUBLIC MONEY ORDERS, INC.