

GROOM LAKE - AREA 51 A-12 ARCHANGEL CIA PROJECT OXCART

HOW THEY GOT HERE

By Frank Murray, A-12 Pilot and Roadrunners Internationale Historian



The Challenge of Transporting the A-12s to Area 51 - V.2

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Foreword:

This piece of the History of the Lockheed A-12 is dedicated to the memory of Dorsey G. Kammerer. Dorsey was a part of the Lockheed SkunkWorks from its inception. He was an "inside" man on the team that built the P-38 Lightning, the P-80 Shooting Star, the F-104 Starfighter, the U-2 Angel and the A-12 Archangel and the other versions, the YF-12 and the SR-71.

Dorsey that had the foresight to save the photos that help document this story. Dorsey's family found these gems and made them available for this story. This story has never really been told in much detail before. I have collected the pictures for display as an addendum to the text.

This re-do of the original "Challenge of Transporting the A-12s to Area 51" does not change the compass of the original, only expands on a good story, made even better.

Background:

From the beginning of Project OXCART, it was known that the A-12s would be built in the SkunkWorks within the Lockheed Plant complex in Burbank, California and that the A-12s would have to be transported overland to Area 51 for flight testing, development and training of the Project Pilots. Long before the first A-12 airplane was ready for transport, the full scale model was built and had to be taken to the Area for installation on the radar range for studies of its radar cross section. The carriages that contained the model were smaller but all of these were oversize requiring a special travel permit. This trip to haul the full scale model was started in November 1959 and took three days to complete. The largest of these packages was 65' long and 32.6' wide.

This story chronicles the efforts to build and use the carriages repeatedly to move the fully built A-12s and the YF-12s from Burbank to Area 51. Eighteen trips were made to Area 51 and three trips were made to Palmdale to carry the first three SR-71s built.

V.2 of this story takes advantage of recently discovered pictures of this challenging effort by a relatively small group of Lockheed engineers and industrial craftsmen. The author of this story believes that these men are some of the un-sung heroes of the development of the world's fastest airplane. The safe operation of the transportation of these airplanes was aided by the California and Nevada Highway Patrols. Many of the people that did this work have deceased but their story carries on for posterity. Thanks to Lockheed for having the project photographed. Thanks to the California and Nevada Highway Patrols for their unwavering support.

The Survey:

Dorsey Kammerer was appointed to head up the activity to build and use the transportation carriage system. An early-on step was to equip a pickup truck with a set of extension poles sized to the width, height of the main transport carriage trailer. An initial plan was to drive the best estimate route of travel, noting the obstacles to easy movement of the carriage boxes. Several photos show this arrangement and its use along the roads. Where necessary, the obstacles were noted and steps were taken later to remove the obstacles. In some places the roadside barriers such as signs were moved or in some cases cut off, then hinged for ease in lowering. Some trees had to be cut as well; roadside soils had to be cleared in places. The Highway Patrols were helpful in arranging for the removal of such impediments. This survey work started in 1959 and the route to travel was ready for the first trip in February 1962. Planning for the stopover places along the route was coordinated with the Highway Patrols. Places to stay overnight were included in the Master Plan. All the while the design and construction of the carriage system was ongoing in the SkunkWorks. Many great pictures show the project in work.

The Carriage System:

As mentioned earlier, the carriage trailers were under construction alongside the A-12 airplanes in the SkunkWorks. Two carriage boxes were built to carry the pre-built airplanes. The larger box would carry the main part of the airplane, while the smaller box was sized to carry the removable outer wing/nacelles pieces as well as the rudders, forward fuselage section and assorted small bits and pieces. Both boxes used a steel framework to mount the carriage wheels and tow system. The large box was 105 feet long with a width of 35 feet, truly a wide load by any standard. Both trailer boxes were designed to be towed by Lockheed furnished tractors. The large box featured steerable tail wheels by a local operator on either side of the carriage. Close-up detail photos show this unique feature, remotely similar to the rear wheel operation on a hook and ladder truck from your Fire Department this allowed maneuvering the carriage through difficult turning situations discovered while driving down the transport route of travel.

The upper removable framework was constructed of 4" square aluminum tubing. This design allowed for loading the airplane unimpeded by a closed box frame. The airplane was carried riding

on its landing gear, this allowed for use of the airplane structure to carry the load safely on road surfaces beyond the control of Lockheed. After the airplane was towed into position on the carriage, the removable cover framework would be assembled on the trailer, followed by the fabric covered sides and the solid material front shield. The road lighting system was installed last. The airplane carriage had the A-12 loaded for travel tail end forward. Several pictures show this detail. Tom Richey and Stan Grants drove the tractors on the first run to Area 51.

The carriage boxes were designed to be disassembled for return to Burbank in a much narrower package.

The design team that built the carriage system was led by Mr. Leon Gavett. Of course the SkunkWorks had a superb team of structures engineers to take on this monumental task.

Route of Travel:

The route of travel described in the earlier version of this story was estimated based on information provided by a witness to the convoy activity. Further details provided by details used by Kammerer's crew described a more accurate plot of the actual route used. The main difference being the first half of the trip, after the Barstow way point, the route is the same as estimated in the earlier writing.

Several detail sheets from the earlier Survey show the route to be basically out the Lockheed plant north bound on San Fernando road to US HWY 99 toward Gorman, then eastward toward Mojave and on to Barstow. Then onward to Baker where the route moves North towards Death Valley and on to Lathrop Wells and US HWY 95 to the entrance to the Nevada Test Site at Mercury and on to Area 51.

The first trip carrying the prototype A-12 took three days to complete. Several captioned photos show details of this trip (none shown before). Travel by this convoy was hampered by the Winter climate along the route. Portions of the trip driving along snow covered areas, some of the trip done after dark. Not an easy trip for anyone. See the map showing the route from the days before many Interstate Highways were built between Burbank and points North.

On-The-Road:

The pictures show the varied nature of the trip from Burbank to Area 51. A couple pictures show what can only be described as a "revolting development", getting the big box wheels sunk in soft soil. Wonder how they got it jacked up and going again. No pictures of these steps. Several pictures show how close the box comes to signs, bridge abutments etc. Travel was allowed on mid week days only, no movement on the weekends or Holidays. During one of the movements a Greyhound bus nicked the big box. The bus driver was paid cash to have the bus repairs done without any resultant attention to the details. The end of the road was the main hangar complex at Area 51 where the airplane was off-loaded into the hangar for re-assembly.

The first convoy departed Burbank on 26 February 1962 and arrived three days later. The second convoy carrying Article 122 departed for Area 51 on 26 June 1962, followed by Article 123 in August 1962. The two-seat Article 124 got to the Area in November 1962. The rest of the A-12s and the three YF-12s arrived by mid 1964.

An eyewitness account:

To whom it may concern:

My name is Jim Noce, and I recall being on those moves from the "SkunkWorks" to the ranch. We

left the Area early in the morning taking turns driving until we reached Burbank. When we arrived, the Article was concealed in a large crate and covered with a tarp on the semi ready to travel. We headed East on the Freeway, and the California State Police giving escort.

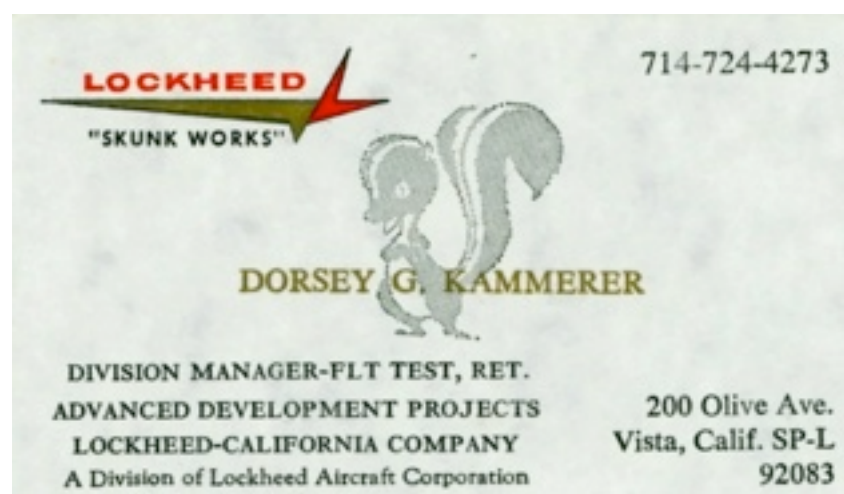
The CSP had long poles along the route to clear hanging power lines or un pin road signs hinged for clearance purposes. When we reached the CA/NV border we pulled to the side of the road and ate sack lunches made up by the mess hall at the Area. We also had igloo coolers of lemonade and thermos's of hot coffee or chocolate. We also had soda pop. Not bad for the 60's.

After we had lunch, we headed up Highway 95 until we reached Mercury that had our security clearance for entering the Atomic Proving Grounds. I may be wrong but I think that once we reached the Ranch, the Article was uncrated and put on a cart by something like a cherry picker. I do believe the box was broken down and loaded back on the trailer and sent back to Burbank. I never knew of anyone taking pictures from our group. I do recall the incident where a Greyhound Bus barely scraped the side of the box, and the driver was given cash to fix the few scratches avoiding insurance claims.

Sincerely, Jim Noce
Former CIA agent Area 51.

The Main Objective:

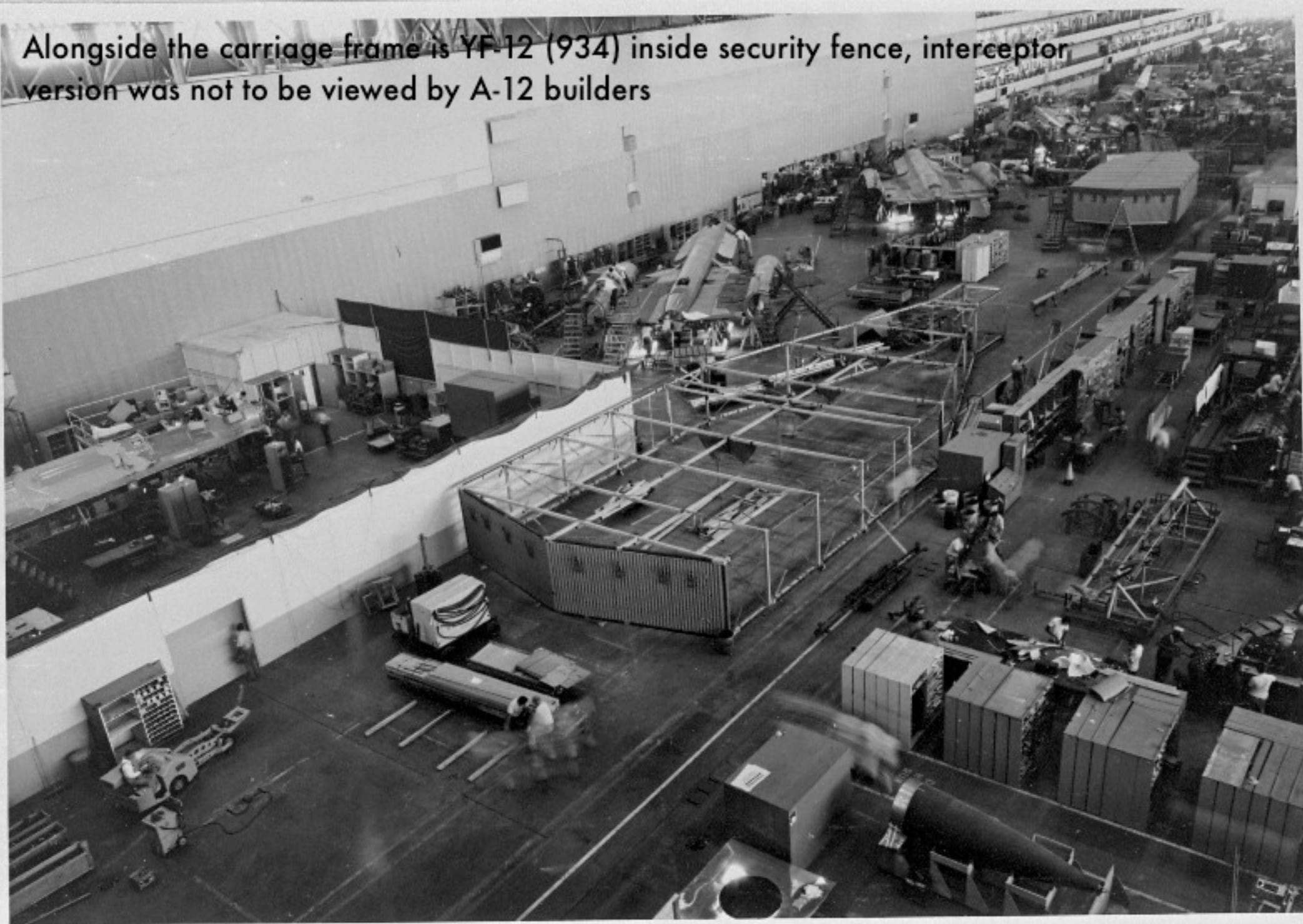
With the arrival of the prototype A-12, Article 121, at the end of February 1962, around the clock work proceeded to complete the final assembly, engine runs, systems checkout and taxi tests. The first flight was made on 26 April 1962 by Lockheed Test Pilot Lou Schalk. Article 121 would eventually complete 322 flights before retiring to storage in Lockheed Site 2 at Palmdale, CA. Article 121 is now on display at the Blackbird Air Park in Palmdale, The first of a whole flock of Blackbirds.



Photos below from Dorsey Kammerer Collection

SOME RARE VIEW INSIDE THE SKUNKWORKS

Alongside the carriage frame is YF-12 (934) inside security fence, interceptor version was not to be viewed by A-12 builders



Carriage cover frame in work alongside A-12 Article #121







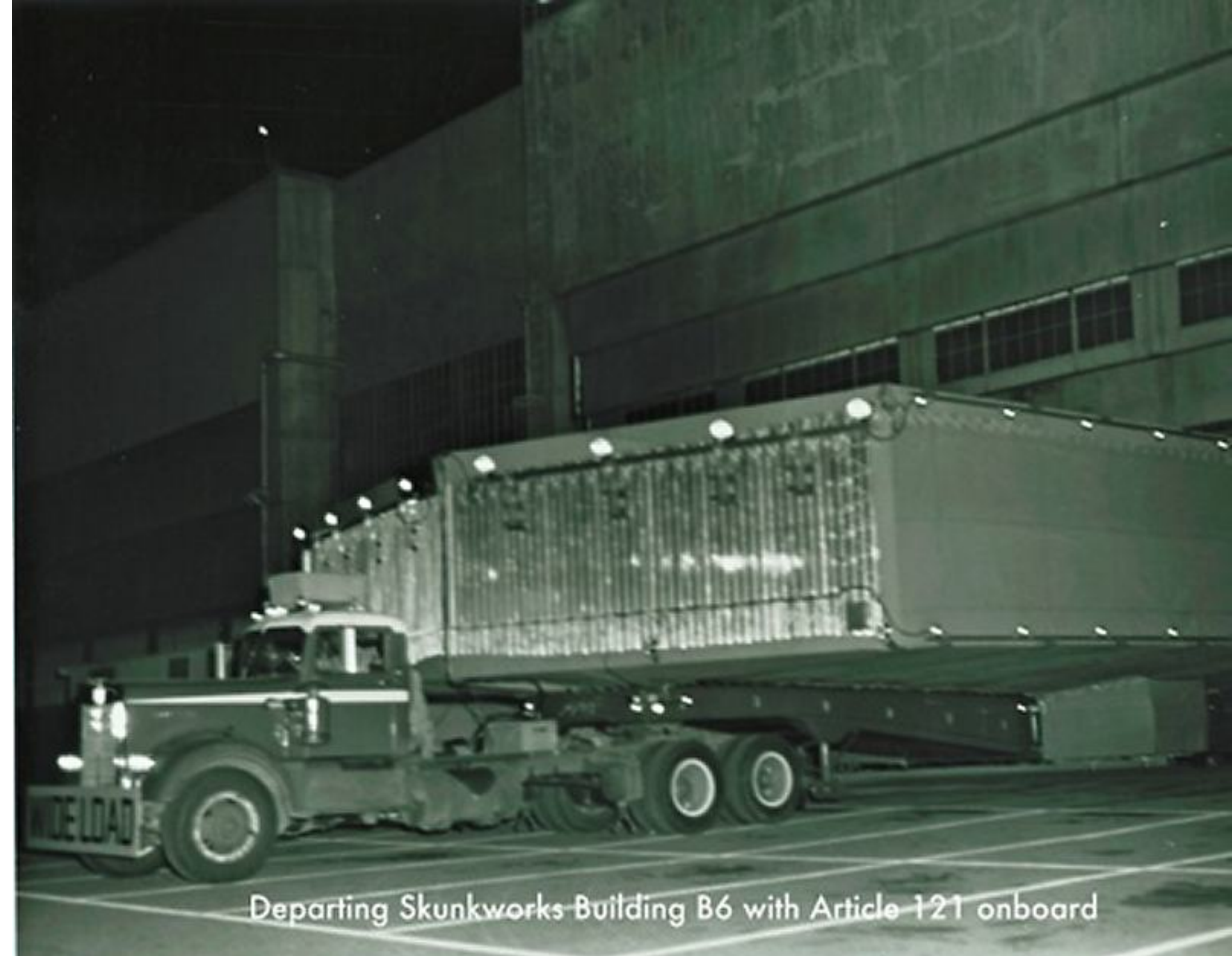
Carriage fabric cover fitted to the framework



Article 121 with nose section travel brace



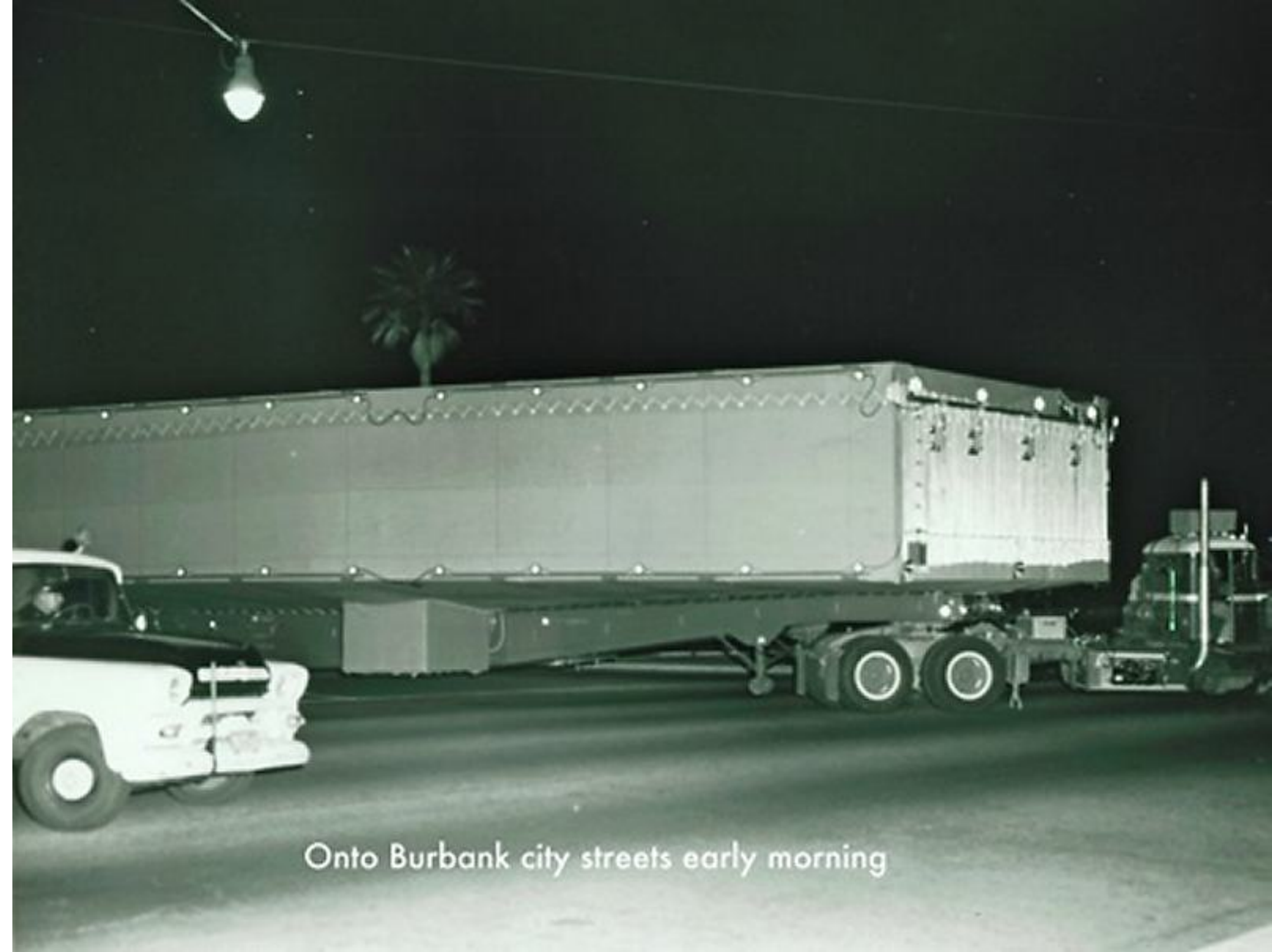
Early on fit check, A-12 into the carriage inside the Skunkworks



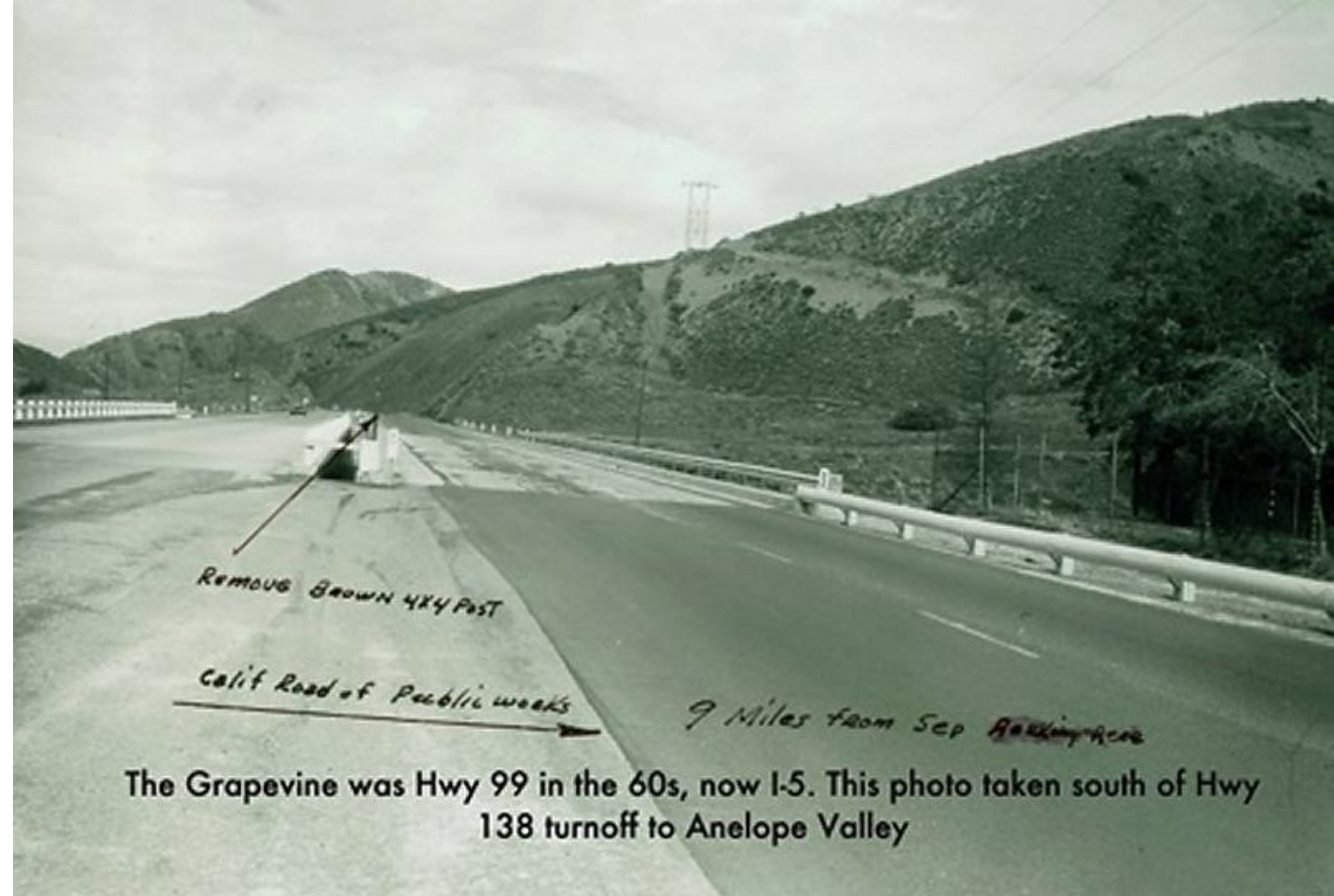
Departing Skunkworks Building B6 with Article 121 onboard



Rear carriage, note rear wheel steering system



Onto Burbank city streets early morning

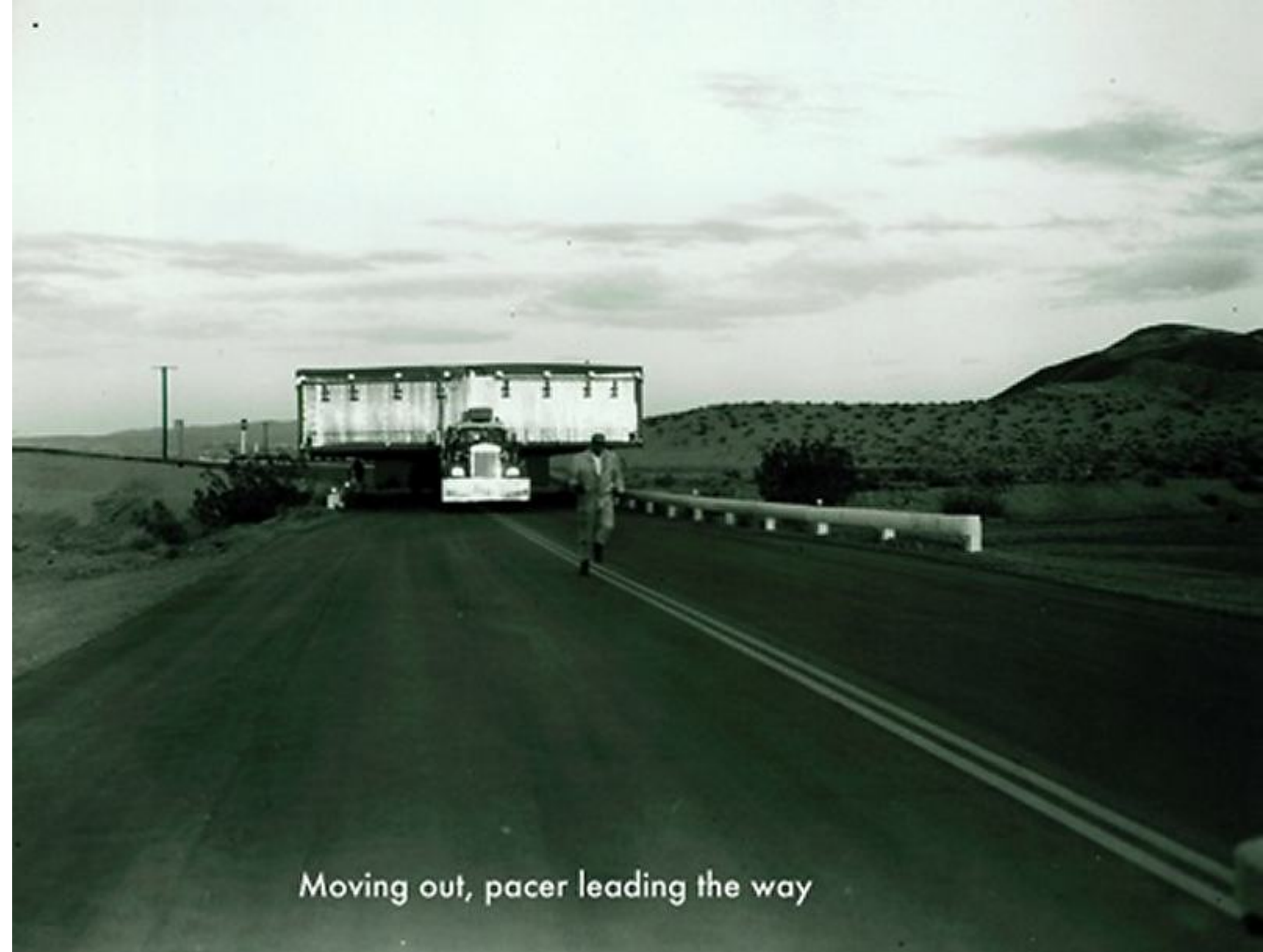


Remove Brown 4x4 Post

Calif Road of Public works

9 Miles from Sep [unclear] Area

The Grapevine was Hwy 99 in the 60s, now I-5. This photo taken south of Hwy 138 turnoff to Anelope Valley



Moving out, pacer leading the way

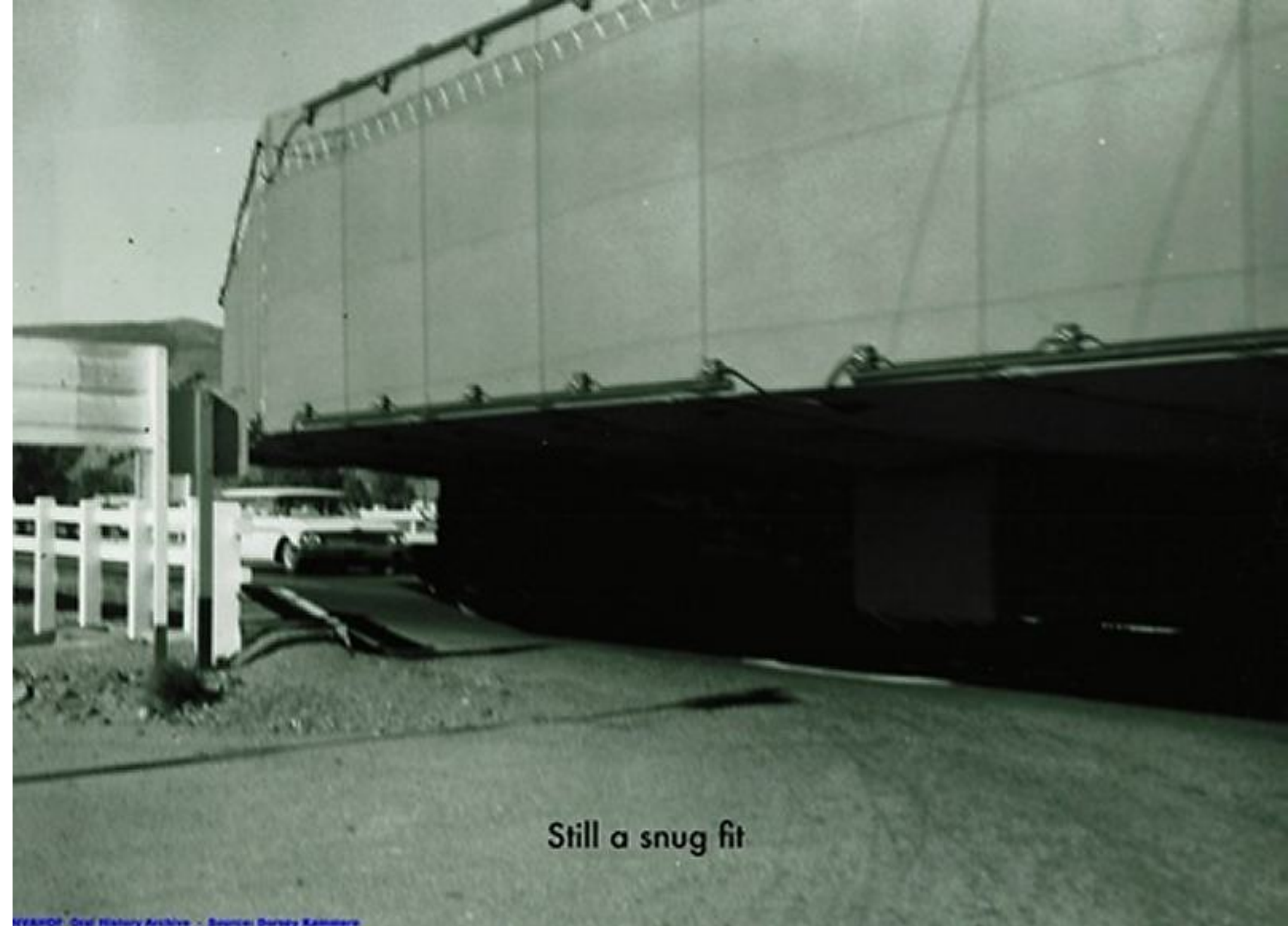
Close Fit Overpass of Highway 58 to Bakersfield



Note: The truck is going against traffic because the other lane goes under a narrow underpass

On the overpass at Baker, California





Still a snug fit

The Convoy in mid-desert



Mid-Desert



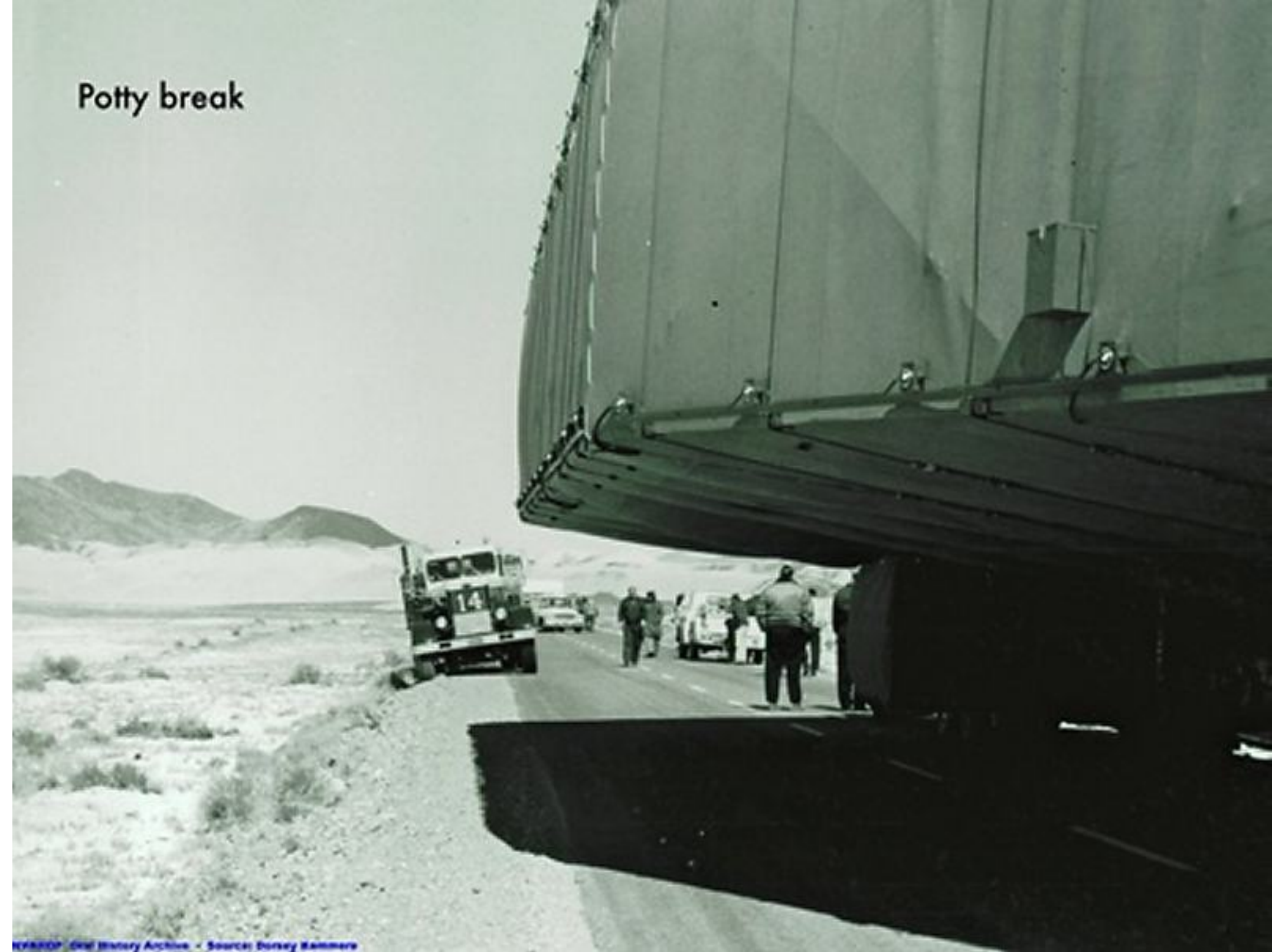


Good top view

Convoy underway near Death Valley, California



Potty break





Good view of the rear steering sys sunk in soft soil

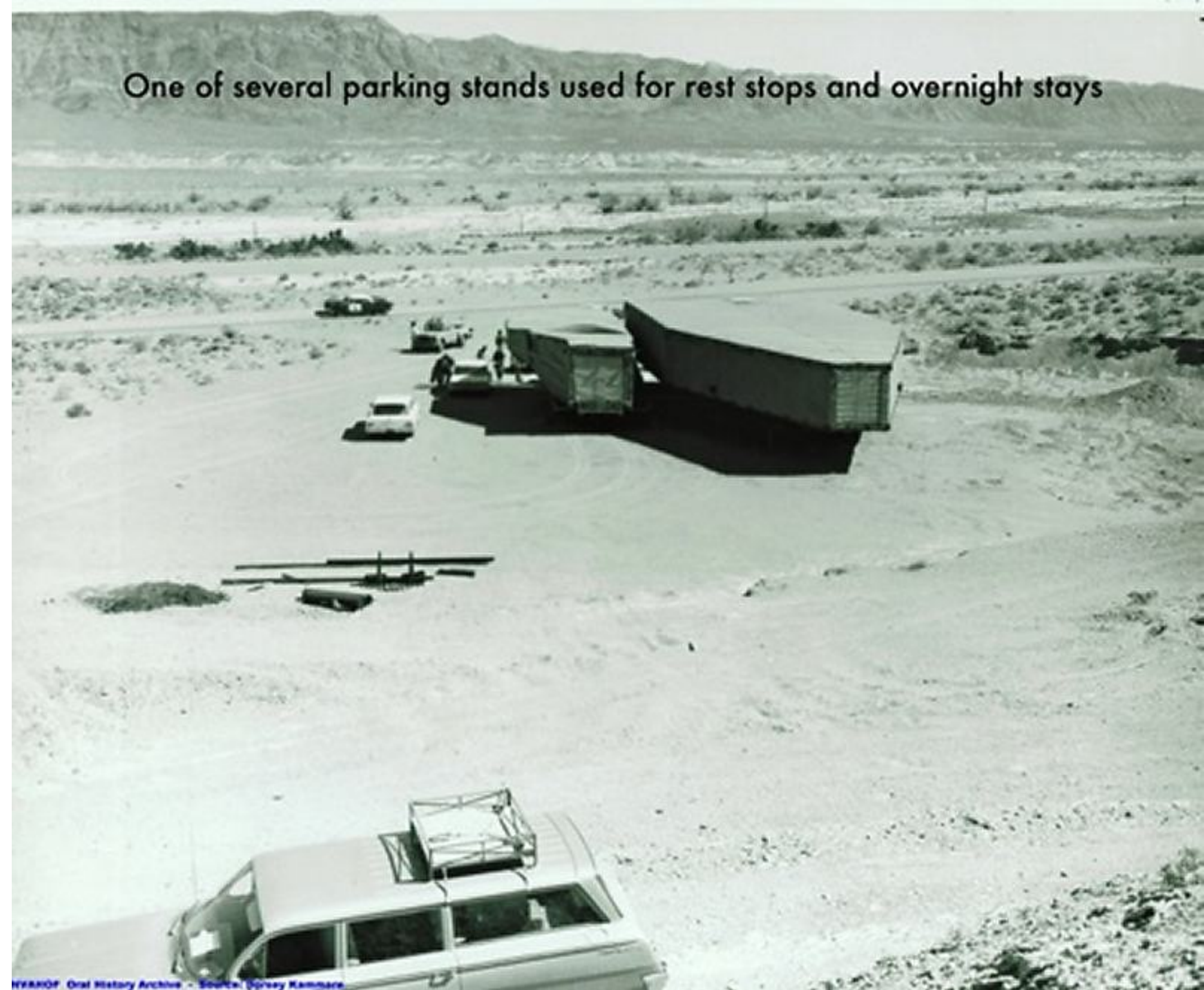


Sunk!! How do you fix this?

Meeting of the minds: CIA security, police escort, etc.



One of several parking stands used for rest stops and overnight stays

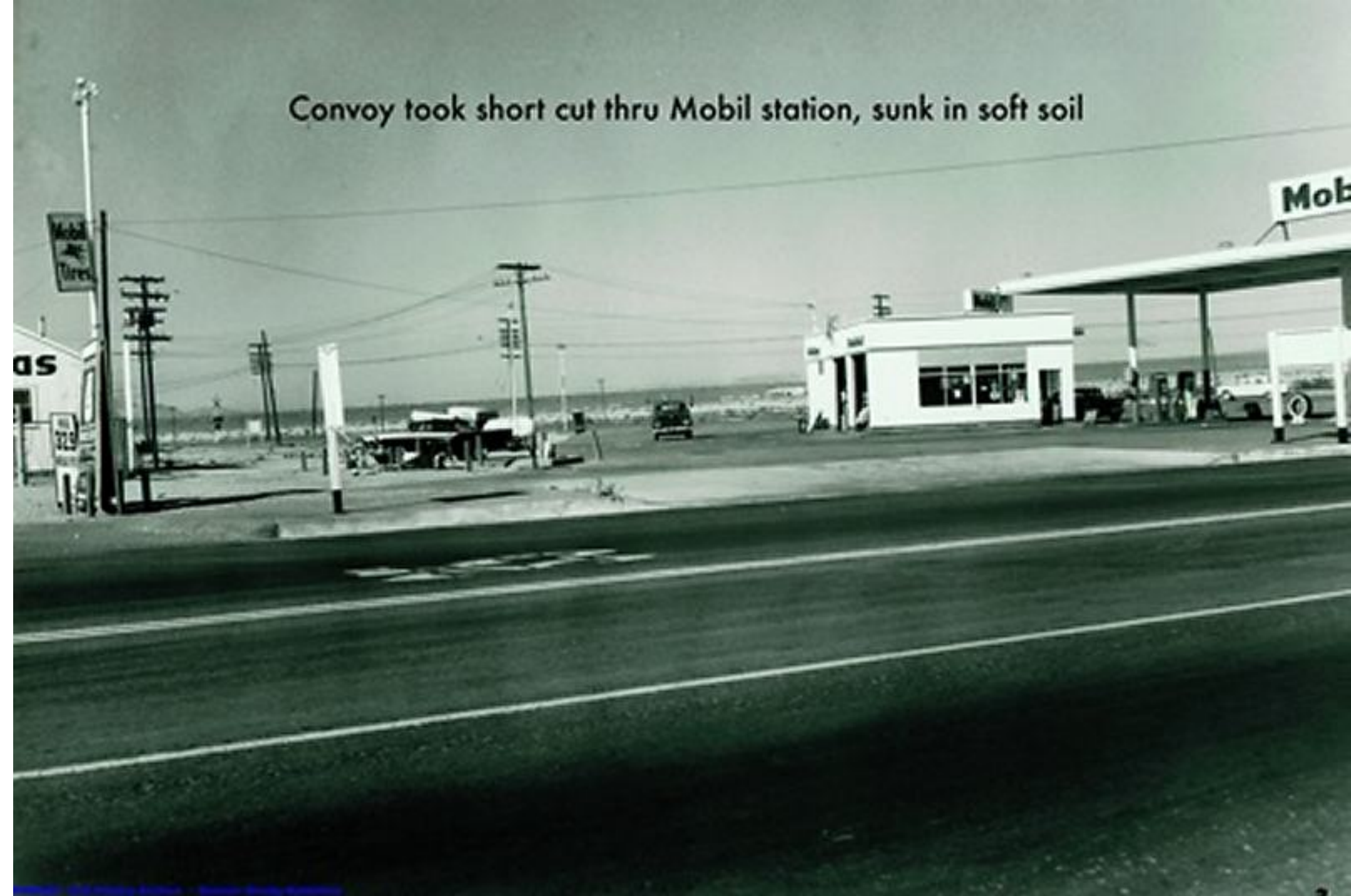


Dirt had to be moved to get through



Source: [The History Channel](#) - [YouTube](#) [Dorsey Kammers](#)

Convoy took short cut thru Mobil station, sunk in soft soil



Mojave, California

Team - Left

Team on this side

LUMAR T

Correction: San Fernando, CA near the north end of the town; Truman St and San Fernando Road

Night time work



Carriage front wall section

Another parking stand near Yermo, California



Correction: US 99 at Newhall Pass, looking southerly toward the south end of the Golden State Freeway

On-the-road-again



Lunch break along the way



CONVOY PAPERS

29 December 1961.

To: C. L. Johnson
L. M. Bohanan

From: D. G. Kammerer

Subject: Loading of the Article on Truck #1.

When Article is loaded and tied down we will start installing the covering. When the covering is installed we will install the lighting as a separate system, apart from the truck electrical system.

We also have a closed communication system for the driver and the rear driver, also, the escort personnel at each corner of the load, for the purpose of driving through the tight spots.

The morning of the departure from B6 we would like to leave Hangar 82 at 0330, traveling north on San Fernando Road to the Sepulveda Aqueduct parking area, where we will park the convoy until sunup, before traveling on the Bakersfield Highway. This should allow about one and a half hours to take the crew to breakfast.

At sunrise the State Highway Patrol will lead the convoy north on Highway 99 to Gorman, turn east on Highway 138 to Rosamand, north on Highway 6 to Mojave, east on Highway 466, where we will stop and have lunch on the road. Then proceed east on Highway 466 to Barstow. This will have completed approximately 200 miles for the first days travel. We will stay over-night in Barstow.

The second day the crew will arise at 0430, have breakfast and be prepared to start traveling 0545, traveling east on Highway 466 to Baker, turning north on Highway 127 to Shoshone, completing the second days travel of 114 miles. We will stay over-night in Shoshone, and be ready to leave Shoshone at sun-up, traveling north on Highway 127 to Death Valley Junction, where we will change California Highway escort to Nevada Highway escort. Continuing north on Nevada Highway 29 to Lathrop Wells, turn east on Nevada Highway 95 to the Nevada Test Site.

It is absolutely a must that we be at the Site before 1400, because of the Test Site traffic.

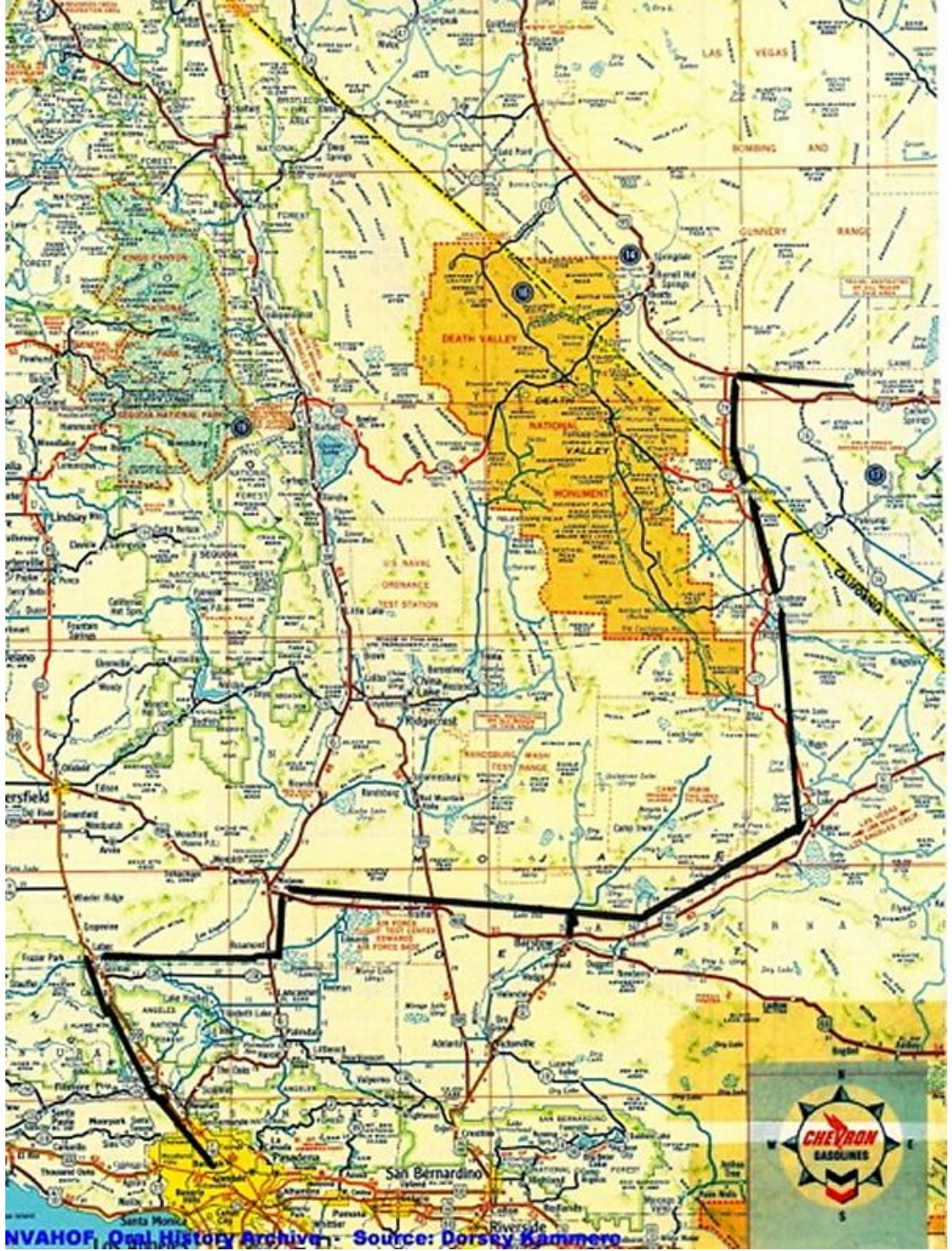
At this point Nevada and Company Security personnel are released, and the Area Security will take over, giving the convoy at least two(2) patrol cars with "Red" lights to complete the escort through the Test Site to our Area.

CONVOY SURVEY - 14/15 JUNE 1961

AP

MILEAGE
EST. ACCUMU.

| | | |
|----|-----|---|
| 0 | | Plant B6 Burbank. |
| | | Leave B6 via Hollywood Way to San Fernando Rd. Out San Fernando Rd, with sufficient clearance, including the underpass. |
| 13 | 13 | San Fernando. 'Keep Right' sign at north end of island, north edge of San Fernando, to be moved. (photo #1). |
| 5 | 18 | Parking area Hwy 99 at Owens Valley Aqueduct. (photo #2). |
| 12 | 30 | Check road signs just beyond overpass immediately north of Saugus turn off. |
| 25 | 55 | Hwy 99, large area for stopping. |
| 9 | 64 | Jct. 99 and 138. Right turn. Sufficient clearance. |
| 40 | 104 | Jct. 138 and 6. Left turn. Use left hand lane to make turn. |
| 21 | 125 | Mojave, Jct. 6 and 466. In lieu of removing road signs to make turn, there is sufficient clearance to cut thru rear of Mobil service station. (photo #3). |
| | | Area for parking just thru Mojave, for lunch or rest stop. |
| 26 | 151 | Desert Lake. Parking area. |
| | | Hwy 466 and Summerset Rd., just east of Hinkley turn off, trees along road may need trimming. (photo #4). |
| 36 | 187 | Hwy 466, west of Barstow, 65 MPH signs each side of road. Walk thru. |
| 5 | 192 | Hwy 466 and Irwin Rd., left turn, sufficient clearance. (photo #5). |
| | | Hwy 466 and Irwin Rd., 1 block north, right turn, sufficient clearance. (photo #6). |
| | | Just east of Barstow, fenced area for parking - Barstow Diesel Service. Closed at present time. (photo #7). Phone 9543 concerning property. |
| 7 | 199 | Freeway construction. Check before going thru. |
| 8 | 207 | Bridge between Yermo and Yermo checking station. Bridge #54-215 H-100+65, 91.Ch. Bridge width 26'5". Trees need trimming 2 feet. (photo #8). |
| 30 | 237 | Slow down for 3 culverts close together. |



NVAHOF, Oral History Archive - Source: Dorsey Kammerer

Route map

Good look at the survey truck w/clearance poles

Has been cleaned OK



This cut passed OK



Typical photo taken by the survey crew showing needed clearance work



CONVOY VEHICLE ESCORT

LEAVE B-6 3:30 (199 miles)
 SUN RISE 6:39-- 7:00 T.O.
 SUN SETS 5:48
 ARRIVE BARSTOW
 BARSTOW 7:00 T.O. (194 miles)
 ARRIVE SHOSHONE
 SHOSHONE T.O. (185 miles)
 ARRIVE GATE
 LEAVE GATE
 ARRIVE AREA 51

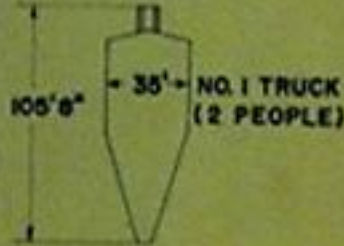
PERSONNEL REP (F. A. HARVEY)
 WILL ARRANGE FOOD & LODGING
 (5-50 MILES AHEAD)

PHOTOGRAPHY (2 PEOPLE)
 (FREE LANCE AHEAD)
 PAUL SMITH - JOE GULLI

STATE (1 PERSON)
(1/2 MILE AHEAD)

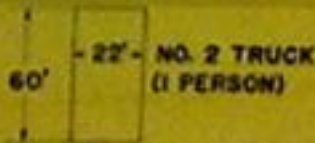
PLANT PROTECTION (2 PEOPLE)
(1/4 MILE AHEAD)

TRANSP & MECH. (2 PEOPLE)
BUD RICE -



ACTUAL CONVOY LENGTH

CONTRACTOR REP & ELECTRICIAN
(4 PEOPLE)
LEON GAVETTE - JOE WALES -
R. H. ILLIAN



PLANT PROTECTION
(2 PEOPLE)
(100' BACK OF NO. 2 TRUCK)
IVAN JOHNSON
F. J. BRANTLEY

BASE SECURITY
(5 PEOPLE)
(100' BACK OF
NO. 2 TRUCK)

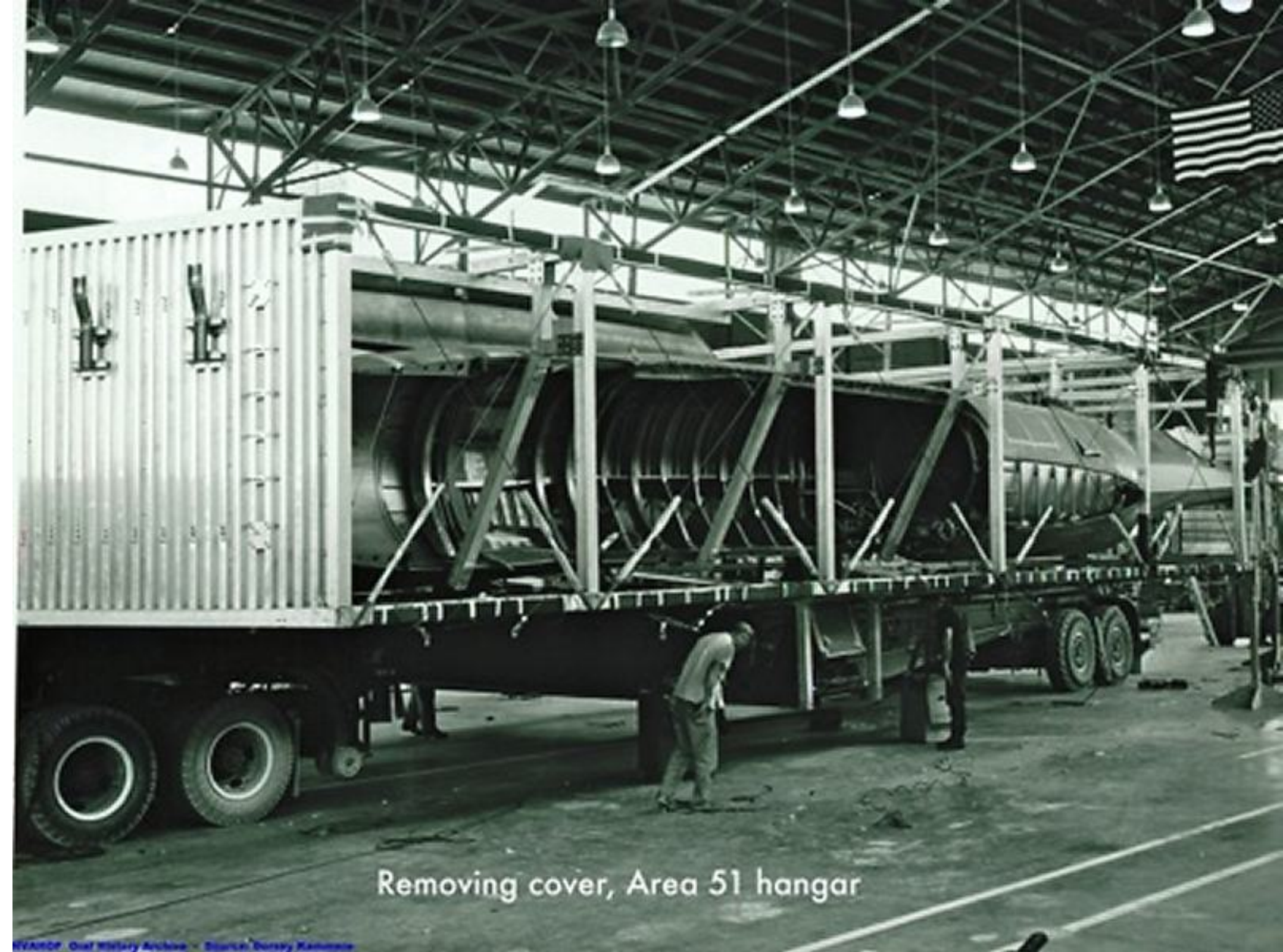
R. F. KALLMAN
V. G. CIBELLO
T. J. STANKS
W. A. MULLAN
L. G. WIGGINS
M. L. EDWARDS

STATE (1 PERSON)
(1/4 MILE BEHIND)

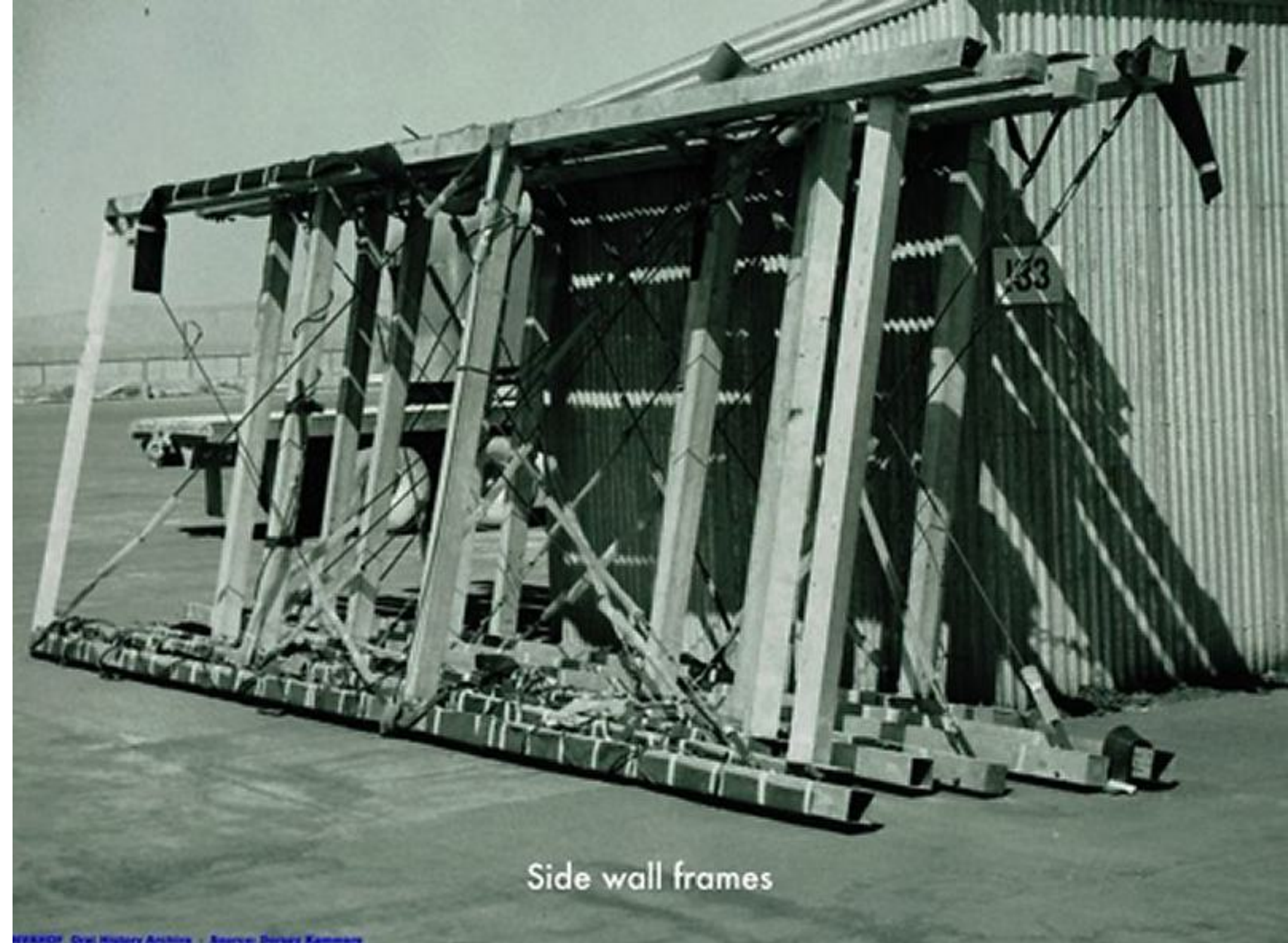
REP & MECH (3 PEOPLE)
(1/2 MILE BEHIND) W. H. KLAGES
J. E. STAFFORD

Oral History Archive Source: Dorsey Ka

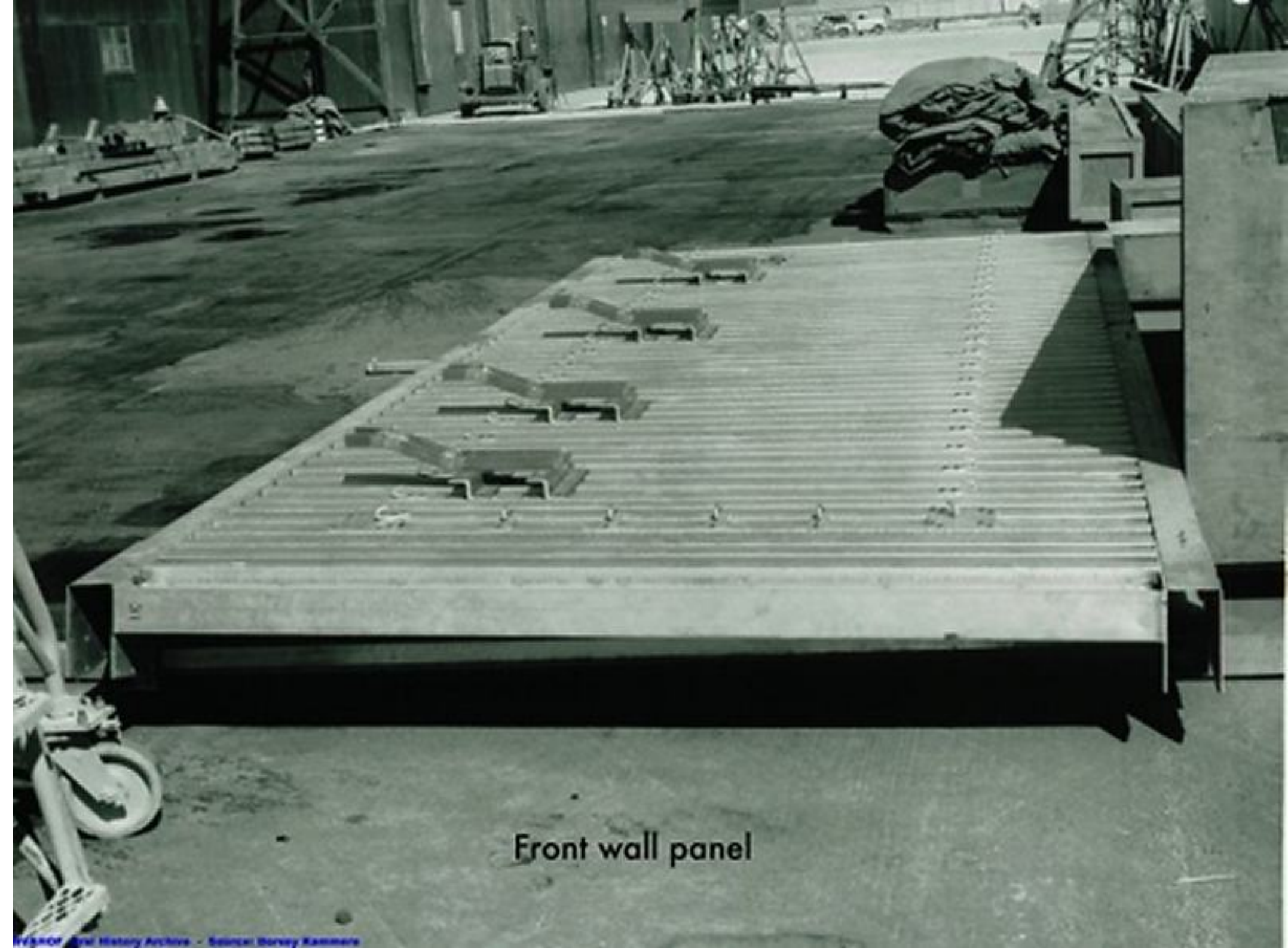
THE FOLLOWING PHOTOS SHOW UNLOADING THE PROTOTYPE A-12 IN THE BIG HANGARS AT AREA 51 FOLLOWING ITS ARRIVAL ON 28 FEBRUARY 1962



Removing cover, Area 51 hangar



Side wall frames



Front wall panel

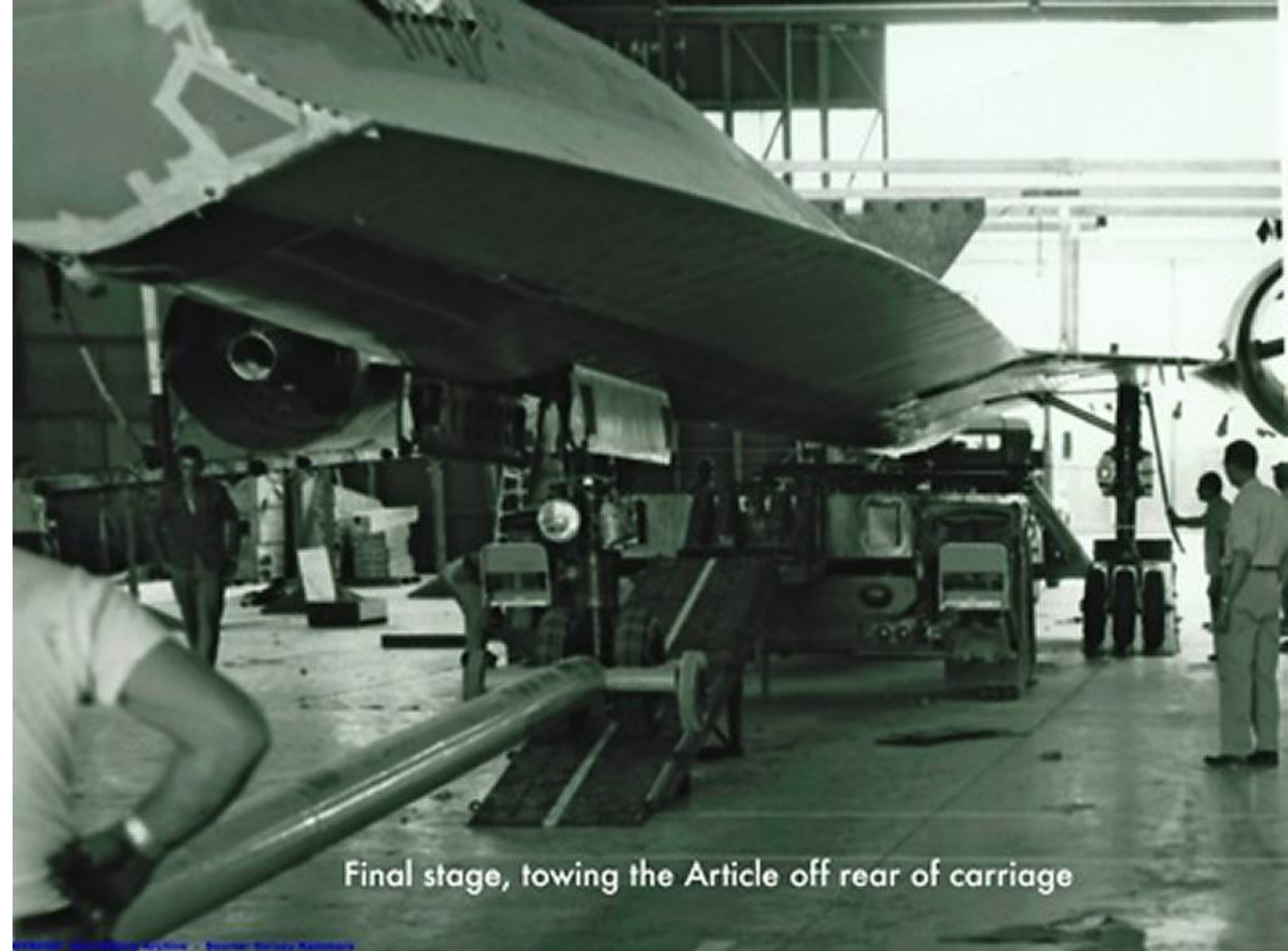
Rare shot of chase F-101B and the Connie



BYRON OF Civil History Archive - Source: Dervey Kamman



Article 121 coming out of cocoon



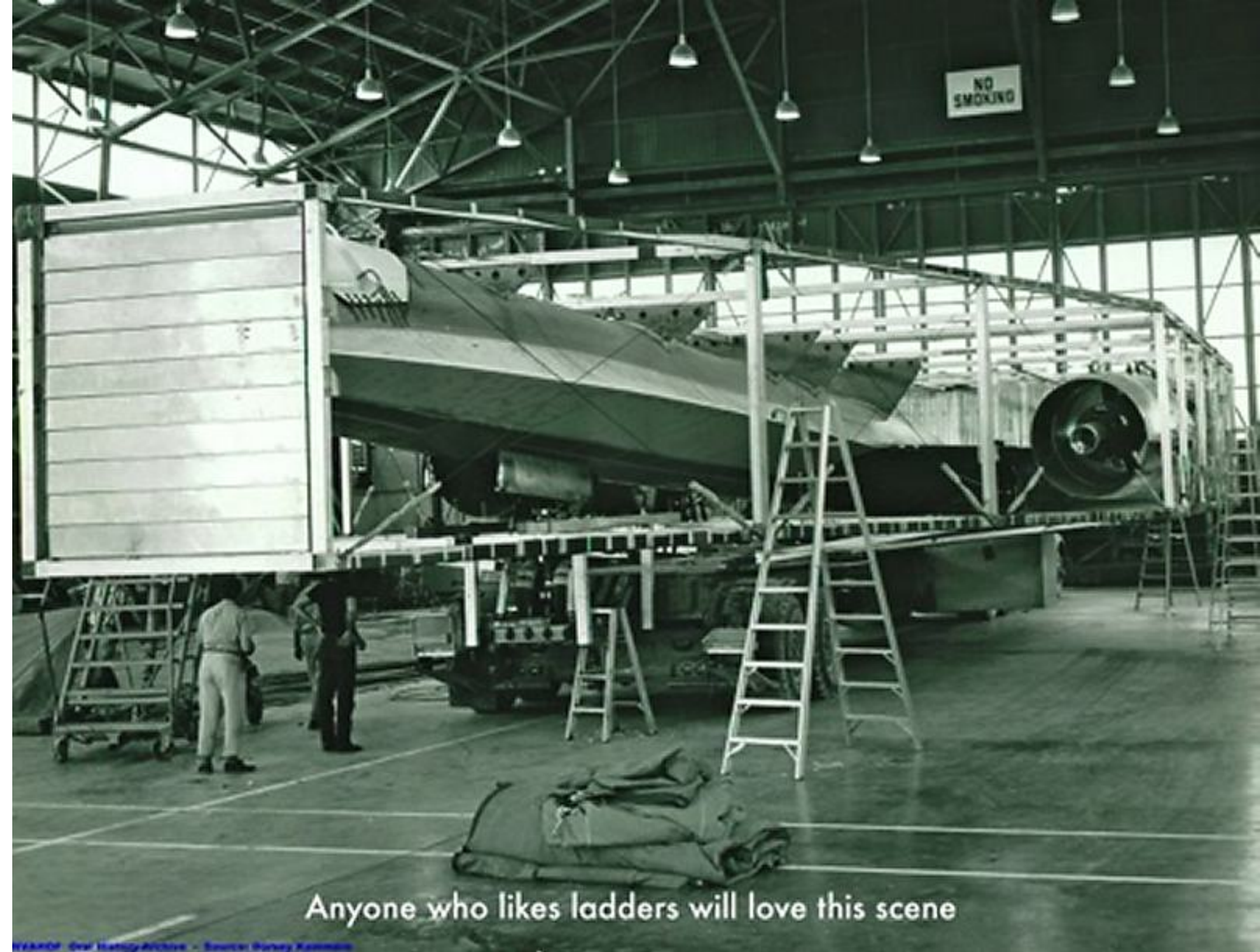
Final stage, towing the Article off rear of carriage



In the hangar at Area-51, Feb 1962

Puzzle of many pieces





Anyone who likes ladders will love this scene



At last, Article 121, the prototype A-12 is FREE

CONVOY DOCUMENTATION

[Meeting Memo 01-30-62, Page 1](#)

[Meeting Memo 01-30-62, Page 2](#)

[Movement of Test Article to Area 51](#)

[Convoy Personnel](#)

CREDITS

Dorsey G. Kammerer - Former Lockheed Engineer - Source of Photos

Jason Owen - Grandson of Kammerer- Contribution of Photos

Jim Noce - Former CIA Security Participant

Bob Murphy - Former Lockheed Project Manager

T.D. Barnes - Former EG&G Special Projects

Central Intelligence Agency

Lockheed-California Company

California Highway Patrol

Nevada Highway Patrol



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