History

Nevada Test Range topographic chart centered on Groom Lake

The origin of the name "Area 51" is unclear. It is believed to be from an Atomic Energy Commission (AEC) numbering grid, although Area 51 is not part of this system; it is adjacent to Area 15. Another explanation is that 51 was used because it was unlikely that the AEC would use the number.[18] According to the Central Intelligence Agency (CIA), the correct names for the facility are Homey Airport (XTA/KXTA) and Groom Lake,[19][20] though the name "Area 51" was used in a CIA document from the Vietnam War.[21] The facility has also been referred to as "Dreamland" and "Paradise Ranch",[22] among other nicknames, with the former also being the approach control call sign for the surrounding area.[23][24] The USAF public relations has referred to the facility as "an operating location near Groom Dry Lake". The special use airspace around the field is referred to as Restricted Area 4808 North (R-4808N).[25]

Lead and silver were discovered in the southern part of the Groom Range in 1864,[26] and the English company *Groome Lead Mines Limited* financed the Conception Mines in the 1870s, giving the district its name (nearby mines included Maria, Willow, and White Lake).[27] J. B. Osborne and partners acquired the controlling interest in Groom in 1876, and Osbourne's son acquired it in the 1890s.[27] Mining continued until 1918, then resumed after World War II until the early 1950s.[27]

The airfield on the Groom Lake site began service in 1942 as Indian Springs Air Force Auxiliary Field[28] and consisted of two unpaved 5,000-foot (1,524 m) runways.[29]

U-2 program

Main article: Lockheed U-2


"The Ranch" with U-2 flight line

The Central Intelligence Agency (CIA) established the Groom Lake test facility in April 1955 for Project AQUATONE: the development of the Lockheed U-2 strategic reconnaissance aircraft. Project director Richard M. Bissell Jr. understood that the flight test and pilot training programs could not be conducted at Edwards Air Force Base or Lockheed's Palmdale facility, given the extreme secrecy surrounding the project. He conducted a search for a suitable testing site for the U-2 under the same extreme security as the rest of the project.[30]:25 He notified Lockheed, who sent an inspection team out to Groom Lake. According to Lockheed's U-2 designer Kelly Johnson:[30] :26

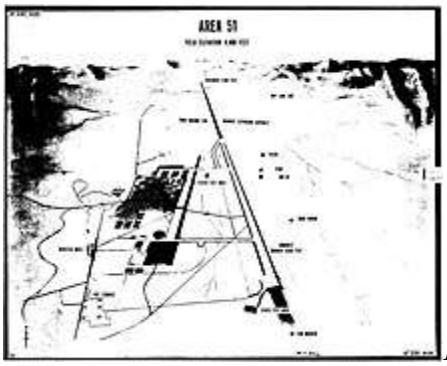
We flew over it and within thirty seconds, you knew that was the place [...] it was right by a dry lake. Man alive, we looked at that lake, and we all looked at each other. It was another Edwards, so we wheeled around, landed on that lake, taxied up to one end of it. It was a perfect natural landing field [...] as smooth as a billiard table without anything being done to it.

The lake bed made an ideal strip for testing aircraft, and the Emigrant Valley's mountain ranges and the NTS perimeter protected the site from visitors; it was about 100 mi (160 km) north of Las Vegas.[31] The CIA asked the AEC to acquire the land, designated "Area 51" on the map, and to add it to the Nevada Test Site.[9]:56–57

Johnson named the area "Paradise Ranch" to encourage workers to move to "the new facility in the middle of nowhere", as the CIA later described it, and the name became shortened to "the Ranch".[9]:57 On 4 May 1955, a survey team arrived at Groom Lake and laid out a 5,000-foot (1,500 m) north–south runway on the southwest corner of the lakebed and designated a site for a base support facility. The Ranch initially consisted of little more than a few shelters, workshops, and trailer homes in which to house its small team.[31] A little over three months later, the base consisted of a single paved runway, three hangars, a control tower, and rudimentary accommodations for test personnel. The base's few amenities included a movie theater and volleyball court. There was also a mess hall, several wells, and fuel storage tanks. CIA, Air Force, and Lockheed personnel began arriving by July 1955. The Ranch received its first U-2 delivery on 24 July 1955 from Burbank on a C-124 Globemaster II cargo plane, accompanied by Lockheed technicians on a Douglas DC-3.[31] Regular Military Air Transport Service flights were set up between Area 51 and Lockheed's offices in Burbank, California. To preserve secrecy, personnel flew to Nevada on Monday mornings and returned to California on Friday evenings.[9]:72

OXCART program

For testing of a similar aircraft in December 1964, see SR-71 Blackbird.



A 1966 Central Intelligence Agency (CIA) diagram of Area 51, found in an untitled, declassified paper, showing the runway overrun for OXCART (Lockheed A-12) and the turnaround areas *(CIA / CREST RDP90b00184r000100040001-4)*

Project OXCART was established in August 1959 for "antiradar studies, aerodynamic structural tests, and engineering designs" and all later work on the Lockheed A-12.[32] This included testing at Groom Lake, which had inadequate facilities consisting of buildings for only 150 people, a 5,000 ft (1,500 m) asphalt runway, and limited fuel, hangar, and shop space.[30]:58 Groom Lake had received the name "Area 51"[30]:59[33] when A-12 test facility construction began in September 1960, including a new 8,500 ft (2,600 m) runway to replace the existing runway.[34]

Reynolds Electrical and Engineering Company (REECo) began construction of "Project 51" on 1 October 1960 with double-shift construction schedules. The contractor upgraded base facilities and built a new 10,000 ft (3,000 m) runway (14/32) diagonally across the southwest corner of the lakebed. They marked an Archimedean spiral on the dry lake approximately two miles across so that an A-12 pilot approaching the end of the overrun could abort instead of plunging into the sagebrush. Area 51 pilots called it "The Hook". For crosswind landings, they marked two unpaved airstrips (runways 9/27 and 03/21) on the dry lakebed.[35]

By August 1961, construction of the essential facilities was complete; three surplus Navy hangars were erected on the base's north side while hangar 7 was new construction. The original U-2 hangars were converted to maintenance and machine shops. Facilities in the main cantonment area included workshops and buildings for storage and administration, a commissary, a control tower, a fire station, and housing. The Navy also contributed more than 130 surplus Babbitt duplex housing units for long-term occupancy facilities. Older buildings were repaired, and additional facilities were constructed as necessary. A reservoir pond surrounded by trees served as a recreational area one mile north of the base. Other recreational facilities included a gymnasium, a movie theater, and a baseball diamond.[35] A permanent aircraft fuel tank farm was constructed by early 1962 for the special JP-7 fuel required by the A-12. Seven tanks were constructed, with a total capacity of 1,320,000 gallons.[30]:58


An A-12 (60-6924) takes off from Groom Lake during one of the first test flights, piloted by Louis Schalk, 26 April 1962.

Security was enhanced for the arrival of OXCART and the small mine was closed in the Groom basin. In January 1962, the Federal Aviation Administration (FAA) expanded the restricted airspace in the vicinity of Groom Lake, and the lakebed became the center of a 600-square mile addition to restricted area R-4808N.[35] The CIA facility received eight USAF F-101 Voodoos for training, two T-33 Shooting Star trainers for proficiency flying, a C-130 Hercules for cargo transport, a U-3A for administrative purposes, a helicopter for search and rescue, and a Cessna 180 for liaison use, and Lockheed provided an F-104 Starfighter for use as a chase plane.[35]

The first A-12 test aircraft was covertly trucked from Burbank on 26 February 1962 and arrived at Groom Lake on 28 February.[30]:60 It made its first flight 26 April 1962 when the base had over 1,000 personnel.[30]:60–62 The closed airspace above Groom Lake was within the Nellis Air Force Range airspace, and pilots saw the A-12 20 to 30 times.[30]:63–64 Groom was also the site of the first Lockheed D-21 drone test flight on 22 December 1964.[30]:123 By the end of 1963, nine A-12s were at Area 51, assigned to the CIA-operated "1129th Special Activities Squadron".[36]

D-21 Tagboard

Main article: Lockheed D-21


The D-21 mounted on the back of the M-21. Note the intake cover on the drone, which was used on early flights.

Following the loss of Gary Powers' U-2 over the Soviet Union, there were several discussions about using the A-12 OXCART as an unpiloted drone aircraft. Although Kelly Johnson had come to support the idea of drone reconnaissance, he opposed the development of an A-12 drone, contending that the aircraft was too large and complex for such a conversion. However, the Air Force agreed to fund the study of a high-speed, high-altitude drone aircraft in October 1962. The Air Force interest seems to have moved the CIA to take action, the project designated

"Q-12". By October 1963, the drone's design had been finalized. At the same time, the Q-12 underwent a name change. To separate it from the other A-12-based projects, it was renamed the "D-21". (The "12" was reversed to "21"). "Tagboard" was the project's code name.[30]:121

The first D-21 was completed in the spring of 1964 by Lockheed. After four more months of checkouts and static tests, the aircraft was shipped to Groom Lake and reassembled. It was to be carried by a two-seat derivative of the A-12, designated the "M-21". When the D-21/M-21 reached the launch point, the first step would be to blow off the D-21's inlet and exhaust covers. With the D-21/M-21 at the correct speed and altitude, the LCO would start the ramjet and the other systems of the D-21. "With the D-21's systems activated and running, and the launch aircraft at the correct point, the M-21 would begin a slight pushover, the LCO would push a final button, and the D-21 would come off the pylon".[30]:122

Difficulties were addressed throughout 1964 and 1965 at Groom Lake with various technical issues. Captive flights showed unforeseen aerodynamic difficulties. By late January 1966, more than a year after the first captive flight, everything seemed ready. The first D-21 launch was made on 5 March 1966 with a successful flight, with the D-21 flying 120 miles with limited fuel. A second D-21 flight was successful in April 1966 with the drone flying 1,200 miles, reaching Mach 3.3 and 90,000 feet. An accident on 30 July 1966 with a fully fueled D-21, on a planned checkout flight, suffered from an unstart of the drone after its separation, causing it to collide with the M-21 launch aircraft. The two crewmen ejected and landed in the ocean 150 miles offshore. One crew member was picked up by a helicopter, but the other, having survived the aircraft breakup and ejection, drowned when sea water entered his pressure suit. Kelly Johnson personally cancelled the entire program, having had serious doubts about its feasibility from the start. A number of D-21s had already been produced, and rather than scrapping the whole effort, Johnson again proposed to the Air Force that they be launched from a B-52H bomber.[30]:125

By late summer of 1967, the modification work to both the D-21 (now designated D-21B) and the B-52Hs was complete. The test program could now resume. The test missions were flown out of Groom Lake, with the actual launches over the Pacific. The first D-21B to be flown was Article 501, the prototype. The first attempt was made on 28 September 1967 and ended in complete failure. As the B-52 was flying toward the launch point, the D-21B fell off the pylon. The B-52H gave a sharp lurch as the drone fell free. The booster fired and was "quite a sight from the ground". The failure was traced to a stripped nut on the forward right attachment point on the pylon. Several more tests were made, none of which met with success. However, the fact is that the resumptions of D-21 tests took place against a changing reconnaissance background. The A-12 had finally been allowed to deploy, and the SR-71 was soon to replace it. At the same time, new developments in reconnaissance satellite technology were nearing operation. Up to this point, the limited number of satellites available restricted coverage to the Soviet Union. A new generation of reconnaissance satellites could soon cover targets anywhere in the world. The satellites' resolution would be comparable to that of aircraft but without the slightest political risk. Time was running out for the Tagboard.[30]:129

Several more test flights, including two over China, were made from Beale AFB, California, in 1969 and 1970, to varying degrees of success. On 15 July 1971, Kelly Johnson received a wire canceling the D-21B program. The remaining drones were transferred by a C-5A and placed in

dead storage. The tooling used to build the D-21Bs was ordered destroyed. Like the A-12 Oxcart, the D-21B Tagboard drones remained a Black airplane, even in retirement. Their existence was not suspected until August 1976, when the first group was placed in storage at the Davis-Monthan AFB Military Storage and Disposition Center. A second group arrived in 1977. They were labeled "GTD-21Bs" (GT stood for ground training).[30]:132

Davis-Monthan is an open base, with public tours of the storage area at the time, so the odd-looking drones were soon spotted and photos began appearing in magazines. Speculation about the D-21Bs circulated within aviation circles for years, and it was not until 1982 that details of the Tagboard program were released. However, it was not until 1993 that the B-52/D-21B program was made public. That same year, the surviving D-21Bs were released to museums.[30]:132–133

Foreign technology evaluation

Main article: Tonopah Test Range Airport

During the Cold War, one of the missions carried out by the United States was the test and evaluation of captured Soviet fighter aircraft. Beginning in the late 1960s, and for several decades, Area 51 played host to an assortment of Soviet-built aircraft.


HAVE DOUGHNUT, a MiG-21F-13 flown by United States Navy and Air Force Systems Command during its 1968 exploitation

Munir Redfa's defection with a Mikoyan-Gurevich MiG-21 from Iraq for Israel's Mossad in Operation Diamond led to the HAVE DOUGHNUT, HAVE DRILL and HAVE FERRY programs. The first MiGs flown in the United States were used to evaluate the aircraft in performance, technical, and operational capabilities, pitting the types against U.S. fighters.[37]

This was not a new mission, as testing of foreign technology by the USAF began during World War II. After the war, testing of acquired foreign technology was performed by the Air Technical Intelligence Center (ATIC, which became very influential during the Korean War), under the direct command of the Air Materiel Control Department. In 1961, ATIC became the Foreign Technology Division (FTD) and was reassigned to Air Force Systems Command. ATIC personnel were sent anywhere where foreign aircraft could be found.

The focus of Air Force Systems Command limited the use of the fighter as a tool with which to train the front line tactical fighter pilots.[37] Air Force Systems Command recruited its pilots from the Air Force Flight Test Center at Edwards Air Force Base, California, who were usually graduates from various test pilot schools. Tactical Air Command selected its pilots primarily from the ranks of the Weapons School graduates.[37]