

Aug 19, 1965

MISSION COMMENTARY TRANSCRIPT

Tape 1, Page 1

Our problem is centered around a liquid hydrogen sphere that contains the liquid hydrogen fuel for the fuel cell system in the Gemini V spacecraft. Throughout last evening and here this morning during the early phases of this countdown we have had difficulty attempting to fill this tank, this very vital tank, to complete the 8-day mission. We have had difficulty filling this tank to its capacity. Our attempt is actually to overfill the tank prior to lift-off. We attempt to load it to 104 percent of its capacity. That is, we have a certain capacity within this liquid hydrogen sphere. We deliberately overfill, because we will have boil-off of the liquid hydrogen which is maintained at a temperature of -423° . In our efforts to correct this boiloff situation, we now have changed trailers at Launch Complex 19. These trailers contain the liquid hydrogen fuel that is fed through the ground support equipment system to the sphere which is located in the spacecraft. We have changed these trailers at the present time, we are in the process of hooking up a new one. The reason is to get more volume into this system. We want the trailer that has a large amount of volume of hydrogen so that we can increase our pressure along the lines and buildup the amount of liquid hydrogen we want. This difficulty is still being looked at. We will have a further report on it shortly. The count is at 300 minutes and holding. As far as Astronauts Gordon Cooper and Pete Conrad are concerned the countdown called for them to be awakened at T-270 minutes in the count. It is our understanding at the present that both astronauts are still sleeping. Thirty minutes

after we pick up the count, that is at T-270, the astronauts will be awakened to start their preparations for the Gemini V flight. This is Gemini Launch Control at Cape Kennedy. We are holding at T-300 minutes.

END OF TAPE

This is Gemini mission control at the Cape. Our countdown on the Gemini V mission remains at T minus 300 minutes and holding. We are still five hours from the launch and the length of the hold has not been exactly determined at this time. Our problem centers around attempting to bring fuel into a hydrogen sphere that powers the fuel cell system within the Gemini V spacecraft. At the present time, we are attempting to switch a trailer in the ground support equipment that provides the hydrogen fuel to the system. Once we have hooked up with a new trailer in order to get more volume, we will then begin again to feed the liquid hydrogen into this hydrogen fuel sphere within the spacecraft. Once again, when we are ready and we attempt to do this, we will attempt to overfill the sphere, that is, go 4 percent higher than the quantity we want. This reason for this is we have a condition called boiloff with any type of cryogenic fuel, that is, a fuel that is maintained in liquid form at an extremely low temperature. We have severe heating problems under conditions like this, where liquid hydrogen, which is maintained at -423° , that's 420° below zero, quite obviously can be effected by heat. So we attempt to overfill this particular sphere and any other systems where we do use liquid hydrogen within the spacecraft. We attempt to overfill it so that we will have a boiloff system, resulting in launch time having a complete 100 percent capacity. We overfill, it will boil off a little bit, we will maintain it in this manner, keeping a close eye on it through the terminal phases of the countdown, resulting in 100 percent capacity at lift-off. Well, obviously, we are going to watch this very closely. We are aiming

for an eight-day mission on the Gemini V flight, and we want to insure that we are completely fueled at lift-off to insure that both astronauts Gordon Cooper and Pete Conrad will have a full system with them when they go. We are currently at 300 minutes and holding. We are expecting to get a report shortly on the status of the count, and when we expect to be able to resume. Earlier last night, a launch vehicle fueling began at 10:00 P.M. and lasted until about 1:30 in the morning. We had detected just prior to launch vehicle tanking that we might have a particular problem with this boiloff situation in the fuel cell system. At that time, however, we were not able to get into the spacecraft while the two stages of the Titan II launch vehicle were being fueled. We came back to look at our problem about 2 o'clock this morning and it was determined to go into initial hold in the countdown at 3:00 A.M. We are still holding at the present time, T minus 300 minutes and holding. We just received a report from the astronauts' quarters: Gordon Cooper and Pete Conrad are still sound asleep at this time; the intent is to awaken them 30 minutes after we pick up the countdown, that is, at 270 minutes in the countdown the prime pilot and the two prime pilots for the flight will be awakened. This is Gemini launch control at Cape Kennedy, holding at T minus 300 minutes.

This is Gemini Launch Control at Cape Kennedy. Our count remains at T-300 minutes and holding. We have just received a report from the blockhouse that the hold is expected to last an additional 30 minutes from this time. The hold was called at approximately 6:15 -- the continuation of the hold was called at approximately 6:15 a.m. this morning. This is Gemini Launch Control at the Cape. T-300 minutes and holding. The hold is expected to last an additional 30 minutes from this time.

END OF TAPE

This is Gemini launch control at Cape Kennedy. We are still holding on the Gemini V mission at T minus 300 minutes and holding. We were informed from the block house some 5 minutes ago that the hold is expected to last an additional 30 minutes from that time, which, on an estimate, would give us a pickup time, if all goes well, of 6:45 A.M. Eastern Standard Time. Our problem has centered around, as we reported earlier, on providing some liquid hydrogen fuel to a tanking system within the fuel cell, that is the power system in the Gemini V spacecraft. We have switched trailers in our automatic ground support equipment in order to get a trailer containing liquid hydrogen with a larger volume to insure that we will get a proper feed of the liquid hydrogen fuel into the fuel cell fuel system, this is the liquid hydrogen that does power the fuel cell system along with the lique oxygen. Our present time, we are still holding at T minus 300, command pilot Gordon Cooper and pilot Pete Conrad still sound asleep in the astronauts' quarters at the Kennedy Space Center on Merritt Island. This is Gemini launch control. We are T minus 300 minutes and holding.

This is Gemini Launch Control at Cape Kennedy. Our count remains on the Gemini V mission at T-300 minutes and holding, T-300 and holding. We are still looking into our problem of loading liquid hydrogen fuel into the fuel cell system aboard the Gemini V spacecraft. We have now switched the trailers we referred to earlier and we are now once again starting to load the liquid hydrogen into the fuel cell system. Astronauts Gordon Cooper and Pete Conrad are still sound asleep according to our last report from the Crew Quarters. Our problem this morning is namely concerned with attempting to load this fuel into the liquid hydrogen sphere aboard the spacecraft within the fuel cell system. We are attempting to load it to 4 percent above the capacity we want at lift-off, because of the low temperature of this particular fuel, just like any rocket launching we are using temperatures that are very low fuel, you do get a boiloff. Now this is no connection to a problem that we possibly might have had the other day when you received reports from the McDonnell Plant that there could be some type of heat transfer problem within the fuel cell system. This was rather thoroughly discussed, earlier in the mission. We still feel that we have no problem along these lines with the Gemini V spacecraft. This is no connection this morning with the problems that we discussed yesterday and thought we did not have any problems with this heat transfer situation. This morning our problem is concerned with loading the fuel aboard. There is no heat transfer condition as such, we are attempting to overload the system and now that we have switched trailers we expect that we will be resuming the count in a short while and expect that we will be able to load the fuel

aboard. This is Gemini Launch Control at the Cape. We are T-300 minutes and holding.

END OF TAPE

This is Gemini launch control at Cape Kennedy. We are still at T minus 300 minutes and holding. We have now started again to feed the liquid hydrogen fuel into the hydrogen sphere in the fuel cell system. We have a report that we are now up to 100 percent in the capacity of this particular sphere. We want to get up, as we reported earlier, to an overfill, that is, some 4 percent above the quantity we want to fly with. We are still starting to fuel now and we will not pick up the count until we reach this over-capacity within the fuel sphere, so that we will be assured at launch time that we have our full liquid hydrogen capacity in the spacecraft. Gordon Cooper and Pete Conrad, the prime pilots for the Gemini V flight are still having a nice sleep. They are over in the main spacecraft operations building. We have just received a report at this time that the hold will be continued for an additional 30 minutes from this time. We are still loading the liquid hydrogen fuel into the fuel cell system. We will not pick up the count until we reach the overfill capacity of this particular system. Once this is ready to go, we will pick up the count. The additional 30 minutes that has been declared at this time is to insure that we are ready with the fuel cell system prior to picking out, picking up the final phases of the spacecraft count, starting at 300. The launch vehicle, meanwhile, on pad 19 is standing by. They will pick up their final count at 240 minutes. In addition to the fueling at the present time that is going on with the spacecraft, we are also completing some checks with the radar system that will be used in connected with the radar evaluation pod during the Gemini V mission. This is Gemini launch control. We are holding at T minus 300 minutes.

This is Gemini Launch Control at the Cape. We are still at T-300 minutes and holding on the Gemini V mission. Astronauts Gordon Cooper and Pete Conrad still sleeping soundly. The launch crew is working rather feverously at the Pad in an attempt to finally load the liquid hydrogen aboard the fuel cell system in the spacecraft. We are now up to about 100 percent in the liquid hydrogen within this sphere. Now in this small sphere, which contains some 22 pounds of hydrogen altogether, we have now practically reached the top of the sphere. There is pressure feeding in at the top, we call it ullage. This is called -- ullage is the amount of space that is left, of course. It is under pressure and the process to overfill, that is, get is get in this 4 percent more, is a more difficult and time consuming operation this morning. We can't tell whether the problem is concerned with perhaps some pressure in the sphere or whether it might be that some aspect is not properly chilled down, of course, we are working with liquid hydrogen at 423° below zero. We know of no defects within the system at the present time. We are still looking at the system, we are still attempting to overfill the tank at the present time. This hold has been declared to last for some 15 some 20 to 25 minutes from now as we get further reports from the blockhouse we will pass them on to you. We are holding at T-300 minutes. This is Gemini Launch Control.

END OF TAPE

This is Gemini Launch Control at the Cape. We are T-300 minutes and holding. Our count remains on the Gemini V mission at T-300 and holding. We are still checking closely on the feeding on the liquid hydrogen fuel into the fuel cell system onboard the Gemini V spacecraft. We still have not attained the 104 capacity that we are seeking for this flight, that is, we overload the liquid hydrogen sphere containing the fuel for the fuel cell system to insure that at liftoff we will have full capacity of liquid hydrogen fuel for the 8-day flight. We are at T-300 minutes and holding. We have had a report that the Astronauts might have gotten up, we do not have confirmation at this time, as soon as we do we will report it to you. We are at T-300 minutes and holding. This is Gemini Launch Control at the Cape.

END OF TAPE

This is Gemini Launch Control at the Cape. We are still at T-300 minutes and holding. We are still continuing to load the liquid hydrogen aboard the fuel cell system. We now have a report from the blockhouse that we are up to 101.5 percent in the loading. As we reported earlier we were attempting to load 4 percent above the capacity we want to fly with during the 8-day mission. We are still continuing the slow tedious process of loading the liquid hydrogen. Our count remains at T-300 minutes and holding. This is Gemini Launch Control.

END OF TAPE

This is Gemini Launch Control at the Cape. We have been informed that the countdown of Gemini V Mission is expected to resume shortly. We have continued our loading of liquid hydrogen fuel in the fuel cell system. We have reached an over capacity up to 101.5 percent and the Project Officials, both here and Houston, have determined that this will be acceptable at the present time for the flight. We have been placed on alert that the countdown will resume momentarily. In approximately 1 minute now, the count will be resumed. We are just about 20 seconds away from resuming the countdown at T-300. Our last report a few moments ago gave an indication that the Command Pilot -- Prime Pilots for the flight both were still asleep but it is expected that they will get up very shortly. Now 5 seconds away. T-300 minutes and counting. T-300 minutes and counting on the Gemini V flight. This is Gemini Launch Control at the Cape.

END OF TAPE

This is Gemini Launch Control at the Cape. We are now at T-285 minutes and counting. T-285 and counting. In the Gemini spacecraft at this time are backup pilots Neil Armstrong, and Elliott See. At the present time in the countdown, the backup pilots are going to do a series of communication checks between the spacecraft and the blockhouse here at Cape Kennedy. All systems are looking good at the present time, and this is Gemini Launch Control, T-285 minutes and 20 seconds and counting.

END OF TAPE

This is Gemini Launch Control at the Cape. We are now at T-276 minutes and counting. At this point in the Gemini V countdown we are proceeding normally. Backup Pilots Neil Armstrong and Elliot See are in the Gemini V spacecraft and continuing a series of communication checks from the spacecraft at this time. To elaborate a little further on the problems we encountered earlier this morning on loading fuel into the Gemini V spacecraft fuel cell, this was basically the problem we faced. We had liquid hydrogen, a cryogenic fuel, that is, a fuel at a very low temperature, as a matter of fact, 423° below zero, being fed into this pumice like fuel sphere. As we reached about 100 capacity, a normal heating situation which is encountered in any type of situation of loading hydrogen fuel occurs and we get what is called a boil-off, and some of the liquid hydrogen becomes a gas. Then if we try to overfill, we would face this situation of bringing more liquid hydrogen into the system while hydrogen gas within the sphere was boiling off at the same time. This gave us a back pressure in the system. Once again, this is a normal situation, and makes for a time consuming operation to overfill liquid hydrogen in this particular system. All conditions are still looking go at this time, we understand Astronauts Cooper and Conrad are now up. We will have further information on this shortly. This is Gemini Launch Control at the Cape T-274 minutes and 50 seconds and counting.

END OF TAPE

This is Gemini Launch Control at the Cape. We are now at T-266 minutes and counting. All is going well at the present time in the countdown for the Gemini V Flight. We have a report that some 5 minutes ago, at T-270 in the countdown, Astronauts Gordon Cooper and Pete Conrad were awakened by Deke Slayton in the Manned Spacecraft Operations Building Crew Quarters at Merrett Island. At this point in the countdown, coming up on T-265 and counting, in the spacecraft Neil Armstrong and Elliot See, the backup pilots for this mission continue a series of checkouts within the spacecraft. They are now coming up on a series of power checks of various systems in the spacecraft with both reporting back to the Spacecraft Test Conductor and to the Manned Spacecraft Center Mission Control Center in Houston on the status of their power systems and voltages. Weather conditions look generally the same as were reported yesterday for the Worldwide tracking operation on Gemini V. For the Cape area where the launch time later this morning, we are looking for scattered clouds at about 2000 feet, a temperature of 86 degrees, winds from the south southeast at 10 miles per hour. Our latest report on Typhoon Lucy spots it some 400 miles south of Tokeo. It is in a secondary recovery area, but it is not expected to effect our launching this morning. One destroyer has been moved out of the area and brought back to it Yakauska, Japan base. However, we do not feel at the present time that there will be any effect on the launching this morning by either Typhoon Lucy or Typhoon Mary which is now swept off the South China Coast some 200 miles off Formosa. They are watching weather conditions throughout the world as we continue our countdown at the

present time. We foresee no difficulties that would create a hold in our launching attempt this morning at the present time. This is Gemini Launch Control. We are now coming up on T-264 minutes. MARK. T-264 minutes and counting.

END OF TAPE

This is Gemini launch control at the Cape. Count is T minus 256 minutes and counting; T minus 256 and counting. As the prime pilots for the Gemini V mission, Gordon Cooper and Pete Conrad, have been awakened and now getting up and getting ready for their flight. They were awakened at 7:48 Eastern Standard Time by Deke Slaton in the crew quarters at the Manned Spacecraft Operations Building in Merritt Island. Meanwhile, at launch complex 19, their backup pilots, Neal Armstrong and Elliot See, are still in the Gemini V spacecraft, continuing a series of checks. At this point in the countdown, we are completing some power checks in the spacecraft and we're preparing to meet the launch vehicle countdown at T minus 240. At this point, we start a terminal count where spacecraft launch vehicle and the Air Force Eastern Test Range all meet in a final joint countdown at T-240. All conditions looking good at this time, coming up on T-255 mark, T-255 minutes and counting. This is Gemini launch control at the Cape.

This is Gemini Launch Control at Cape Kennedy. We are now at T-246 minutes and counting. All situations, all conditions looking good on the Gemini V mission at the present time. As far as the spacecraft is concerned, we are completing some power checks in the spacecraft and preparing for a roll call, a status check, of all different conditions concerned with the spacecraft prior to meeting the launch vehicle countdown some 5 minutes from now. In the block-house, as far as the launch vehicle is concerned, the same situation is occurring. They are preparing for the spacecraft to meet them at T-240 minutes in the countdown. All conditions looking good at the present time. Backup Pilots Neil Armstrong and Elliott See are still in the spacecraft continuing their checks. T-245 minutes and 10 seconds -- MARK. This is Gemini Launch Control at the Cape.

END OF TAPE

This is Gemini launch control, T-240 minutes and counting. Our final countdown, the meeting of the spacecraft with the launch vehicle in the final count has begun as the spacecraft and launch vehicle join together for a general count starting at T-240 minutes. All systems looking good at the present time on the launch pad. Astronauts Neil Armstrong and Elliot See still aboard the Gemini V spacecraft, going through final checkouts prior to the arrival of the prime pilots, Gordon Cooper and Pete Conrad. This is Gemini launch control. T-239 minutes and 22 seconds in counting.

This is Gemini Launch Control at the Cape. T-226 minutes and counting. Countdown on the Gemini V launch continues to run smoothly at this time. At this point, Astronauts Gordon Cooper and Pete Conrad the Prime Pilots for this mission should have finished up their physical examination in the Crew Quarters and are probably sitting down for breakfast at this time, or just about to in a matter of a few minutes. We expect to have a complete report on their activities in the Crew Quarters a little later in the count. At this time at the Launch Pad conditions are still going along very well. We are running through some checks with the destruct system aboard the Titan II Launch Vehicle from the blockhouse at this time. This is one of a series of tests during the terminal phase of the countdown to insure that the destruct system in the launch vehicle will be operable during flight. The destruct system itself of course is tied into the malfunction detection system within the launch vehicle spacecraft configuration which would tie into an abort of the flight if for any reason the decision is made to terminate the flight at any time. This is Gemini Launch Control now 224 minutes and 50 seconds and counting.

END OF TAPE

This is Gemini launch control at the Cape. We are now T-216 minutes and counting. Countdown on Gemini V mission still going smoothly at this time. At this point in the countdown at launch complex 19, a series of compatibility checks going on checking the launch vehicle's radio command guidance system, tying the radio command guidance system also into the spacecraft computer. So, we are getting a compatibility check between a computer in the spacecraft and the radio command guidance system that will carry the Titan II on its flight. Astronauts Neil Armstrong and Elliot See, the backup pilots for this mission, still in the spacecraft, still performing their checks, and they will be ready later in the count to give a full report to the prime pilots, Gordon Cooper and Pete Conrad when they are ready to board. This is Gemini launch control at the Cape, now T-215 minutes, 5 seconds and counting.

This is Gemini launch control at the Cape. We have T-195 minutes and counting, T-195 and counting. Correction, that's 196. Our countdown is going smoothly at the present time. In the block house, we are still continuing our checks at the present time with the launch vehicle. We are installing the initiators in the destruct system in the Titan II launch vehicle. As a result, all radio frequency in the area has been turned off while the initiators are installed. Later in the countdown, down to the last few minutes, these initiators are on, so in the event a destruct has to occur after lift-off, then it would be accomplished. Right now the initiators are being put in and all radio frequency is off. Our checkouts still continue with the spacecraft, but at the present time we are minus our backup pilots, Neil Armstrong and Pete Conrad. They left the spacecraft about 9 minutes ago. At this time, in a matter of 10 minutes in the countdown, the prime pilots, Gordon Cooper and Pete Conrad are due to depart from their crew quarters. Later in the count we will have the exact times for you when they depart for launch complex 19 where they will suit-up for the flight. This is Gemini launch control. All conditions looking good on the Gemini V countdown at this time.

End of tape.

The Prime Pilots for the Gemini V --- Astronauts Gordon Cooper and Pete Conrad have departed the Crew Quarters on their way to Launch Complex 16, some 8 minutes ago at 9:12 a.m. e.s.t. and they departed the crew quarters. They are now on their way to the suit trailer at Launch Complex 16 which is adjacent to the Gemini Launch Complex where they will don their suits, go through their checkout and prepare for the final moments of the launch. They will be at the crew quarters until 108 minutes in the countdown when they, correction, they will be at the trailer at launch complex 16 checking out their space suits till about 108 minutes in the count. At that time they will depart from the trailer and go to adjacent complex 19 to board the spacecraft for this flight. This is Gemini Launch Control. Our countdown continues to run smoothly. We are coming up on T-177 minutes -- MARK. T-177 minutes and counting.

END OF TAPE

Two young tourists from Bever Falls, Pennsylvania, on their way to Miami, stopped on the beach last night in the area north of the Cape. This morning, they walked south on the beach to an area around Pad 19 where they were apprehended by security police. The pair were identified as Gary Ralph Young, age 22, and Nora Lee Mullenger, age 17. They are being held by security police for questioning at this time.

END OF TAPE

This is Gemini control, Houston. Good morning.

The delay on the flight this morning of a little over three hours has delayed the planned timing of ejection of our rendezvous evaluation pod. We now expect that pod to be ejected in, during the second revolution, at one hour and 54 minutes into the flight. This would assume an approximate 11:18 A.M. Central Standard lift-off. The spectrometer, one of three spectrometers which will be used during the flight, perhaps the key spectrometer that will be used to track the pod and take certain other ground and space measurements, which is cooled by liquid neon gas supply planned to last about 12 hours into the flight, has been topped off. It was topped off about three hours ago, and we have at least a 12-hour lifetime on that particular experiment. There are two other spectrometers which will be used for various space measurements, earth measurements, which do not require any special liquid cooling. Some information on Gordon Cooper: Dr. Berry has recalled that his heart rate, on his MA-9 lift-off was 168. He expects about the same this morning on Gordo. At rest, Gordon Cooper normally runs a 65 to 70 heartbeat. Pete Conrad runs slightly above Cooper at rest; his heart rate is 70 to 75 and Dr. Berry expects his rate at lift-off will be something up in the 170 range. Around the world, the network is quite green this morning, with one or two exceptions: Hawaii has had some trouble with their C-band radar, and their telemetry equipment. They're estimating a complete fix within 5 minutes. Another station, a ship, the U.S.S. Wheeling, stationed just north of Midway Island in the Pacific, has been unable to communicate by either voice or teletype. This station is not a critical one, and would

not be a restraint to the launch. The other ships, the coastal sentry Quebec has been playing tag with some typhoons the last couple of days; however, it is on the station just off the island of Formosa. The Rose Knot Victor for this flight is stationed about 5.750 miles off the Chilean coast, South America, and, as I indicated earlier, all the stations with the exception of Hawaii and the Wheeling are quite green and ready to support the launch. We have one destroyer programed for the far western Pacific area, has been ordered back to its station in Japan because of the typhoon activity in the western Pacific. Airplanes which will support this flight, more than 20 at launch, have been deploying, starting about 3 hours ago, their times of departure are staggered out; the first one, however, left Patrick Air Force Base at about 6:00 A.M., Houston time this morning. That is pretty much the picture from the Mission Control Center in Houston.

End of tape.

This is Gemini Launch Control at the Cape. Our countdown is continuing smoothly on the Gemini V Mission. We now stand at 123 minutes 7 seconds and counting. Astronauts Gordon Cooper and Pete Conrad, the Prime Pilots for the flight are completing their suiting procedures in the Suit Trailer at Launch Complex 16 and are due to depart for Launch Complex 19 and the Gemini V spacecraft at approximately T-108 minutes. In the mean time, Astronaut Neil Armstrong has returned to the spacecraft. He came back about 25 minutes ago and he is continuing the series of tests in preparation for the crew ingress. At the present time the spacecraft is monitoring the pressurization in the launch vehicle that was finished some 30 minutes ago. This morning, in the crew quarters, Astronauts Cooper and Conrad had breakfast with the following people. The -- joining them for breakfast were the Gemini VI Crew, Astronauts Wally Schirra and Tom Stafford, Deke Slayton, who is the Assistant Director of the Manned Spacecraft Center for Crew Operations, and the two physicians who gave them their physical examination this morning. Dr. Gene Tubbs, and Dr. Howard Minners. The breakfast consisted of a menu of the following: Orange juice, steaks, scrambled eggs, and coffee. Astronauts Cooper and Conrad are now finishing up their suit checks in the trailer and are due to come out some 12 minutes from now. This is Gemini Launch Control. Our count continuing to proceed smoothly now 121 minutes 31 seconds and counting.

END OF TAPE

This is Gemini control, Houston. Within the last 15 minutes, the red team, the red flight control team headed by Christ Kraft, sometimes called the "go team", has taken its places at the consoles here in Houston. The blue team has been on station here for the past 7 hours, are briefing their counterparts and moving out of the room. The capsule communicators around the world have completed what they call a voice confidence test, quite successfully. Earlier we reported that the Hawaii station was having trouble with its C-band radar and with one other item, it was the telemetry system. Both trouble spots have been cleared up and Hawaii along with all the other stations around the world are completely green at right now. The Wheeling, the ship parked just north of Midway Island in the Pacific, now has voice capability. They are still without teletype, but again we emphasize this would not be a constraint to the launch. The, meanwhile, down at pad 16, the astronauts have completed a suit purge, a check of their pressure suits, and they should be leaving that complex within a very few minutes. This is Gemini control, Houston, with one hour and 4 minutes to go before launch.

End of tape.

Admiral Thomas H. Moore is Commander-in-Chief of Atlantic Fleet, and he is responsible for the ships which are deployed in the Recovery Area in the Atlantic. Admiral, could you tell us how many you have and where they are?

Well, we have 10 ships now of all types, lead off by the Lake Champaign and 5 destroyers. And, of course, in addition, there are ships in the Pacific Ocean too.

Now, these Atlantic ships, the primary recovery area, where are they located now?

They are disposed along a line between the Coast of Florida and the Coast of Africa.

Has the delay ment that you had to change any of these positions?

No, none what ever.

Will it mean possible changes later?

No, I think that if the shot goes as scheduled, the ships will carry out their regular instructions to move in coordination with the order. For instance, the Lake Champaign, which is in the Bermuda - -

END OF TAPE

This is Gemini launch control at the Cape. Countdown is still proceeding normally, we have T-91 minutes and 41 seconds at the present time. Astronauts Gordon Cooper and Pete Conrad are now aboard the Gemini V spacecraft. They entered the spacecraft within seconds of each other at 10:42 A.M. Eastern Standard Time. Once the two pilots do get settled in the spacecraft, they will proceed through a series of intercom checks, these are communication checks, with the block house and with Mission Control in Houston. This will be followed by some daily bio-medical readouts primarily with the blood pressure system. This is Gemini launch control, now 91 minutes, 10 seconds and counting.

End of tape.

This is Gemini Launch Control at the Cape, now at T-75 minutes and 53 seconds and counting. Everything is still going smoothly at this time. Just at the time in the countdown when it is supposed to, Astronaut Gordon Cooper's hatch was closed. It was closed at 11:01 a.m. e.s.t. Reopened for a moment, and then reclosed. We are now sealing the hatches following this we will prepare to breakup the white room area and prepare for lowering the erector on Launch Complex 19. Both Astronauts are reporting their communications checks. They sould good. As they entered the spacecraft, there was a little kidding on the part of some of the technicians in the white room, this is a usual practice that does occur, it has occurred on both the GT-3 and the Gemini IV flights previously. All conditions still looking good at Launch Complex 19, now 75 minutes and counting. This is Gemini Launch Control.

END OF TAPE

This is Gemini launch control at Cape Kennedy. The countdown still proceeding satisfactorily, now T-69 minutes and 35 seconds and counting. As reported earlier, both hatches on the Gemini V spacecraft have been closed, and Astronauts Gordon Cooper, the command pilot, and Pete Conrad, the pilot, are reporting to the block house in a series of functions inside the spacecraft. They have been giving some reports through Astronaut Rusty Schwiekard, who is the capsule communicator in the block house. At the present time, the cabin has been purged of air, and is now on 100 percent oxygen. All systems still looking good at this time, coming up on T-69 minutes, mark, T-69 minutes and counting.

End of tape.

This is Gemini Launch Control at the Cape, countdown is now T-59 minutes and counting. All phases still proceeding satisfactorily at Launch Complex 19. At the present time, the Gemini V Pilots are running through a series of panel switch tests with Astronaut Rusty Schweikart in the blockhouse. This is to insure that the various switches on the panels within the spacecraft are at the proper settings. The Launch Vehicle Test Conductor in the mean time is monitoring a series of tests with the radio command guidance system that carries the launch vehicle in flight. All systems still looking good. We are now at T-58 minutes 20 seconds and counting. This is Gemini Launch Control at the Cape.

END OF TAPE

This is Gemini Launch Control at the Cape. Now at T-50 minutes and 22 seconds and counting. Our countdown still proceeds to go satisfactorily. In the Gemini V spacecraft at the present time Astronaut Cooper and Conrad are completing their panel switch reports to Astronaut Rusty Schweikart in the blockhouse. As far as the launch vehicle is concerned, a series of tests with the Air Force Eastern Test Range for tracking purposes are now being conducted. The Gemini V flight will be certified as far as any possible international flight records are concerned. Representing the National Aeronautics Association here at Cape Kennedy to certify the Gemini V flight is Mr. W. B. Wents. Mr. Wents is with Rocketdyne Division of North American Aviation. The National Aeronautics Association is affiliated with Federation Aeronautic International, which is the international organization that certifies World Flight Records. Also, certifying for the National Aeronautics Association in Houston today for the lift-off is Dr. George Szego. Dr. Szego is Director of Space Systems for the Institute of Defense Analysis. At Houston for the touchdown after the flight will be Mr. J. R. Drake, who is Corporate Director of North American Aviation, Incorporated. All three of these gentlemen are representing the National Aeronautics Association in this particular capacity to certify the Gemini V Flight for any possible flight records. This is Gemini Launch Control at the Cape now at T-48 minutes and 39 seconds and counting.

END OF TAPE.

This is Gemini Launch Control at the Cape coming upon T-39 minutes - MARK. T-39 minutes and counting. At both Control Centers and at the Launch Pad, there's a little bit of concern about a nice large black cloud in the Launch Complex 19 area at the present time. Weather men are taking a closer look and we expect a further report on it shortly. Meanwhile, the count is still going smoothly and Astronauts Cooper and Conrad are sounding very good as they continue to report from the spacecraft. They have just finished up an intercom check and are preparing for erector lowering which will come some 3 minutes and 20 seconds from now, if all continues smoothly. Meanwhile, on the launch vehicle itself, we passed one of the highlights in the countdown where the prevalues have been opened in the first stage booster. These are valves within the propulsion system that permit both the oxidizer and the fuel to flow a little closer to the thrust chamber. Once these prevalues are opened, there is just one valve left that keeps the fuel and oxidizer from the thrust chamber itself. This is called a thrust chamber valve. The thrust chamber valve will be initiated at ignition. The prevalue in the second stage of the Titan II are not open until some 35 seconds before launch. We are keeping a close look on our black cloud and expect to have a report momentarily. This is Gemini Launch Control, T-37 minutes and 30 seconds and counting.

END OF TAPE

This is Gemini launch control at the Cape. The Gemini V mission still counting at T-31 minutes and 26 seconds. Astronauts Gordon Cooper and Pete Conrad still sitting comfortably in the Gemini V spacecraft, reporting back on the activity within their vehicle. However, in the meantime, we have not yet started to move the erector. There is no problem with the erector itself, but we are still awaiting a determination on that pesky black cloud that we have in the area. We expect to have some more information forthcoming very soon. In the meantime, the count continues. It is now T-30 minutes, 54 seconds and counting. This is Gemini launch control at the Cape.

End of tape.

This is Gemini Launch Control at the Cape. We are now at T-25 minutes 44 seconds and counting. There has been a little rain out in Launch Complex 19 from our black cloud in the area, we are still keeping close watch, but the countdown is still continuing. An attempt has not been made yet to lower the erector on Launch Pad 19. Astronauts Cooper and Conrad are standing by. They are getting reports on the situation. In the mean time, as far as the launch vehicle is concerned, if you remember the POGO situation we had with the Titan II vehicle, we made a fix in the fuel system of the booster in order to insure that we would not get any oscillations on the flight. At the present time now the erector is coming down on Launch Complex 19. We are now at T-25 minutes and counting. To continue on the POGO situation, the --we had to make a manual fix of the spin type which is located in the fuel system of the first stage for a reason that is not available at the present time. This had to be done manually. It has been accomplished and the standpipe itself has been chopped off. This is a small device that is added to the fuel system to prevent any oscillation during the flight of the Titan II. This is Gemini Launch Control. We are now at T-24 minutes and 24 seconds and counting.

END OF TAPE

This is Gemini launch control at the Cape. Our countdown continues; it is now T-19 minutes and 28 seconds and counting. Our countdown is continuing on. The erector is about 95 percent lower at this time. To get back to our Pogo problem this morning and explain it perhaps a little further, back on the earlier history of the Titan II launch vehicle, sloshing of the fuel system in the first stage created some oscillation, some actual shaking in the launch vehicle, that was determined would constitute a problem on manned flight. As a result, a fix was made in the first stage booster in which a spin pipe, an actual small pipe was inserted into the fuel system to bleed off part of the oxidizer in the system and thus prevent the sloshing. Now, this oxidizer which is at an extremely low temperature, has to be topped off similar to the liquid hydrogen that we were topping off earlier this morning. In order to do this, nitrogen is fed into the system. We were unable to do this automatically as it should be done, and as a result, was manually fixed at the launch pad a short while ago. We are in fine condition as far as the spin pipe, and the Pogo problem is concerned right now. We are still counting and the count is now coming up on T-18 minutes, and several seconds.

End of tape.

This is Gemini Launch Control at the Cape. Our countdown continues and it is now T-14 minutes and 30 seconds and counting. Coming up is an important test at the Launch Pad. This will be a test of the spacecraft propulsion system, that is, the primary propulsion called the Orbit Attitude and Maneuvering System. A series of tests with one and one-half second bursts from the thrusters in the spacecraft will be coming up shortly. As the spacecraft propulsion system is being tested, Pilot Pete Conrad in the spacecraft will be monitoring these functions. The tests will go as follows: with the thrusters, with one and one-half second bursts each, starting with a yaw left, a pitch down, a yaw right, a pitch up, and a yaw left. This covers all aspects of the thruster system and if it is successfully completed, we will continue with the count. This is Gemini Launch Control, now T-13 minutes and 30 seconds and counting.

END OF TAPE

This is Gemini launch control at the Cape. We are now at T-10 minutes and 9 seconds. We plan to come up with a hold at T-10 minutes. T-10 minutes and holding on the Gemini V mission. T-10 and holding. We are about to check now. We understand that we have a telemetry problem with the spacecraft. We have no further information available on it at this moment. We hope to have it very shortly. In the meantime, Astronauts Cooper and Conrad have been discussing the weather in the spacecraft with Astronaut Rusty Schwiebart in the block house. Pete Conrad did confirm that he saw a couple of raindrops on his window, but there is no concern. This is Gemini launch control. T-10 minutes and holding.

End of tape.

This is Gemini Launch Control at Cape Kennedy. We are still at T-10 minutes and holding on the Gemini V flight. We are checking into our problem with the Telemetry System in the spacecraft. Our problem centered around Commutators in the spacecraft telemetry system.

What a commutator does is to switch from one channel of telemetry to another automatically within the telemetry system. In the blockhouse, we are receiving some low level readings on these commutators. As a result, we determine to hold and we are now investigating to see what the problem is. The problem is not necessarily with the commutators themselves, but because of the low level readings it was determined to hold and investigate further. This is Gemini Launch Control at T-10 minutes and holding.

END OF TAPE

...T-10 minutes and holding. The erector is now being raised back to the launch vehicle on launch complex 19. Our weatherman has told us that there is a good possibility of thunder showers, and in order not to take any chance with the mission, the erector is being raised. The Astronauts Gordon Cooper and Pete Conrad are taking it very well. Pete Conrad, when he heard, requested permission from the spacecraft test conductor to turn on the spacecraft windshield wipers, in jest, of course. This is Gemini launch control. We will have a further report momentarily. We are still holding at T-10 minutes.

End of tape.

This is Gemini Control, Houston. The erector has been put back up around the Titan II and spacecraft to serve as an umbrella because there is thundershower activity in the area. There is also some lighting farther south down on the coast and it serves as a better ground, rather than having the spacecraft and launch vehicle exposed. The problems in the spacecraft, we encountered a telemetry dropout or a loss of signal on one of the telemetry links, between T-20 minutes T-10 minutes. The secondary circuit, the secondary system in that particular circuit did work without dropout. We switched back to the primary circuit, and it also worked uninterrupted, but the dropout has caused concern among the Engineers in the blockhouse and back here in Houston. They plan to look at this problem for at least another 15 minutes by which time we should be able to better advise you on the length of the hold, or whether we are going to go today. The hold to date has not caused any hardship on the mission, and quite the contrary, the fuel and the oxidizer in the bird are warming up slower than usual and the warming up effect has the overall effect of enhancing, that is, we could actually loft into orbit slightly more weight at this point in time than we could have 3 or 4 hours earlier if we launched then. So, it is a margin of comfort in that area. This is Gemini Control in Houston holding at T-10 minutes.

END OF TAPE.

Gemini launch control at the Cape. Our countdown remains at T-10 minutes and holding. We are still checking out our telemetry problem. The astronauts in the spacecraft, Gordon Cooper and Pete Conrad, got a report a short while ago that we still do not have the answer. They express their sentiments by saying, "Let's hang on and let's try and go today." We are still keeping a close watch on the weather and checking out our telemetry problem. This is Gemini launch control at the Cape. We are still holding at T-10 minutes.

This is Gemini Control, Houston. Mission Director Christinson has just announced he's scrubbing the mission. Stand by 1.

This is Gemini Control, Houston. I want to reaffirm that the mission has been scrubbed. We are now considering what the minimum recycling time will be. We cannot quote you an estimate on the turn-around time. The mission was scrubbed because the Electronic Problems in the spacecraft, and primarily in that telemetry system. Within a very few minutes, we expect to have an estimate on how soon the spacecraft and the bird can be turned around or recycled as they call it, and try for another launch. The pilots should be leaving the spacecraft within 30 minutes, I would say. Stand by for further word.

END OF TAPE

.....after the determination is made. In the meantime, the astronauts have requested permission to leave the spacecraft and action is being taken at the present time to open up the hatches and take them out. It is expected that the astronauts will be coming out of the spacecraft in a short time. This is Gemini launch control.

End of tape.

This is Gemini Launch Control. The Gemini V Pilots are still in the spacecraft at the present time. They are going through the whole sequence of power-down checks within the spacecraft to make sure all switches are in the proper position now that we have postponed the flight. Gordon Cooper spoke for himself and Pete Conrad when he came up with the following quote concerned with today's operation. Gordon said, "Awe Gee, you promised a launch today, and not a wet mock." "Awe Gee, you promised a launch today, and not a wet mock." Of course, when he refers to the Wet Mock, this is the simulated flight demonstration that occurs several weeks prior to a launch where the Astronauts do spend a number of hours in the spacecraft, of course, getting out and not taking off. This is Gemini Launch Control, we are still waiting word on a recycle. We will pass it on to you as soon as it is available.

END OF TAPE

This is Gemini launch control at the Cape. Astronauts Gordon Cooper and Pete Conrad are now out of their spacecraft. They have come down the elevator, and are on their way to the trailer, the suit-up trailer, at launch complex 16. We are still having a session to determine if we can discover what our problem was on this telemetry dropout and as we get information we will pass it on to you immediately.

End of tape.

This is Gemini Control, Houston, 4 hours, 13 minutes into the mission. We have had no contact since the Canarvan pass, the spacecraft over the island chain in the far southwestern Pacific. It's still running in a very much powered down configuration. Probably the most optimistic thing we've heard came from Jim McDivitt recently and said the decrease seems to, the rate of decrease, seems less than it had been in that O₂ pressure element that we're watching. The flight continues here; most of the controllers are out on a luncheon break, and in general things have not changed in the past ten minutes, since our last report. Gemini Control, Houston.

END OF TAPE

This is Gemini Control at Houston, 4 hours 32 minutes into the mission. Our status is unchanged. The spacecraft just leaving the Hawaii station acquisition area. We did power up the transmitters and talk with the spacecraft and powered up several pieces of equipment to check our readings, and we find that reluctant oxygen pressure in the fuel cell was standing at about 65 pounds. When this value, if it drops as low as 20, we would have to turn off at least one of the two fuel cell sections because at that point, we would lose our ability to regulate and monitor the pressure. The flight as we say, continues of the States. We will leave the spacecraft in a powered down configuration except for a brief interrogation, probably over the Texas site. It may be the Texas site, or it may be Canaveral, chances are, right now it looks like the Texas site will be used. Earlier we identified that should a termination become necessary in the next few orbits, we would probably elect to land in an area called 6-4. This is a point about 490 miles northeast of Hawaii. There is an oiler on station there, earlier identified by its call sign it is using today. The call sign is bankside K. The name of the ship is the Chipola. C and in Charlie, i-p-o-l-a. In addition there is a destroyer steaming in that direction, steaming out of Pearl Harbour. It's present position is 190 miles northeast of Hawaii and it is proceeding to a point some 60 miles uprange from the Chipola. The -- in summation then, the general status of the fuel is unchanged. We are still watching it very closely and at 4 hours and 34 minutes into the mission, this is Gemini Control.

In addition, we have the tape from the Hawaii pass wrapped up and we are prepared to play it for you now.

Gemini Control here. We have the tape conversation, however brief, from the Hawaii pass. Its wrapped up and we are prepared to play that tape for you now.

Hawaii Cap Com Gemini V, Hawaii Cap Com.

Conrad Go ahead Hawaii.

Hawaii Cap Com Would you place your OAMS heater circuit breaker to off.

Conrad Roger, OAMS heater circuit breaker off.

Hawaii Cap Com Roger. Would you give me a fuel cell O₂ quantity readout, please.

Conrad Roger, the fuel cell O₂ quantity is reading about 65 for quantity. 96 percent.

Hawaii Cap Com Roger. What about tank pressure?

Conrad About 65 psia.

Hawaii Cap Com Roger.

Hawaii Cap Com Gemini V, Hawaii. You can power back down.

Conrad Roger.

Hawaii Cap Com Hawaii has loss of telemetry.

Cape Flight Okay, Hawaii. Tell him not to acknowledge, but the next time you bring him up is over Canaveral. And we will call him, but do not answer and we will go through the same procedure over Canaveral.

Hawaii Cap Com Gemini V, Hawaii. The Cape advises that ..

END OF TAPE

This is Gemini Control Houston, 5 hours 2 minutes into the mission. We are on our fourth revolution with the spacecraft moving down across the South Atlantic Ocean just crossed the Equator. During a long quiet pass across the United States, we had a brief conversation from early between Pete Conrad, I believe, and our Corpus Christi station. We will play that tape for you a little later, but first I want to bring you up to date on the fuel cell. Basically the cell -- the oxygen side of the cell operates with a small conduit carrying a wire which acts a heater. Some source of heat is needed in the cell to bring the temperature of the oxygen, which is kept in the bottle, at -297 degrees, make it rise, elevate slightly in temperature to build up pressure to drive the oxygen out of the bottle and into the cell itself.. It's this heater that apparently is inoperative and we've got just a small trickle of oxygen out of the bottle rather than the normal flow that we should have. The decision has been made to turn off the power to one of the two sections onboard and to monitor that situation for awhile to see if it has any effect. We are still watching the situation very closely. The heads are together on the problem and we will continue to monitor it very carefully and bring you any development as it occurs.. We have the tape ready to play for you over the State side pass, and we will bring it to you now.

Houston Flight Gemini V, Gemini V. This is Houston here. Would you please bring up your UHF transmitter.

Cooper Roger, go ahead. This is Gemini V.

Houston Flight Roger, stand by here a minute.

Houston Flight Gemini V, we'd like to have you verify that you turned
 the O₂ heater circuit breaker off.

Conrad No, I have the H₂ and O₂ circuit breaker on. Do you
 want them off?

Houston Flight Okay. Have you turned the switch off?

Conrad The switches are all off. They are all in off.

Houston Flight Okay, they are all in off. What is your pressure
 reading right now.

Conrad It down to 60. 60. 60 pounds.

Houston Flight Roger, I understand. 60.

Houston Flight Gemini V. You can put your transmitter back to standby.

And this is Gemini Control Houston again. That concludes the exchange between Jim McDivitt and Gemini V as it passed across the States. The spacecraft directly over Ascension Island. This time, we have had no attempt to contact. This is Gemini Control at 6 minutes after the hour.

END OF TAPE

This is Gemini Control Houston, here, five hours and 25 minutes into the mission. We — the spacecraft just passed over the Tananarive site in the Indian Ocean and Jim McDivitt remoting through the Tananarive site broadcast a two-part message. The first part of the message was "if you have had a significant pressure rise please bring your transmitter up and tell us about it, if you have not had a significant pressure rise, don't call us and wait until Canarvon and we'll talk about it there." This message was repeated twice - the other part of the message was that the fuel cell section 2 power switch should be in a off position along with the secondary coolant loop switch. The secondary coolant loop switch is another measure to conserve the power drain on the spacecraft. I reiterate Jim McDivitt broadcast the message twice over the Tananarive station, we got no reply. The fact that we got no reply could mean one of two things - the spacecraft did not read the transmission or they do not have a significant pressure rise and they were following directions and did not reply. We'll know at Canarvon in about 10 minutes from now. This is Gemini Control Houston, at 27 minutes after the hour.

END OF TAPE

This is Gemini Control Houston, 5 hours 42 minutes into the mission with the spacecraft off the north coast of Australia. We have just had a pretty substantial conversation with the spacecraft after its pass over the Carnarvon area. The pilots did apparently hear our transmission from Tananarive and they elected not to return the broadcast because they had seen no significant rise in pressure. The pressure they are reporting is 60 pounds and this has been a consistent value since Hawaii on the earlier revolution. In other words, it's remained the same now for almost one complete revolution at 60 pounds in the oxygen tank in the fuel cell area. The quantity of oxygen remains good and high, 96 percent total, that would be out a full bottle is something on the order of 180 to 185 pounds, so there is plenty of oxygen there. The pressure is not coming up and driving the oxygen out of the bottle and into the fuel cell itself. The -- Conrad reported in a rather cheerie voice that the REP ejected several orbits earlier, was right out there beside us, he said, about 2000 feet away. He also reported that in the powered down configuration the spacecraft was pulling only 10.2 amps. We will have another discussion with the spacecraft on this next pass as it moves across the Corpus Christi station contact area. We do not expect any conversation from the Hawaii site or from the U.S.S. Wheeling which is parked northwest of Hawaii. We have the Carnarvon conversation wrapped up and ready to play for you at this time.

Carnarvon Cap Com Gemini V, Carnarvon, would you place your adapter C-band switch to CONTINUOUS, and your TM switch to real time at Acq 8.

Carnarvon Cap Com Carnarvon has PCM solid. Would you bring up your UHF transmitter.

Houston Flight What are your readouts?

Carnarvon Cap Com Stand by Flight.

Carnarvon Cap Com Gemini V, we'd like a readout of fuel cell O₂ quantity and the fuel cell O₂ pressure.

Houston Flight What do you read on the ground?

Conrad Roger, this is Gemini V. The fuel cell quantity is 96 percent, and the pressure is 60. 60.

Carnarvon Cap Com Roger, copied. 60 on pressure and 96 on quantity.

Conrad We further advise that the secondary power switch is off, secondary coolant loop is powered down, and the REP is right out here with us about 2000 feet away.

Carnarvon Cap Com Roger.

Carnarvon Cap Com Flight, we are getting the PCM count on that measurement.
TM.

Houston Flight Rog.

Carnarvon Cap Com We have acknowledged C-band track.

Conrad We also -- be advised that we have the C-band beacon off, the telemetry off, and in that powered down configuration we are pulling 10.2 amps.

Carnarvon Cap Com Roger. Copied. 10.2 amps and powered down configuration.

Carnarvon Cap Com Flight, the -- stand by, we are converting the binary count now.

Houston Flight Binary count.

Carnarvon Cap Com Binary count 71.2 percent. That's pressure Flight, 71.2 pressure.

Houston Flight We copy, 71.2 pressure.

Carnarvon Cap Com Roger. Okay, you want him to have the real-time TM off.

Houston Flight Carnarvon, Houston Flight.

Carnarvon Cap Com Go ahead.

Houston Flight Okay. We are satisfied with all of the data we've got. Tell him to power everything down to the same condition he had before, except the C-band which we will want him to turn off at your LOS, and you should give him a call to get him to turn it off.

Carnarvon Cap Com Roger, Flight.

Carnarvon Cap Com Gemini V, Carnarvon. Okay, place your TM switch back to Command and leave your beacon on. I'll advise you when to turn the beacon off.

Conrad Gemini V.

Carnarvon Cap Com And you can go back to UHF standby.

Conrad Roger.

END OF TAPE

Is being instructed to turn on its section 2 power switch again, and to bring its secondary coolant loop switch back on power. We like to see what the effect of this is, and we will stand by and come back to you at the conclusion of this pass which should be in a minute or two. This is Gemini Control Houston.

This is Gemini Control Houston 6 hours and 7 minutes into the mission. Just completed the Hawaii pass and this is what happened. We turned back on the power on section 2 area of that fuel cell operation. The Pilot, Pete Conrad, was then instructed to cycle, or manually switch on and off the recalcitrant heater switch. He did this four or five times with no effect that he could note on his switches onboard. The pilots were then instructed to leave the section 2 power supply on, and leave it in this configuration as we approach the United States at which point we will, of course, take another look. We have the tape of the Hawaii pass wrapped up for you and available to play at this time.

Houston Flight Hawaii, Houston Flight.

Hawaii Cap Com Let's bring up the heater switch also to the -- no, not the OAMS -- the on position on the fuel cell heater, O₂.

Hawaii Cap Com Roger.

Houston Flight He has had that off.

Hawaii Cap Com Hawaii is at a Cape contact.

Houston Flight Okay, we also want you to cycle -- let him cycle that heater switch to the fuel cell O₂ cell several times, to see if you see anything on the ground.

Hawaii Roger.

Houston Flight Go ahead Hawaii.

Hawaii Cap Com Gemini V, Hawaii Cap Com. Place your TMO switch to real time in accade and turn on your UHF transmitter. Telemetry solid.

Houston Flight Go ahead with your instructions.

Hawaii Cap Com Gemini V, Hawaii Cap Com.

Cooper Hawaii Cap Com, Gemini V here over.

Hawaii Cap Com Roger, we'd like you/^{to}bring your section two switch to on position and bring up pump A in the secondary cooling....

Conrad this is Gemini V and the number two power switch back on and the A secondary pump back on .

Hawaii Cap Com Roger, we'd like to leave it there for the next orbit and take a look at it.

Conrad O. K.

Hawaii Cap Com Roger, would you check with fuel cell O₂ heater switch off and on and then leave it back on.

Conrad O. K. It's been cycled and it's back on to the on position.

Hawaii Cap Com Roger. Did you see anything?

Houston Flight Did you see anything?

Hawaii Cap Com Negative, flight.

Houston Flight Have him cycle it two or three times.

Hawaii Cap Com I have a little TM dropouts here Flight, let me get it solid first.

Houston Flight Rog.

Hawaii Cap Com Gemini V, Hawaii Cap Com. Would you cycle that fuel cell O₂ heater switch three or four times.

Conrad Roger, Gemini V cycle it three or four times, and I am cycling it now, and I get no reading on the amp meter.

Hawaii Cap Com Roger. Would you give me a fuel cell O₂ quantity and tank pressure please.

Conrad Roger. It's 96 percent, and it's about -- it's situated between 55 and 60. It's been doing that pretty steady.

Hawaii Cap Com Roger.

Houston Flight Okay, let's have him go back to the power off condition with the expectation of, we want the two fuel cells left on and tell him we will contact him at California.

Hawaii Cap Com Roger.

END OF TAPE

5

Houston Flight

This is Gemini Control Houston, six hours 22 minutes into the mission and we are just starting the fifth revolution. During the Texas pass just a few minutes ago the pilots brought up their IGS -- their initial guidance system power system inside the spacecraft and they received a DCS load, that's a digital command system load which updated all of their instrumentation for a landing should one be necessary on the sixth revolution. It would be premature at this time to say that we were going to come down during the sixth revolution in that area north of Hawaii that we've already identified because during the course of the Texas pass, flight director Chris Kraft got on the loop and talked to Pete Conrad and Gordon Cooper. They discussed the possibility of going another day in this powered down configuration. I'll emphasize that no decisions have been reached as yet terminating the mission or continuing it. We're still observing a very stable pressure in that oxygen bottle supplying the fuel cells. It's been at 60 pounds now for approximately an orbit and a half and no change observed here on the ground or in the spacecraft. The power to the fuel cell section too has been turned back on and will be left on for at least another half an orbit while the evaluation continues. We have the conversation

Cap Com Houston Roger. Understand that you got your computer on the line OK, and that you also got the second fuel cell on the line all right.

Conrad standing by for your load.

Cap Com Houston Roger. Texas go remote. California go local.

Texas: Texas air to ground is remoted. and telemetry valid.

Cap Com Houston Gemini V, Houston flight.

Conrad Come in, Houston flight. Gemini V, here.

Cap Com Houston Looks like we've got a situation here that is stabilized, Pete, and we've been discussing the problems associated with the purge. It looks like we can go a fairly long time without any purge. Secondly, it looks like we can purge with the hydrogen without any problems. In terms of the O₂ purge, we probably will do an on-off purge where we purge very briefly to not drain off the pressure. I would like your opinion on going through another day under those circumstances.

Conrad Well, it looks like to me, and if my feeble memory serves me right, we should have the used O₂ quantity plus getting a little pressure back, shouldn't we?

Cap Com Houston That's affirmative if we can ever get the O₂ quantity down to about 50 percent, we will probably be in real good shape, but that's going to take a long

time, and we are going to have to go a long while with you guys sitting up there doing nothing and taking the chance that the fuel cells are going to operate under these conditions for a long period, because we don't have but so much main batteries.

Conrad

..... we also just got some DCS loads in.

Cap Com Houston

Very good. That's a 6 - 4 load.

Conrad

OK

Cap Com Houston

OK, what do you think?

Conrad

We might as well try it in that case.

Cap Com Houston

OK. We will look at this thing for another orbit.

Let's power down like you were before you came up over here, and let's also turn off that section 2 tower and turn off the clock again.

Conrad

Will do.

Cap Com Houston

Leave the DCS up.

Conrad

OK, I'll put the computer off and leave the DCS up

..... fuel cell.

Cap Com Houston

Roger.

END OF TAPE

This is Gemini Control Houston, 6 hours 44 minutes into the mission. The Department of Defense Recovery people in our recovery room here at the Mission Control Center in Houston, have advised that there are now 6 airplanes on station in the 6-4 area some 500 miles north of Hawaii. Those airplanes are as follows: 2 HC 97, 1 located 50 miles up range from the aiming point, another 50 miles downrange from the aiming point in addition, 2 C130 aircraft, one of these is 150 miles uprange, and slightly north of the track, another about 200 miles downrange from the aiming point. In addition, 2 more aircraft, telemetry aircraft and airplanes which will be used as communications points, and they will be operating within ten miles of the aiming point, should they become necessary. These airplanes are identified as HC 121 aircraft, two in number. We have had no change on our fuel cell situation here. The engineering detective game continues, a lot of discussion here in the Control Center and with experts out at the Cape, also at the McDonnell Company in St. Louis. This is Gemini Control at 46 minutes after the hour.

END OF TAPE

This is Gemini Control, Houston, 7 hours, 2 minutes into the mission. We still are watching the pressure in the oxygen cell and it's still standing at a firm 60. The Flight Director in consultation here seems to indicate right now that he's leaning toward continuing this flight for at least another day. That would mean that if he makes that determination which will be made during this orbit, possibly over Hawaii, that the mission would continue in this powered-down configuration which is a very low amp drain on the power system. The engineering guess, detective game continues. We have done things like orient the spacecraft toward the sun in an effort to put additional heat on that oxygen cell. We've cycled the switch several times, which should start the heater which supplies the pressure which forces the oxygen into the cell itself, all of that effect at this point. The engineers tell us that if the oxygen quantity were some where down the order of 50 percent (remember that's a long way from where it is right now, it's been running at a fairly steady 95 and 96 percent full) if it were down around 50 percent the reduction in supply would create a heating effect of its own that would be helpful in this situation. There is apparently no way to vent the oxygen to get down into that range of about 50 percent. With the spacecraft now beginning a sweep up across the Pacific on the fifth revolution, this is Gemini Control at Houston.

END OF TAPE

This is Gemini Control Houston, 7 hours 6 minutes into the mission and we have recycled our tape recorders, have a very brief conversation between the ground station at Tananarive and the spacecraft wrapped up and ready to play for you at this time.

Houston Flight Gemini V, Gemini V, this is Houston here. Bring up your UHF transmitter. Gemini V, Gemini V. This is Houston here. Bring up your UHF transmitter.

Houston Flight Gemini V, Gemini V. Houston here. Do you read.

Conrad We read you, Gemini V.

Houston Flight Roger, Gemini V. Houston here. You are coming through very garbled and weak. Can you give us your fuel cell O₂ pressure and quantity.

Conrad Roger. It is holding at 60 psi, and 96 pressure.

Houston Flight Roger, Gemini V. Understand it's holding... You can turn your transmitter back to standby. Thank you.

END OF TAPE

This is Gemini Control Houston, 7 hours 25 minutes into the mission. We have just had a brief interchange with the spacecraft in the Coastal Sentry Quebec parked in the far western Pacific. They are reporting no change in the pressure -- the oxygen pressure in the fuel cell area. The Flight Director advises that he will make a decision while the spacecraft is over Hawaii at which point it should be in a very, very few minutes. We have the tape of the CSQ-Gemini V conversation wrapped up and we will play it for you now.

Houston Flight Gemini V, Gemini V, this is Houston here. Bring up your UHF transmitter. Gemini V, Gemini V, this is Houston here. Bring up your UHF transmitter.

Houston Flight Gemini V, Gemini V. Houston here. Do you read.

Conrad Roger Houston, Gemini V.

Houston Flight Roger Gemini V, Houston. You are coming through very garbled and weak. Can you give us your fuel cell O₂ pressure and quantity.

Conrad Roger, holding at 60 psi, and 96 percent.

Houston Flight Roger, Gemini V. Roger, Gemini V. Understand it's holding. You can turn your transmitter back to standby. Thank you.

CSQ Cap Com Gemini V, Gemini V. CSQ Cap Com. Turn up your UHF transmitter and report fuel cell O₂ pressure please.

Conrad CSQ, Gemini V. 96 percent, 60 psi and we got your DCS update. Over.

CSQ Cap Com Roger. Copied. I transmitted a TM command to reset after Hawaii.

Conrad Roger.

Houston Flight What do you read in O₂ pressure.

CSQ Cap Com Spacecraft readout is 60 psi.

Houston Flight 6 what?

CSQ Cap Com 60 psi, and ground readout is 80 psi.

Houston Flight Roger, 80 psi. How many PCM counts is that?

CSQ Cap Com Stand by a moment. I'll advise him to turn off his UHF transmitter. We have nothing further.

Houston Flight Okay. That's okay.

CSQ Cap Com Gemini V, Gemini V, CSQ Cap Com.

Conrad Go ahead, Gemini V.

CSQ Cap Com Roger, we have you go on the ground, we have nothing further at this time. You can power down your UHF transmitter.

Conrad Roger.

END OF TAPE

This is Gemini Control, Houston, 7 hours, 39 minutes into the mission. The spacecraft is now in contact with the Hawaii station. In the last minute and a half the pilot and the command pilot have performed what is known as a hydrogen purge of the fuel cell. The effect of this is to flush an extra amount of hydrogen through the fuel cell. It is an operation which takes about 13 seconds on each section. We are not entirely sure if it had any effect, that is bringing that O₂ pressure up, or had any effect on the fuel cell operation. However, of major importance is the fact that the decision was passed up to the crew that we are committing for another day. I say again we are committing for a flight of at least 18 orbits, and we would hope to terminate it not less than an 18 - 1 area, the - 1 refers to a plan-landing area about 250 miles east of Bermuda. That time to retro-fire for an 18 orbit landing has been passed up. The spacecraft will remain in a powered-down configuration, and of course the oxygen pressure will continue to be monitored very carefully throughout the night and into early tomorrow. This is Gemini Control in Houston. We are still in contact in Hawaii, and we will go back and listen there a bit now. This is Gemini Control, out.

END OF TAPE

This is Gemini Control Houston, 7 hours 49 minutes into the mission. We are in touch with the spacecraft now over Guaymas, powering down, and we -- as we advised earlier, the decision has been made that we would commit for at least a one-day mission. We could, and I want to emphasize, go well beyond a 1-day mission, but we have no plans to terminate the mission at this time short of a 1-day mission. Hopefully, we will be able to solve our fuel cell oxygen source problem and continue the mission. We have the tape conversation where that commitment was made over Hawaii and its wrapped up and ready to play for you at this time.

Hawaii Cap Com Gemini V, Hawaii Cap Com.

Hawaii Cap Com Gemini V, Hawaii Cap Com. Would you bring up your UHF transmitter.

Conrad Roger, Hawaii, Gemini V.

Hawaii Cap Com Roger, we would like to perform a purge on your fuel cell H_2 . We do not plan to purge O_2 . We will not purge O_2 unless the O_2 pressure goes above 200 psi. Or, if there is a degradation in excess of 3/10 of a volt. Do you read.

Conrad Roger. I understand. You want to purge the H_2 but not the O_2 .

Hawaii Cap Com Roger. We are standing by for you to purge both sections of H_2 .

Conrad And you want me to leave the section 2 powered down.

Hawaii Cap Com That is affirmative. We are also going to copy your tape dump, Pete's too.

Hawaii Cap Com Gemini V, advise us when you start the purge.

Conrad I just purged the section 1 for 13 seconds. Stand by on my mark for purging section 2. MARK.

Conrad Hawaii, Gemini V. Do you have any readings on our ... CO₂ down there.

Hawaii Cap Com Stand by one. That reading is one. Repeat 1.

Conrad Ah, roger. I suspected some ... got in the gauge. It was out zero, then bounced up to about 7 or 8, and then went down, bounced back to zero.

Hawaii Cap Com Gemini V. Hawaii Cap Com. We have you go for 18-1. We would like you to go into only zone 1 areas. That will commit us to one day. I'm standing by to update your TR's for 18-1. Gemini V.

Conrad Roger, we'll bring it on the computer.

Houston Flight Negative. You don't need the computer for TR.

Hawaii Cap Com Gemini V, you've got a valid TR time. You are in sinc.

Conrad Roger.

Hawaii Cap Com Gemini V, we'd like you to stay in the present power configuration. That is your primary coolant pump on, 1 suit fan on, your DCS on, your UHF receiver on your dc-to-dc converter on, your OAMS heater circuit breaker off, and your water heater circuit breaker on. Do you read.

Conrad That is affirmative Gemini V. And you want us to keep the section 2 powered down. Is that correct.

Hawaii Cap Com That is affirmative. And we would like to purge the H₂ in both sections about every 6 hours from now on.

Conrad Roger.

Hawaii Cap Com Would you give me a fuel cell O₂ quantity and a fuel cell O₂ tank pressure.

Conrad Roger, at 96 and 60.

Hawaii Cap Com Roger.

Houston Flight Hawaii Cap Com, Houston Flight.

Hawaii Cap Com Go ahead Flight.

Houston Flight Roger, he didn't bring his computer in up there did he?

Hawaii Cap Com Negative, not that I know of.

Houston Flight Okay.

Hawaii Cap Com Flight, I've got about 30 seconds to LOS. I'm going to command a dump tape off. I've got most of the dump.

Houston Flight Okay. Check that --.

Hawaii Cap Com Gemini V, this is Hawaii Cap Com. I am unable to turn off your tape recorder. Request you turn it off. Gemini V do you copy.

Houston Flight Did you get your TX in Bill?

Hawaii Cap Com I couldn't get my tape dump in and I lost it.

Houston Flight Okay, I think CSQ got the TX and they should turn it off. CSQ, Cap Com Houston Flight.

Hawaii Cap Com Flight, I won't turn the tape recorder off.

Houston Flight It should, Bill, there is an interlock in there, Bill.

Hawaii Cap Com Okay. Roger.

Guaymas Cap Com (garble)

Houston Flight Guaymas Cap Com, Houston Flight.

Guaymas Cap Com Guaymas Cap Com.

Houston Flight That medical pass is on the Pilot and the Command Pilot has a medical pass over Hawaii on this next rev, so we will get both of them, and we want also ^{to} get that message for them to turn his -- make sure that the heater switch position is in auto. on the O₂.

Guaymas Cap Com Roger, fuel cell O₂ heater to auto, and could you give me a Hawaii AOS.

Houston Flight Hawaii LOS?

Guaymas Cap Com No, AOS for the next pass.

Houston Flight Next pass for Hawaii is 23 10 49. .

Guaymas Cap Com Okay, copy.

END OF TAPE

This is Gemini Control. The White Team, or second shift of Flight Controllers has taken over the direction of the flight from this Center. Flight Director Chris Kraft has been replaced by Director Eugene Kranz. Kraft and a number of his team have left the Control Center for a press conference at the NASA News Center in a few minutes. Just before leaving the Control Center, Kraft made a GO decision for 18 revolutions. The fuel cell situation remains as reported for the spacecraft with a low pressure situation. It is hoped, however, that we can continue this mission in a powered-down spacecraft. Continuing in a powered-down condition, means that some of the experiments will have to be foregone in the interest of completing the primary mission, which of course is, in a eight-day flight, the medical experiment. The medical condition of the pilots during this flight is of paramount importance. This is Gemini Control.

END OF TAPE

This is Gemini Control. We are 9 hours and 2 minutes into the flight of Gemini V. The spacecraft has just passed out of voice range with the Coastal Sentry Quebec, the tracking ship located in the Pacific Ocean south of Japan. The spacecraft is now in its sixth revolution of the Earth. There has been no change in the low pressure condition effecting the fuel cells. During the pass over the Coastal Sentry Quebec, the Flight Surgeon aboard ship took a medical pass from the Command Pilot aboard the spacecraft 5. This medical pass was complete with temperature, blood pressure, and exercise session followed by another blood pressure check. The Pilots aboard to spacecraft reported that the Command Pilot has had approximately 1 pound and 6 ounces of water. The Pilot, Charles Conrad has had an intake of 14 ounces of water to date. Both the Command Pilot and the Pilot are planning to eat now. This is Gemini Control.

The "White team" or second shift of Flight Controllers has taken over for direction of flight from this center. Flight Director, Chris Kraft has been replaced by Director Eugene Kranz. Kraft and a number of his team have left the Control Center and will report for a press conference at the NASA News Center in a few minutes. Just before leaving the Control Center, Kraft made a "go" decision for 18 revolutions. The fuel cell situation remains as reported aboard the spacecraft, with a low pressure situation. It is hoped, however, that we can continue this mission in a powered-down spacecraft. By continuing in a powered-down condition, this means that some of the experiments have to be forgone in the interest of completing the primary mission, which, of course, is an 8-day flight and the medical experiments and the medical condition of the pilots during this flight is of paramount importance. This is Gemini Control.

CSQ This is CSQ Cap Com, Gemini V. Gemini V, Cap Com and you are go on the ground - what is your status?

Conrad Here we go here, . . .

Conrad Roger

CSQ Would you give us a readout on your fuel cell O₂ quantity, Gemini V?

Conrad . . . , psi pressure 60.

CSQ Gemini V, as long as we have a valid temperature - standing by for your blood pressure.

CSQ Surgeon Gemini V, CSQ Surgeon - cuff is not quite full scale. Gemini V, this is CSQ Surgeon, your cuff is full scale.

CSQ Houston Flight, this is CSQ.

Houston Flight Go, CSQ.

CSQ Roger, we gave him a "go" for 18-1. His onboard readout fuel cell O₂ pressure was 60 - quantity 96. . . readout pressure 90 - quantity 92. O.K. what's your PCM count?

Conrad Stand by.

CSQ Surgeon CSQ Surgeon, we have a good blood pressure - give me a mark when you begin exercise.

CSQ Houston Flight, CSQ advises . . still 17 - - 17. Roger.

CSQ This is CSQ, Gemini V - Be advised that . . the exercise on the mark 3 L 1 mark.

. . . . exercise. Standby for the blood pressure.

Roger.

CSQ Surgeon

Gemini V, CSQ Surgeon, cuff full scale.

Gemini V, CSQ Surgeon, we have a good blood pressure -
standing by for your food, water and sleep report.

Conrad

Roger. Tell the Surgeon that the Command Pilot has
drunk 1 lb and 6 oz of water and the Pilot has drunk
14 ounces of water and we have. to eat
other than we both ate the bacon squares and a little
bite of the salad. . . and after leaving you, we
will eat our first meal.

CSQ Surgeon

Roger, I read that 1 lb 6 oz water for the Command Pilot
and 14 oz for Pilot. Both ate bacon squares - planning
to eat now.

Gemini V and we are approaching LOS, CSQ. Have nothing
further.

Conrad

O.K. Cap Com.

That was the taped voice conversation between the Coastal Sentry Quebec
tracking station and Spacecraft Gemini V. This is Gemini Control.

END OF TAPE.

This is Gemini Control. We are now 9 hours and 32 minutes into our flight. The spacecraft is now on its sixth revolution and approaching the west coast of South American. Medical data was received from the pilot, Pete Conrad, over the Coastal Sentry Quebec, and from the command pilot Gordon Cooper over Hawaii. Flight Surgeon Dr. DeWayne Catterson reports all medical sensors are working well. The flight team, he said, is in very good condition and their responses are excellent. During the pass over Hawaii, the command pilot Gordon Cooper, was asked if the Rendezvous Evaluation Pod was within visual range of the crew during their flight. He said "yes, it has been with them all along." We will now playback the taped voice conversation between spacecraft Gemini V and the Hawaii tracking station.

Conrad Hello Hawaii, Gemini V, are you reading?

CAP COM Roger, read you loud and clear. We are standing by for an oral temp on the pilot - we got one on the command pilot.

Conrad I just gave an oral - this is the pilot, I just gave an oral temp to the CSQ and I sent this order for the command pilot to give you the next temp and he's got his oral temp probe in now.

CAP COM Good show Pete. Could you have him start the blood pressure?

Conrad Okay, want a blood pressure, here it comes.

Conrad Have you got the temp on him?

CAP COM That's affirmative

Conrad Say again

CAP COM That's affirmative

Conrad Okay

CAP COM I'm going to copy a tape now.

Conrad Okay

Hawaii Flight This is Flight Hawaii. We read fuel cell O₂ quantity at 94 percent, tank pressure 71.2 the PCM bit count is

Gemini V this is Hawaii Surgeon. The cuff is full-scale.

Cooper Gemini V

~~Hawaii Flight~~ We have a good blood pressure give me a report when you begin your exercise.

Cooper Roger starting exercise now

Cooper Beginning exercise now

Gemini V Hawaii Surgeon. The cuff is full-scale

Hawaii flight We have good blood pressure, standing by for your food and water report

Cooper Roger. We gave that over CSQ and it hasn't changed since then. We're just getting ready to end it up here and eat a big meal now.

Hawaii flight Roger understand. You gave a report to CSQ and you're going to begin meal 1 for the day

Cooper That's roger.

CAP COM Gemini V Hawaii CAP COM

Hawaii flight Hawaii surgeon out

CAP COM Gemini V Hawaii CAP COM. Be advised that we will update you on your landing areas and your Flight Plan on your next pass over Hawaii

Cooper Okay, mighty fine.

CAP COM We'd also like to know if you've seen the flashing lights on the REP

Cooper Roger. That thing's right with us. It has been **all along - been right out in back of us**

CAP COM Okay

Houston flight What does he estimate is the range

CAP COM What do you estimate your range is?

Cooper Well it varies, it's cycling back and forth slightly but it's been in as close as about 1000 feet to us

CAP COM Roger

Hawaii flight Hawaii, Gemini V

CAP COM Go ahead

Hawaii flight We've seen it both in the daytime and at night

CAP COM Roger

Houston flight Okay. And during the next Rev if he happens to see it again we'd

Cooper From here we can see the tumble rate, see the dipole and everything on it.

CAP COM Roger . Go ahead flight.

Houston flight Roger. During the next Rev we'd like to get an indication.- some time indications as to when he thinks it's in max and mid-range. Roger. We'd like to know during the next Rev if he can give us some time facts, when he estimates it at max range and mid-range - certain times and see if he can correlate range to it.

CAP COM Roger.

Cooper I've had PCM LOS. I couldn't get the tape dump

off of the dump transmitter.

Houston flight

Okay. You got your TX in, right?

Cooper

That's affirmative.

Houston flight

Okay.

This is Gemini Control. Spacecraft Gemini V is now passing over approximately the middle of South America and is beginning its 7th revolution of the earth. This is Gemini Control.

END OF TAPE.

This is Gemini Control. Spacecraft Gemini V is 10 hours and 2 minutes into its flight mission. It is now passing over South Africa. Our next voice transmission with the spacecraft will take place over Hawaii approximately 43 minutes from now. Meanwhile, here in the Mission Control Center, the atmosphere is somewhat relaxed during this period of no-communication with the spacecraft and with the spacecraft in drifting flight. Chris Kraft, our number 1 Flight Director, has returned to the Control Center and we also have 3 Spacecraft Communicators present. They are Deke Slayton, Buzz Aldren and Neil Armstrong. Flight Director, Gene Kranz, who is on duty now along with Chris Kraft, the Flight Directors, Paul Haney, the number 2 Voice of Gemini and other of the Flight Control Team have been having their heads together discussing what they will tell the spacecraft Pilot and Command Pilot when we have our next voice communication over Hawaii. At that time they will advise the Flight Team as to what they would like them to do on a real-time flight plan basis. And this has been the subject of discussion for the past few minutes.

I can see that Dr. Charles Berry, our medical director, has also returned to the Control Center and turning around and viewing the VIP viewing room, we find that there are very few people present. Dr. Robert Gilruth, our Center Director, and George Low, his Deputy, left here approximately $\frac{1}{2}$ hour ago. Some of the Flight Controllers are taking advantage of this relaxed time period to get a quick bite to eat. At this time, there is nothing much going on now except discussion as to what will take place and what we will tell the Flight Team on its next pass over Hawaii. This is Gemini Control.

END OF TAPE.

This is Gemini Control at 10 hours and 32 minutes into the Gemini V Mission. Our spacecraft is now passing over the Pacific on it's 7th revolution of the earth. The Coastal Sentry Quebec tracking ship has just passed along a GO condition to the Gemini V flight crew. Flight Director Gene Kranz, a few minutes earlier, decided to initiate a voice communication with the flight crew as it passed over the Tananarive Tracking Station. The conversation concerned Gordon Cooper's reported sighting of the Rendezvous Evaluation Pod. And we will now playback the voice conversation between the spacecraft and the Mission Control Center, which was remoted to the flight crew through the Tananarive Station.

This is Gemini Control.

CAP COM Gemini V, Gemini V, Houston CAP COM would you turn your UHF transmitter on.

(Station calling Gemini V)

CAP COM Roger Gemini V, Gemini V. This is Houston CAP COM. How do you read? Over.

Pilot Gemini V (Noise - garbled) Hello Houston, Gemini V

CAP COM Roger Gemini V. This is Houston. Could you give us some idea of the relative motion that you have with the REP now. Over.

Conrad Oh, good evening Buzz. How are you? I was just remarking that we ought to cheat it for a while. It seems to have been describing a sort of a figure 8 around us, most of the time when we have seen it it's been upon us and on the night side is when it got fairly close and when we came out into the day side a few orbits ago, why, it was quite close to

Conrad us, or close enough for us to see the dipole on it when it was tumbling and I haven't seen it for a while, we're just excited of course, and we have some fairly good range and we're moving around but I haven't located it this away.

CAP COM Okay Gemini V this is Houston CAP COM here. I was able to read you quite well on that for this site. What we'd like to do is to consider perhaps in the next several orbits bringing up your ACME power so that you can maneuver to keep it in sight a little bit more. We're also considering various means by which you might be able to close on it during the day side, this is all based on your electrical power system, of course. Over.

Conrad Roger. We're all for it. Power (garbled)
Confirm do you want us to leave this no. 2 fuel cell shut down, you want us to bring it back on at any time just to put a little load on it then take it back off again.

CAP COM Not yet Gemini. We're still considering this. Could you give us an idea what your projected crew rest cycle is going to be. Over.

Conrad Well, we're just a little bit behind on that, we've finished eating. Gordo is taking a vision test right now and then he's gonna go to sleep and I'm going to take the vision test and stay on station for 6 more hours.

CAP COM

Okay. Understand.

CAP COM

Gemini V Gemini V Houston CAP COM. On the last night pass did you notice any diminishing intensity in the flashing light. Over.

Conrad

Not that we could gather Buzz, I've not seen it this pass though, that doesn't mean it's not out here but it was so close to us before, even though we couldn't see it, it would illuminate the spacecraft with the flashes and we knew it was around us all the time.

CAP COM

Roger. Understand. The spec value on the battery lifetime for the lights expired about an hour or two hours ago.

Conrad

Roger. Understand.

CAP COM

Gemini V. Houston. We're about to have LOS here. We'll work up something and give you an update over Hawaii. Over.

END OF TAPE

This is Gemini Control. We are now 11 hours and 2 minutes into the flight of Gemini V. The spacecraft is now over the Pacific Ocean approaching the Western Coast of South America. During a voice communication with the Hawaiian tracking station about 8 minutes ago, Flight Director Gene Kranz, here in the Mission Control Center, passed on through that station instructions to the spacecraft crew for a limited test of the power system aboard the Gemini spacecraft. This test will consist of turning the power up on the onboard attitude control system and then checking carefully to see if a steady power level can be obtained. This test would not take place until the next pass over the Coastal Sentry Quebec or the Hawaiian tracking station on the next revolution, which is approximately 90 minutes from now. The Hawaiian tracking station also gave the Flight Crew some routine new data for various possible landing areas in the event that a contingency landing area becomes necessary. This is Gemini Control at 11 minutes and 3 seconds into the flight.

END OF TAPE

This is Gemini Control, at 11 hours and 15 minutes into the flight of spacecraft Gemini V. Our spacecraft at this time is passing over South America - the southern part of South America and is now beginning its eighth orbit - or eighth revolution of the earth. This is Gemini Control.

END OF TAPE

This is Gemini Control. We are now 11 hours and 32 minutes into the flight of Gemini V. The spacecraft is approaching the west coast of Africa - southern Africa and here in the Control Center things are in a relaxed mood. Many of the flight controllers have left their consoles briefly to pick up a sandwich, and a cup of coffee and have brought them back to the console and are partaking of an evening meal. Here we are also awaiting the spacecraft which will be approaching the Hawaiian Tracking Station in approximately 20 or 30 minutes and we are awaiting the power-up test which has been decided upon by Flight Director Eugene Kranz in an attempt to get a steady reading and if this steady reading is obtained we may do some of the onboard experiments that we have programmed.

This is Gemini Control at 11 hours 33 minutes.

END OF TAPE

This is Gemini Control at 12 hours and 2 minutes in to the flight of the Gemini V spacecraft. Our flight team is now passing over the continent of Asia on its eighth revolution over the earth. In just a few minutes the Coastal Sentry Quebec tracking ship, located in the Pacific south of Japan, will have voice contact with the spacecraft. Flight Director Gene Kranz has been receiving additional data from the tests of fuel cells that is going on in St. Louis and also more data from the engineers here in the Mission Control Center. He will very shortly make a decision on his plan to power up the spacecraft, the Attitude Maneuver System aboard the spacecraft, and thus check the power level - the pressure level around the fuel cells. This is Gemini Control.

END OF TAPE

This is Gemini Control at 12 hours and 32 minutes into the mission. The spacecraft passed over the Hawaiian tracking station in its eighth revolution over the earth just a few minutes ago. During voice communication with the spacecraft, Hawaii advised pilot Pete Conrad to power up the Orbital Attitude Maneuver System and then to do a 360 horizon sweep by turning his spacecraft completely around. He was advised that if he could see the rendezvous evaluation pod he should stabilize the spacecraft at that attitude and turn his power down. If he did not see the REP he should then choose an attitude and again power the spacecraft down. Conrad asked, jokingly, if anyone here had a suggestion as to where he should look for the REP. Flight Director Gene Kranz recommended that he look due south. At that time we had a loss of signal and the next voice communication will be with the Rose Knot Victor tracking ship, coming up in about 15 minutes. We should have then a report on whether pilot Pete Conrad was able to spot the REP. Here in the Mission Control Center, Bob Gilruth, Director of the Manned Spacecraft Center, and George Low, his Deputy Director, along with Chuck Mathews, the Project Manager of Project Gemini, are back in the viewing room and are interested

spectators at this time. Everyone is awaiting the next pass over the Rose Knot Victor to see what results we have had with this latest attempt to stabilize the power aboard the spacecraft. At this time, we will play back the voice tape of the conversation between the Hawaiian tracking station and the Gemini V spacecraft. This is Gemini Control.

CAP COM Gemini V, Hawaii Cap Com. Bring up your UHF transmitter, and power down the D-4, D-7 experiment.

Conrad Roger. We are powered down on the experiment. We just powered up.

CAP Com Roger. We're going to scrub it. I'd like an open circuit readout of stacks 2A, 2B, and 2C.

Conrad Roger. They're clear off the peg - I can't even read them.

Cap Com Roger. Copy, Flight?

Flight Roger, we copied. 2A, 2B, -

Conrad No, 1A, 1B, and 1C all dropped about two tenths of a volt.

Cap Com What are they reading?

Conrad They read 27.8.

Cap Com Roger.

Conrad We're ready to power up the ACME as instructed by RKV if you're ready.

Cap Com Ok, we'd like to do it - - but first would you bring up the AC power switch to ACME?

Conrad Roger, AC power switch is ACME.

Cap Com Ok. Bring up the ACME bias power switch to primary.

Conrad Roger. It's primary.

Cap Com Are you monitoring your fuel cell O₂ tank pressure?

Conrad Yep.

Cap Com Ok. Let's watch it close and if you see any decrease, power back down. We'd like you to go to attitude mode switch to pulse at this time.

Conrad Roger, it's in pulse.

Cap Com How about your OAMS attitude control power switch to ON?

Conrad Ok. It's on.

Cap Com Ok, we don't want to power up the secondary coolant loop - we want to evaluate this configuration first. We'd like you to do a 360 and take a look for the REP. If you see the REP, we recommend that you stabilize your rates and then power down.

Conrad Ok.

Cap Com If you don't see the REP, go ahead and stabilize in whatever attitude you'd like.

Conrad All right.

Cap Com Did you copy all that, Flight?

Flight That's affirmative, but whenever he picks his attitude to stabilize if he doesn't see the REP, he should pick an attitude and then power it up again.

Cap Com Roger, he's going to do that.

Cap Com Houston Flight, Hawaii Cap Com.

Conrad Hawaii Cap Com, Gemini V.

Cap Com Go ahead, Gemini V.

Conrad Have you got any suggestions as to where to look for it?

Cap Com You're closer to it than we are.

Conrad Thanks a lot, Bill.

Cap Com Any time, Pete. Flight, Hawaii.

Flight Roger. The REP would probably be to his south - due south.

Cap Com Flight recommends you look south for it - due south.

Conrad Ok.

Cap Com Flight, we're reading 13.5 on main current. When we brought the AC switch up to ACME we went to 14.5. When we brought the bias power to primary we were still at 14.5. When we brought the OAMS attitude control power switch to ON we went to 15 and it remained at 15 when we went to attitude mode to pulse.

Flight Good report.

Cap Com Ok. Did you get that thing on the off the circuit voltages?

Flight Affirmative. I assume they were off scale high.

Cap Com Off scale high - they were off the peg. 1A, 1B and 1C were reading 27.8. The bit count is 17 and 18 -it's very similar to what the CSQ copied.

Flight Ok. You can advise the crew we would like the time at which he powers down his attitude control.

Cap Com Would you give us the time when you power down your attitude control?

Conrad Yeah, we haven't powered it down. We're still looking for the REP.

Flight Ok. He can give the time to us at the RKV in about 20 minutes.

Cap Com Ok. You'll be over the RKV in about 20 minutes. You can pass the time along to them.

Conrad Ok. Don't you want us to stay in this configuration as long as the pressure doesn't drop?

Flight That's negative.

Cap Com That's negative. We want you to power down as soon as you stabilize.

Conrad Ok.

Cap Com Ok, Flight. We copied the tape dump. I've just
 turned the recorder off and the carrier off. We've
 got the TX in.

Flight Roger.

Flight Hawaii Cap Com, Houston Flight.

Cap Com Roger.

END OF TAPE

This is Gemini Control at 13 hours and 2 minutes into our mission. Spacecraft Gemini V is now approaching the west coast of Africa on its 9th revolution around the earth. Our last voice communication with the spacecraft took place about 10 minutes ago as the spacecraft passed over the Rose Knot Victor, a tracking ship off the west coast of Peru. At that time Pilot Pete Conrad advised that he had performed a 360 degree horizon sweep by turning the spacecraft around. He failed to see the REP which he was looking for and so he powered-down the spacecraft again. Conrad also performed a fuel cell hydrogen purge. Flight Surgeon Dr. DeWayne Catterson reports that the medical condition of the crew at this time is excellent.

This is Gemini Control.

We will now play back the voice tape communication between the Rose Knot Victor Tracking ship and the Gemini V spacecraft.

CAP COM Gemini V RKV CAP COM. Bring up your UHF transmitter.

CAP COM Gemini V RKV CAP COM. Bring up your UHF transmitter.

Conrad RKV CAP COM Gemini V here

CAP COM Roger. Your systems are GO on the ground, we'd like to have the time of your attitude control power-down.

Conrad 27, 25

CAP COM 27, 25. Understand.

Conrad Affirmative 02 27 25

CAP COM Did you see the REP at any time?

Conrad That's negative.

CAP COM Roger, understand. Were you able to damp out your rates pretty well?

Conrad That's affirmative.

CAP COM Roger. Understand. You have a Medical Data Pass on the Pilot coming up over the CSQ on this rev, the next rev at a time of 03 hours, 30 minutes, 11 seconds as acquisition.

Conrad Roger. Medical Data period 03 30 11 over the CSQ.

CAP COM Roger. That's the acquisition at CSQ.

Conrad Right.

CAP COM We want to do a hydrogen purge on both sections at 2 hours, 45 minutes, 00 seconds. That's about 2 minutes from now.

Houston Flight Why don't you let him start his hydrogen purge now if he's ready.

Conrad Roger. My purge 02 45 00.

CAP COM Gemini V RKV CAP COM. They said we can go ahead with it at this time, are you ready?

Conrad Okay. Crossover valve is open - standby on my mark, I'll purge no. 1 - mark.

CAP COM Roger. We have it on the ground.

Conrad It now is terminated at 13 seconds stand by on my mark - mark.

Conrad I've got no. 2 was purged - crossover valve is mark

Houston Flight RKV CAP COM Houston flight.

CAP COM Go Houston Flight

Houston Flight Roger. I gave you the wrong time on that CSQ acquisition. That's 03 38 11

CAP COM Roger. Understand

CAP COM Gemini V. RKV CAP COM

Conrad Go ahead, RKV

CAP COM I have a correction for you on the acquisition time at the CSQ

Conrad Ok, ready to copy

CAP COM 03 hours, 38 minutes, 11 seconds.

Conrad Okay. Acq at the CSQ is 03 plus 38 plus 11

CAP COM Roger

Houston Flight Why don't you get an evaluation of his onboard systems at this time?

Conrad in our oxygen pressure

CAP COM Roger, I understand.

Houston Flight How about the rest of his

Conrad pressure is 400 now, it's built up and it has seemed to stabilize at count rate of 400

CAP COM Roger, I understand

Houston Flight How do the rest of his systems look onboard?

CAP COM Gemini V, how do the other onboard systems look?

Conrad Everything else is GO.

CAP COM Roger.

Houston Flight Okay. You can advise him to power-down his UHF transmitter.

CAP COM Roger. Gemini V you can power-down your UHF transmitter to STANDBY at this time and we'll be standing by in case you need anything.

Conrad

Roger.

END OF TAPE

This is Gemini Control at 13 hours and 37 minutes into the mission. Spacecraft Gemini V is approaching the Coastal Sentry Quebec, our tracking ship in the Pacific Ocean. Our orbital values at this time are - apogee, 214 statute mile and perigee, 105 statute miles. The spacecraft is in drifting flight. Command pilot Gordon Cooper is still in a sleep period that started a little over two hours ago. Flight Surgeon Dr. Duane Catterson tells us the crew is in excellent condition. They are on the scheduled flight plan with regard to medical experiments and data reporting. We will now give you the live voice transmission between the spacecraft and the tracking ship Coastal Sentry Quebec.

Cap Com Gemini V, CSQ Cap Com

Cap Com Gemini V, CSQ Cap Com, bring up your UHF transmitter.

Cap Com Roger, Gemini V. Advise this is a UHF number 6 call, and verify the fuel cell panel circuit breaker is closed.

Conrad Fuel cell circuit breaker switch is closed.

Cap Com All right. We'd like you to turn on the OAMS heater circuit breaker, and leave it on till the NKV pass.

Conrad (Garbled)

Cap Com Roger - affirmative.

Cap Com Stand by one. Gemini V, if you notice any decrease in the fuel cell O₂ pressure, turn off the OAMS heater circuit breaker.

Conrad Roger.

Cap Com And Houston advises the EA curve on section one indicates the performance is normal - and section two also indicates normal from open circuit voltages. The plan at this time is to keep all systems operating with limited power available. Do you copy?

Conrad Gemini V, We copy.

Cap Com Gemini V, advise we have received temperatures. Standing by for blood pressures.

Cap Com Say again - you had a little background noise.

Conrad I said it's much better with the temperature probes out.

Gemini V Garbled.

Cap Com Gemini V, we have a good blood pressure. Give me a mark when you begin exercise.

Conrad Roger. Gemini V, Mark.

Flight CSQ, this is Houston Flight.

Cap Com Flight, this is CSQ.

Flight Roger, Ted. We need another main summary.

Cap Com Repeat that, Flight?

Flight We need another main summary.

Cap Com Roger. Gemini V, CSQ . . . your cup is full . . .

That was the live voice transmission conversation between space-

craft Gemini V and the Coastal Sentry Quebec tracking station

in the Pacific. This is Gemini Control.

END OF TAPE

This is Gemini Control. Spacecraft Gemini V is now approaching the west coast of South America and is beginning its 10th revolution around the earth. At the present time the pilot, Pete Conrad is in an eating period and command pilot Gordon Cooper is still in his sleep period.

This is Gemini Control.

END OF TAPE

This is Gemini Control at 14 hours and 32 minutes into the mission. Our spacecraft at the present time is passing into the south Atlantic - over the south Atlantic, and shortly will come up on the Ascension Island tracking station. We have had a food and water consumption report from the pilot, Pete Conrad. He said he had taken four pounds of water, approximately, and is on his second meal. In the Control Center, Flight Director Number One, Chris Kraft, and our present man on duty, Eugene Kranz, along with John Hodge, who will shortly take over direction of this flight, had a brief consultation. The decision they made was to power up the spacecraft periodically while carefully monitoring the pressure on the fuel cell. If this pressure remains steady, while they are pulling additional amps, they will attempt to perform some of the onboard experiments. The decision on exactly what experiments are to be performed will be made as the flight progresses. At the present time, the pressure on fuel cells is 76.2 pounds per square inch and we have 95.7 percent of oxygen aboard. This is a slight rise in pressure and is contributing to the decision to attempt to pull a little bit of amperage out of the power supply. This is Gemini Control.

END OF TAPE

This is Gemini Control - 15 hours 2 minutes after lift-off. Gemini V spacecraft is now over West Pakistan on a ground track that will take it over the Himalayan Mountains, Chunking China, and Taipai, Formosa. No contact was made with the spacecraft during the passes over the Ascension Island and Kano, Nigeria tracking stations.

Here in Mission Control, the blue team of flight controllers, headed by Flight Director John Hodge has relieved the white team led by Eugene Kranz.

This is Gemini Control.

This is Gemini Control. 16 hours 32 minutes after lift-off. The Gemini V spacecraft is now over northern Arabia midway through the 11th revolution. During a Medical Data Pass for Command Pilot Cooper over the tracking ship Rose Knot, Cooper reported that he had had two hours of quite good sleep that he was eating his first full meal and that he had consumed 3 lbs of water. The surgeon aboard the Rose Knot also took telemetered blood pressure readings on Cooper. While passing over the voice remoting station on Ascension Island, the crew of Gemini V received times for a visual acuity experiment from the spacecraft communicator here in Mission Control. The spacecraft will be in range of the tracking ship Coastal Sentry 14 minutes from now. We now have a tape on the air to ground communications with the Ascension Island Tracking Station.

This is Gemini Control.

CAP COM Gemini V, Houston CAP COM. Do you read?

Cooper This is Gemini V. Reading you loud and clear.

CAP COM Roger. Put your ACME power to ACME, your ACME bias PRIMARY, attitude to PULSE, and OAMS attitude power on. Do you copy?

Cooper Roger.

CAP COM Roger. You ready to copy experiments?

CAP COM Gemini V, are you ready to copy the experiments?

Cooper Roger. Go ahead.

CAP COM Roger. S-8, D-13, at 01 06 20 00. Sequence no. 02. Cabin lighting at 01 06 40 00. And be advised we'll pass you more data over the CSQ, which has an acquisition time of 01 06 46 21. Do you copy?

Cooper Didn't get the acquisition time 01 06 what?
CAP COM 01 06 46 21
Cooper 46 01?
CAP COM Roger. 01 days, 06 hours, 46 minutes, 21 seconds
Cooper Roger.
CAP COM And you can power-down your UHF on the way. We'll
 give you a call at the CSQ
Cooper Roger.

END OF TAPE

This is Gemini Control. 16 hours 50 minutes after lift-off. We have a tape recording of the Gemini V spacecraft pass over the Kano, Nigeria voice remoting station in central Africa. Let's listen to that tape now. This is Gemini Control.

Cooper Gemini V ...

CAP COM Gemini V this Houston CAP COM. Like to give you a short briefing on what we think your status is. Are you ready?

Cooper Roger

CAP COM We believe you have a two-phase condition in the oxygen tank now, Gordo, and that the pressure will continue to rise slowly, we believe we can bring on more power without jeopardizing this, and we plan to do so gradually and appreciate it if you'd keep us informed on that.

Cooper Roger. Will do.

CAP COM This pulse-mode will give you a little something to work with there for a change.

Cooper Roger.

CAP COM Gemini, could you verify if your Agena control circuit breaker is closed?

Cooper Roger. Agena control is closed.

CAP COM Roger. Thank you.

CAP COM Gemini V Houston CAP COM. If your OAMS gets sluggish, well go ahead and turn it off and we'll watch it carefully, but if it's all right you can go ahead and use it.

Cooper

Ok.

CAP COM

Gemini V Houston here. You can turn your UHF transmitter off and we'll be standing by with the CSQ.

CAP COM

Gemini V Houston. If you copy you can turn your UHF transmitter off and we'll talk to you over the CSQ, and we're standing by, no need to acknowledge.

That concludes the tape of the voice recording between the spacecraft Gemini V and the Kano, Nigeria voice remoting station out of Houston Mission Control. This is Gemini Control.

END OF TAPE

• This is Gemini Control. 17 hours 2 minutes after lift-off. Gemini V spacecraft is now over the Solomon Islands in the southwest Pacific and in 24 minutes will be in contact with the tracking ship Rose Knot off the west coast of Peru towards the end of the 11th revolution.

This is Gemini Control.

END OF TAPE

This is Gemini Control. 17 hours 32 minutes after lift-off. The Gemini V spacecraft is now almost directly over the tracking ship Rose Knot at the end of the 11th revolution. The next tracking station to acquire the spacecraft will be Canary Islands 17 minutes from now. After passing the Canaries, it will be 1 hour and 12 minutes before Gemini V is in contact with the tracking station, the Rose Knot again, at the end of the 12th revolution. At this period of the flight, station contacts become farther apart because the earth's rotation moves the tracking network eastward and away from the spacecraft's inertially-fixed orbit. The network moves again under the orbital track starting with the 16th revolution or the beginning of the second day and each day thereafter. The Command Pilot reported to the Rose Knot that he had not seen the REP lately. This is Gemini Control.

This is Gemini Control 18 hours and 2 minutes after lift-off. The Gemini spacecraft is not over Bengazi, Libya, in North Africa, on a track that will carry it over the cities of Beirut, Lebanon, Saigon, South Vietnam. The spacecraft communicator aboard the tracking ship Rose Knot reported to Mission Control here in Houston that the ship's captain visually sighted the Gemini V spacecraft at sunset yesterday as it came over the western horizon. During the pass over the Canary Island tracking station, 13 minutes ago, the crew received flight plan updates from the Canary Island spacecraft communicator. This is Gemini Control.

END OF TAPE

This is Gemini Control, 18 hours, 32 minutes after lift-off. The Gemini V spacecraft is now crossing the north coast of Australia, just east of Darwin. Pilot Conrad is scheduled to be asleep at the present time. The next station to be in contact with Gemini V is the tracking ship Rose Knot, 29 minutes from now. This will be the Rose Knot's last contact with Gemini V until this afternoon. We now have a tape recording of the pass earlier in this revolution over the Canary Island station. Let's listen to that tape now.

Cap Com Canary Cap Com. Flight, this is Canary Cap Com.

Is he going with the transmitter powered down?

Flight Roger.

Cap Com Ok.

Flight Canaries, this is Houston Flight.

Cap Com Roger, Flight.

Flight Will you tell him that he can use the . . .

Gemini V (Came in over Flight)

Flight As he wants to. I'd like to turn them on over the site here so that we can get another power point and then turn them off and use them when he wants to.

Cap Com Roger. Flight, I didn't quite copy - Gemini V came in on the top of you.

Flight Roger.

Gemini V (Still coming in on Flight)

Cap Com Roger, Gemini V, stand by for one second here. Go ahead, Flight.

Flight Tell him we want to turn the horizon scanners on so that you can get another power point and from then on he can use them

as he wants to.

Cap Com Roger, copy. Gemini V, Flight advises that you can turn the horizon scanners on so we can get another power point, and he also advises that you can use them as you wish.

Cooper Roger, understand can turn on horizon scanners.

Cap Com That's affirmative.

Cooper Roger, thank you.

Cap Com Ok. I also have a flight plan up-date for you when you're ready to copy.

Cooper Ok.

Cap Com Roger. We have a B-4, D-7, sequence 421. Remarks - if towering cumulus clouds appear, make B-4, D-7 scanner without the warm-up.

Cooper Roger, I have that.

Cap Com Ok. And then at 01 days 12 hours 10 minutes, on rev 14, at longitude 117.6 degrees west

Cooper Roger. Will you give that one again -. I cut out on that one.

Cap Com Roger. That was 01 days 12 hours 01 minutes, that was rev 14, longitude 117.6 degrees west

Cap Com Roger.

Cap Com All right, Gemini V. I've been advised here that I gave you incorrect number - that was 12 hours 10 minutes

Cooper Roger. 12 hours and 10 minutes, understand.

Cap Com Roger

Cap Com We have nothing else for you at this time. We are standing by.

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Cooper Roger. Be advised flight plan sequence 08 of S-6, we
 had no success on it. Over.

Cap Com Roger.

END OF TAPE

The Gemini V spacecraft is now over the south central Pacific approaching acquisition by the tracking ship Rose.Knot at the end of the 12th revolution. Mission Control will be in contact with Gemini V through voice remoting at Antigua 10 minutes from now. Canary Islands will make contact with Gemini V 11 minutes later. A Rose Knot spacecraft communicator will pass up to the Gemini V crew routine landing area updates. This is Gemini Control.

END OF TAPE

This is Gemini Control, 20 hours and 2 minutes after lift-off.

Gemini V spacecraft which is now approaching the northwest coast of Australia on a track that will pass over the city of Brisbane and is now in radio contact with the Carnarvon, Australia tracking station. During the recent pass over the Canary Islands tracking station, a voice remoting test was made through that station from the spacecraft communicator here in Mission Control. We now have a tape of the voice communications during the Canary Islands pass. Let's listen to that tape now.

Cap Com John wants to talk over the fuel cells with you. Here he is.

Cap Com I see you are real busy right now, Pete, have you got a minute?

Conrad Gordo is taking a picture here of the Apollo landmark.

Cap Com Are you free to talk to me?

Conrad Go right ahead and talk.

Cap Com O.K. Electrical system - it looks like the pressure is holding. We are trying to give you back the most use-able functions as quickly as we can. We are trying to approach a normal status operationally. Want you to keep monitoring the pressure - I'm sure you will. We believe your attitude indicator switch with FDI is on - we suggest you turn that off - we think there are more useful ways to use that power. We are trying to get

back to an essentially normal flight plan. We have some tracking on the REP and we are trying to cook up a possible rendezvous. Do you have any visual contact with it at all? We believe it's about 75 miles ahead of you.

Conrad . That's just maybe, we haven't seen it. Both of our FDI switches are off.

Cap Com We are not going to purge the oxygen at this time. We are going to look at the voltages some more on that. We are planning ahead for a 33-1 Go-No-Go and we will need the computer on for update at that time so we are trying to build your current up to a level that we could use the computer. We may trade off some items to get the computer on at that time. We hope to get the other fuel cell back on eventually. Do you have any other questions or comments?

Conrad No, my only one was when we were gonna get the fuel cell back.

Cap Com I'm working on it.

Conrad Thank you, buddy.

Cap Com See you.

Conrad Right, good show.

END OF TAPE.

This is Gemini Control - 20 hours 32 minutes after liftoff. The Gemini V spacecraft is now over the south central Pacific on a track that will pass across the republic of Panama. We now have a tape of voice communications between Gemini V and Carnarvon tracking station earlier in this 13th revolution. Let's hear the tape now.

Carnarvon Surgeon. Gemini V, Carnarvon Surgeon. Houston Surgeon is a little concerned about your lack of sleep. We'd like a status report on each of you at this time concerning fatigue level. Over.

Conrad Roger. We have just been cat napping - about 40 minutes on and 40 minutes off and 40 minutes on and 40 minutes off.

Carnarvon Surgeon Roger. You have a busy flight plan ahead. We recommend you try to sleep during your programmed sleep periods if you can so as not to get behind on the fatigue curve. Carnarvon Surgeon out.

Conrad We're trying to but you guys keep giving us something to do.

END OF TAPE.

This is Gemini Control, 21 hours, 2 minutes since lift-off. The Gemini V Spacecraft is now over the Madeira Island group in the east Atlantic, just west of Casablanca on a track that will pass over the Arabian city of Mecca, and directly over the Carnarvan, Australia, tracking station. The command pilot is scheduled to waken the pilot at this time and brief him on spacecraft status and events occurring during his sleep period. Canary Islands spacecraft communicator reported to the spacecraft that all systems looked good on the ground during the recent pass over Canary Islands. This is Gemini Control. *

END OF TAPE

This is Gemini Control, 21 hours, 32 minutes after lift-off. Gemini V spacecraft is now over the eastern Indian Ocean and should be in voice and telemetry contact with the Carnarvan, Australia, tracking station at this moment. Both pilots are scheduled to eat at this time, midway through the 14th revolution. This has been an exceptionally quiet night here in Mission Control, hopefully things will pick up somewhat during the next twelve hours. This is Gemini Control.

Is now over the Society Island group in the south central Pacific. During the pass over the Carnarvon, Australia tracking station, Pilot Conrad reported seeing the lights of Perth, and jokingly said he could see the Carnarvon station itself. We have a tape of the voice conversation between Gemini V and the Carnarvon station. Let's hear the tape now.

Conrad Carnarvon, Gemini V, how much time do we have over you?

Carnarvon Cap Com We got about 3 minutes to go.

Conrad Now are we supposed to be passing to the north of you now.

Carnarvon Cap Com Stand by one.

Houston Flight That's affirmative.

Carnarvon Cap Com That's affirmative, Gemini V.

Conrad Are you guys clear down there.

Carnarvon Cap Com Roger, we've got clear skys and an optical sighting of the spacecraft.

Conrad Okay, we see you.

Carnarvon Cap Com Very good.

Conrad We see you, and we see Perth, but I don't see Geraldton. Looks like its under the clouds.

END OF TAPE

This is Gemini Control, 22 hours and 32 minutes after lift-off. The Gemini 5 spacecraft is now over the central Atlantic and will be in acquisition by the Canary Island tracking station momentarily. A medical data pass will be run on the pilot during the pass over the Canarys. Here in Mission Control, the red team of flight controllers, headed by Chris Kraft, is now taking over from the blue team, headed by John Hodge. The blue team has been in the control room since 10 p.m. Central Time last night. We have a tape of the just-completed pass over the state-side stations. Let's hear the tape now.

Houston Cap Com Gemini 5, Gemini 5, Houston Cap Com. If you read, place your adapter C-band to "continuous".

Conrad We read you loud and clear, over.

Houston Cap Com Roger. Reading you five square. Did you copy on the C-band?

Conrad Roger. C-band appears to continue.

Houston Cap Com Roger. Understand, thank you; and be advised that the pilot has a medical data pass over the Canarys, that your acquisition time is 12, 32, 47.

Conrad Roger. 12, 32, 47.

Houston Cap Com Roger. That's today. Morning, Gordo.

Cooper Morning.

Houston Cap Com How are you feeling?

Cooper Fine.

Houston Cap Com I'm going to talk to you about what we are going to do here with the computer and the fuel cell.

Cooper

Houston Cap Com Gemini 5, Houston here. Would you put your fuel cell O₂ quantity on, please.

Cooper: Roger. Will do.

Houston Cap Com Gordo, on the next pass over the States what we want to do is bring up the computer and give you a DCS load for 18 - 1, and then take a look at the computer memory to make sure we've got the right numbers in there. We're a little bit concerned -- last time we had a poor telemetry read out of the numbers.

Cooper OK.

Houston Cap Com Then after we've done that, and we are satisfied that -- what we'll do before we bring the computer up is drop some of the other things off the line so that the total amperage is about the same. Then after we've checked the computer, over one of the next sites you pass over we'll have you turn off the computer after your contact here, and then we'll bring that second section back on the line and see how that works.

Cooper OK.

END OF TAPE

This is Gemini Control Houston, forgive the delay. Our weatherman this morning is giving us a good report for the next 24 hours. He says that in that period of time the West Atlantic area will be partly cloudy with light winds, less than 10 knots and waves less than 3 feet. The East Atlantic area, about 300 miles west of the Canary Islands, normally steady trade winds of about 20 knots with waves of 5 to 7 feet will hold forth beneath partly cloudy skies and a hazy atmosphere. For possible landings in the mid-Pacific, about 500 miles north of Honolulu, fair weather will continue except for isolated light showers. Winds will be from the east and average 10 to 15 knots. In the far West Pacific area, some 500 miles southwest of Tokyo, Typhoon Lucy is moving over the Japanese Islands and the weather conditions will be improving in the Western Pacific landing area during the day. During the next 24 hours winds will subside to about 15 knots and waves to about 5 to 6 feet. Scattered heavy rain squalls will be diminishing. Significant other weather features which the flight will pass over around the world in the next 24 hours include a suspicious area of tropical weather in the Atlantic between Puerto Rico and West Africa that may yet evolve into something more -- of more concern. The tropical storm Doreen is moving westward in the Pacific Ocean. It is now about 1000 miles south of San Diego. The -- as the Red Team took its places this morning -- it found a very elated Flight Control Team. The source of the elation, of course, was a successful oxygen purge of the oxygen supply tank in the -- which supplies the fuel cell -- the oxygen commodity. This purge was

was performed during the -- past our orbit over Carnarvon. It seemed to have no degrading effect at all on the fuel cell and on the other hand the pressure reading in the fuel cell went up 10 pounds, a very favorable turn of events. We are now running with approximately twice the amp load that we were using yesterday during our maximum powered-down period. We have a taped conversation between the Canary Island station and the Gemini 5 spacecraft, which is --we are prepared to play for you now.

Canary Cap Com Gemini V, this is Canary Cap Com. We are standing by for blood pressure on the Pilot.

Canary Cap Com Flight, we have negative on the oral temp.

Houston Flight Say again.

Canary Cap Com We did not get an oral temp on the Pilot.

Houston Flight Rog.

Canary Cap Com Gemini V, Canary Surgeon. Your temp is still scale.

Canary Cap Com Flight, we have a solid C-band track.

Houston Flight Roger, solid C-band track.

Canary Cap Com Gemini V, we have a good blood pressure. Give me a MARK when you begin exercise.

Conrad Gemini V, MARK.

Canary Cap Com Standing by for blood pressure.

Conrad RCS ring D source pressure, PCM count 150. We are still counting 19 on fuel cell O₂.

Canary Cap Com Gemini V, we have a good blood pressure. Standing by for your water and sleep reports.

Conrad

This is the Gemini V Pilot. The water is up around $5\frac{1}{2}$ pounds, now total. And I got to rest back about an hour ago when they told us to sleep. And I had a little cat nap just a little while ago.

Canary Cap Com

Roger, Gemini V. Everything is looking good here on the ground. We have about $2\frac{1}{2}$ minutes to LOS and we are standing by.

GEMINI 5

Tape 87 and 88 we do not have.

This is Gemini Control, Houston, 23 hours, 44 minutes into the mission. In the last 15 minutes we had a good long pass over Canarvon, The tape is racked up; we are ready to play it for you now.

Canarvon Cap Com Gemini 5, Canarvon Cap Com. Bring up your UHF transmitter.

Conrad Go ahead, Canarvon. Gemini 5 here.

Canarvon Cap Com Roger, Gemini 5. I have a briefing for you for your state-side pass this orbit.

Conrad OK. Is it experiments or just briefing?

Canarvon Cap Com It's a briefing on a power-down and power-up and.....

Houston Flight Stand by, 1. We're checking to see what's wrong with the tape.

Canarvon Cap Com started in Guaymas with an AOS time of about 13 hours, 46 minutes. They want you to assume an attitude of 000 or 0180, which ever you prefer. Turn off the ohms light heaters, ACME, and the horizon scanners, and the C-band adapter beacon. OK, next power-up the IGS power supply and the computer in a pre-launch mode. At Texas acquisition, which is about two minutes after Guaymas contact, they'll up-lead you a 18 - 1 computer load. The ground wants to take a look at the load on TM and check it, and they will have you power-down the IGS and the computer on a ground cue. After the IGS computer power-down is complete, they want you to bring up the secondary

coolant loop, and place the fuel cell section 2 power switch on. OK, after section 2 is on line, power-up the ACME and horizon scanners. They want to complete this before ...LOS to have a look at section 2.

Conrad .OK. Let me see if I got all this. At Guaymas AOS, 1346, approximately. Assume the 000oor 0180 attitude, ohms heater off, the ACME off, the scanners off, bring the IGS on, bring the computer on, on ground command after receiving a load, power-down, bring up the secondary coolant loop, the number 2 fuel cell, bring the ACME back on the line, and our horizon scanners.

Canarvon Cap Com OK. On that power-down at Guaymas, also turn the, place the C-band adapter to command, in addition to heaters, ACME, and horizon scanners.

Conrad Got it.

Canarvon Cap Com OK, and on the IGS and computer power-down wait for a ground cue.

Conrad OK, now.

Canarvon Cap Com Go ahead.

Conrad I was just looking at the flight plan here. We'll have to cancel that D-6.

Canarvon Cap Com That's affirmative.

Conrad And we'll have to cancel both D-6's, or no, the D-6 and the D-4, no we might get the D-4 and D-7.....

Canarvon Cap Com Right, flight advised to scrub the D-6 experiment
at 13 hours, 58 minutes.

Conrad OK.

Canarvon Cap Com OK. We are scheduled also for an H₂ purge over this
station at this time. Would you give me a mark when
you start your purge?

Conrad OK. Stand by. Stand by, purging no. 1. Mark. Ten
seconds, didn't get it. Stand by, mark. No. 1
section, I read you purge complete. Stand by. Mark.
No. 2's ready.

Canarvon Cap Com Roger.

Conrad No. 2 complete, both are off.

Canarvon Cap Com Roger. OK, we..... on the ground, Gemini.

Conrad Go, up here.

END OF TAPE

This is Gemini Control Houston, 24 hours, 2 minutes into the flight and we have just started the 16th revolution. We are still in contact with the spacecraft, its out on the edge of the Bermuda zone at this time. Its been a very cheery conversation in this first long duration pass across the United States this morning. Chris Kraft passed up the word that we were real happy with the fuel cells and Pete Conrad, who is awake and talking, Gordo apparently asleep, concurred entirely. Among other events Chris Kraft read to Pete a morning news summary in which he advised that the headline in one of the local papers this morning said that the flight may splash down in the Pacific on the sixth orbit. This brought a big chuckle from Conrad - he said to tell them they were sorry to disappoint the paper. He said he felt that the flight only had about seven more days to go. In a more serious vein, he advised that he, Conrad, has drunk a total of about six pounds of water, Cooper about six and a half pounds. He also indicated the oxygen source pressure is now about 70 pounds, it would be up about 10 pounds over our long stable period of yesterday. We are reading about 80 on the ground - of course the difference between the ground gauge and the spacecraft is one of calibration. It will be a few minutes before the tape is racked up. When it is, we'll come back to play the conversation of this first stateside pass this morning. This is Gemini Control.

Gemini Control, Houston, here; 24 hours, ten minutes into the mission. We would like to up-date you on the perigee and apogee. Apogee, 212 statute miles. Perigee, 104.6. The revolution period, 94.5 minutes. We began the 16th revolution at 23 hours, 56 minutes, and 5 seconds into the mission. We have the tape from the State-side pass racked up, and we are prepared to play it for you at this time.

Conrad After this flight maybe they can save some weight and remove the heaters.

Cap Com Yeah, looks that way, doesn't it? I didn't realize that you were a heater test pilot.

Conrad I didn't either yesterday.

Cap Com We've sure got a lot of fuel cell experts here on the ground this morning, Pete.

Conrad I'll bet you do.

Cap Com They had to put bars on the windows to keep them out. Gemini 5, Houston flight.

Conrad Good morning.

Cap Com Good morning. The morning headline says your flight is, may splash down in the Pacific on the sixth orbit.

Conrad I'm sorry to disappoint them. I just told Gordo a few minutes ago we just passed a milestone--we only have seven more days to go.

Cap Com Roger. Pete they've got a clock down here that will give you the time to end the mission. It's not running right now, but yesterday it said 198 hours.

Your wives also made the front page this morning.

Very good pictures, and they look very pretty.

Conrad

Roger. You can't tell them we are doing fine, and tell the doctors we are drinking lots of water, but neither one of us have been too hungry. We've had two meals, but we haven't eaten all of them.

Cap Com

How much water have you drunk, Pete? I've got notes here from Neal, or Elliot that say that your last drink was at 0105, 0104.

Conrad

I've almost had 6 pounds, and Gordo's had about $6\frac{1}{2}$ pounds, and we're being pretty generous with the gulps.

Cap Com

OK. You've had 6, and Gordo's had $6\frac{1}{2}$.

Conrad

That's a good number.

END OF TAPE

This is Gemini Control, Houston; 24 hours, 32 minutes into the mission, on the sixteenth revolution with the spacecraft just off the southeast coast of Africa. We have been out of touch with the spacecraft since the Canary-Kano pass. We expect to contact again at Canarvon. On the last revolution, excuse it, on the fourteenth revolution, over Canarvon--in the Canarvon area--a radar tracker, a person manning the radar tracking device in that area, reported sighting, visually sighting, the spacecraft. We are checking back with the Canarvon station to get additional information on him, his name and citizenship. We have had reports of visual sightings in the past, but this is the first I recall in this particular flight. Here in the Control Center serious consideration is being given to attempt a rendezvous with the pod. This would be, of course, with the passive object. The beacons are out, the lights are not flashing, the radar beacon on the pod is out, and at last reports it was some 75 miles from the spacecraft. We are tracking the pod; we hope to get a good fix on its position, and depending on those, the elements of that fix that will dictate the decision whether we will attempt to rendezvous or not. We certainly have the fuel to attempt it. This is Gemini Control.

END OF TAPE

This is Gemini Control in Houston, 25 hours, 2 minutes into the mission, the spacecraft on a swing up the Pacific. Over the Canarvon station only a few minutes ago, Pete Conrad performed a radiometer check on the star Vega. That is, he aligned the spacecraft so that one of his infrared sensing devices looked at the star Vega; he held it on the star for approximately 3 minutes while he read out the data on the spacecraft and it was, at the same time, telemetered to the ground station. The ground station reported that the telemetry was fairly noisy, but they got some data. Pete confirmed that he got some on-board. It was a relatively quiet pass, and we regret that our recording here in Mission Control in our new support area failed to pick up the conversation. However, we are working on it, and we will get it fixed up for the next pass. Going across the United States this time, it is likely that a decision will be made on whether to commit for a 33 orbit flight. That is, the retro times for the 33 - 1 may be passed up to the spacecraft during this next pass across the United States. This is Gemini Control in Houston.

END OF TAPE

This is Gemini Control Houston, 25 hours 28 minutes into the mission and within the last 2 minutes we have acquired the spacecraft via the Guaymas station. Gordon Cooper was on the loop. He had been napping for the last hour or so and in his familiar soft, slow Oklahoma drawl, he told the Guaymas station that the station was "looking mighty pretty down there." A very cheery Gordo, a doctor has just talked to him. He is a little concerned about their lack of sleep that the two pilots have had. They confirm that they have only had about 2 hour apiece, and they haven't eaten a great deal. And, as we have been talking, a new time to retrofire for the 33-1 has been passed up to the pilots. They -- we are now committed for at least a 33 orbit flight. Let's cut in now on that conversation live as the spacecraft moves across the southeast United States.

Cooper Hello down there. I can see all the towns and the high-ways.

Houston Flight Okay.

Cooper Roger. We are coming in over the Cape now. We can see the Cape very clearly.

Houston Flight Can you see the pads pretty easy.

Cooper Roger, we can see the pads, we can see the causeway.

Houston Flight Roger, they really stand out don't they, with that contrast.

Cooper They sure do.

Houston Flight Have you got the D-6 equipment all set up?

Cooper Ready to roll.

Houston Flight Okay. How's the weather over the Atlantic?

Cooper Very nice. There is light scattered clouds.

Houston Flight Okay.

Cooper Sun is shining.

Conrad I'll tell you one other thing we noticed. It looks like our oxygen pressure may have gone back up just a skosh.

Houston Flight Okay. We've had it holding for a long time. We have a couple of extra PCM counts now, so we are all set.

This is Gemini Control Houston again. We are still in contact with the Bermuda station. During that pass, you heard Pete Conrad's report, a very hopeful item. He said that the oxygen pressure was up just a "skosh". That is Conradese for up just a little bit, a comforting factor. Earlier, the spacecraft was advised we have had some trouble reading out their TM data on their infrared measurements. They were advised to leave their infrared data transmitter on during this pass across the States so we could evaluate it. They are out over the island of Bermuda now and the flight plan calls for them to take some terrestrial photographs while in the area of Bermuda. We assume they are doing that now. Pete Conrad reported he had a tremendous vision from the use of the big lens, a 1270 mm lens mounted on his side in the spacecraft. We have had no additional communication since Bermuda acquired. We are standing by and we will play it for you as it happens. Just out on the edge of the Bermuda zone now. We will probably lose the signal within a minute from now.

We are also discussing now -- we have new elements on the pod. It was ejected earlier on the flight yesterday. I can pass those on to you. We have an apogee on the pod of 197.5 miles, a perigee of 102.6 miles. Those are both statute mile values. There was a period of very close to that of the spacecraft, about $95\frac{1}{2}$ minutes. The separation distance at last report is about 300 miles away and, as I indicated earlier, serious consideration is being given to effect some sort of a rendezvous maneuver with the pod. A quick indication is that it would take something on the order of 5 or 6 revolutions to actually catchup with the pod at this point. We have made no decision to undertake that maneuver but, as I say, serious consideration is being given to it. This is Gemini Control out at 37 minutes after the hour.

END OF TAPE

This is Gemini Control, Houston; 25 hours, 45 minutes into the mission with the spacecraft swinging down across Africa. We have the tape ready for you on the early portion of the state-side pass, which we think you will find of interest. In the course of the early discussion, as we indicated, they discussed the food situation. Dr. Berry is a little displeased. He doesn't think they have been eating as often or as much as they should have. They have indicated they've drunk a lot of water, about 6, slightly more than 6 pounds apiece. He's quite satisfied with that, but he's not completely satisfied with the amount of rest they've had, which totals out to something like about 2 hours, plus some napping during the first 24 hours of flight. In the course of the discussion with Jim McDivitt, he asked them if they noticed any LiOH effects.

This is the chemical formula for lithium hydroxide. It refers to the ingredient in the environmental control system in the spacecraft which removes carbon monoxide from the atmosphere. The reference, the question pertains to a suspicion we have that during the McDivitt-White flight, it might have been lithium hydroxide dust that caused some irritating effects on Jim McDivitt's eyes in the early portion of the flight, before it cleared up. We cannot confirm that that was the case in GT-4, but it is a suspicion. Whether founded or unfounded, apparently it's no cause for any irritation at this time, and they report no irritation to the eyes or to the nasal passages. We have the tape for you, and we will play it for you now.

Conrad

Bore site Kinley. I've got the big lamps in here,

and it's really fantastic.

Cap Com What did you say, Pete?

Conrad I said I've got the big lamps in here and I can see through it something fantastic if I could just find the point with it.

Cap Com Yeah. How are you doing with the tracking on that? Is it pretty easy? Or pretty difficult?

Conrad Just got it all put together.

Cap Com OK. We've got another person here who would like to talk to you for a couple of minutes.

Surgeon Gemini 5, this is Surgeon. Gordo, tell me about this sleep story here for a second. We're having trouble trying to get straight on the ground what both of you have done with sleep. As we figure it from your report so far, it appears you have had roughly two hours apiece. Is that affirmed, or have you had more than this?

Cooper That's about right. Maybe a little bit again that, in addition to that.

Surgeon Gordo, what seems to be bothering this sleep? Are you having trouble with the other guy's transmitting? Does this seem to be bothering the sleep?

Cooper The flight plans haven't been arranged where both guys, where one guy could sleep. It's where both of us have been having to do some of the easier tasks.

Cap Com OK. Well, let's check the food parts and other areas

that we seem to be having some trouble getting straight records here, and Pete said on the last pass that you had had at least parts of two meals, and I take it that that's meal A and meal B from the first day. Is that all you have eaten today?

Cooper That's about it.

Cap Com OK. Fine. One other question we ought to get some answers on--are you using the exciser for any other times and over the medical data passes? Are you using it just for general exercise?

Cooper Haven't had time yet.

Cap Com OK. Gee, I thought you were just loafing up there.-- all this comfort and time to do nothing.

Cooper Been pumping the foot generator pretty hard, there.

Cap Com We should have one aboard. Gemini 5, this is Houston here.

Cooper Roger.

Cap Com Roger. You have a go now 33 - 1, and we've put the 33 - 1 TR time on your computer, so you are all set.

Cooper

Cap Com OK. Good luck on your D-6.

END OF TAPE

This is Gemini Control, Houston; 26 hours, 2 minutes into the mission. At this time the Tannarive station has gone into a local communicate condition. They should be establishing contact within a very few seconds. The flight is progressing very nicely here; our big clock's up above the, at the ceiling in the Mission Control Center now show a new time, ground elapsed time to retro-command, one for a 33 - 1 landing, should a landing become necessary. That time would be 24 hours and 38 minutes from now. We also had data from the Department of Defense that a fourth object is being tracked along with the spacecraft, the second stage, and the pod. It's identified as a piece of debris; we don't know whether it came from the second stage, or just where, very likely from the second stage in the act of separation. This is Gemini Control in Houston, 26 hours into the mission.

END OF TAPE

This is Gemini Control, Houston; 26 hours, 32 minutes into the mission on the seventeenth revolution, with the spacecraft just off the north-east coast of Australia. Since early this morning we have indicated that here in the Control Center, flight planners and engineers have been busy devising some sort of a rendezvous maneuver with the pod. The mechanics have been worked out whereby we might attempt such a catch-up maneuver with the pod over a six revolution period. They had actually gone so far as to brief the crew during the just-ended Canarvon pass on what type of burn to perform over the states. We had generally thought of bringing the apogee down to about 165 miles, waiting several revolutions, and then performing other maneuvers to make a close approach on the now-dead pod. However, in just the last few minutes the Flight Director has reconsidered the plan. He doesn't want to put the over-all lifetime of the mission in any jeopardy. We are still striving for our full 8-day mission, and plus the fact that he would like to see a little more power grow on the, in the spacecraft, a little more power available in the electrical system. He has decided not to attempt any rendezvous today. He's postponing any rendezvous attempts for at least several days, by which time hopefully we will be able to use the platform, the other guidance instrumentation available in the spacecraft for any maneuvers that might be attempted then. So, we'll say again, we'll not attempt any rendezvous maneuvers with the pod today, and at this time we are proceeding across the Pacific. This is Gemini Control signing off at 35 minutes after the hour.

END OF TAPE

This is Gemini Control Houston, 26 hours 49 minutes into the mission. At this time the Hawaii station is in contact with the spacecraft and making comparisons between ground readings and spacecraft readings on the various instruments and gauges. It was during the Canton pass just a few minutes ago that Jim McDivitt remoted through the Canton Island station, advised the crew that we will not attempt a rendezvous maneuver with the pod today. This has been the plan, that over the States we might put in motion a series of maneuvers that would bring us in close proximity with the pod, 5 or 6 revolutions later. However, it was decided not to attempt these maneuvers and put prime emphasis on the - attaining long duration time in orbit, something on the order of 8 days. For your information, the second stage booster for the -- of the Gemini Launch Vehicle has about 2 more days to go in orbit before it will decay and burn in. We do not have a predicted impact point for you at this time. The pod is trailing the booster by about 5 and one-half minutes. It, in turn, is some 375 nautical miles out in front of the spacecraft. Gordon Cooper has advised that he hasn't seen it for some time. We presume the lights, the blinking lights on the pod are now extinguished, the battery power out. In the parade of Gemini V and its entourage the third item in the parade is the spacecraft itself, trailing the pod by some 35 seconds, and the fourth item in the lineup is a piece of debris. The scrap is about 2 by 3 feet. We can't identify it precisely. It could be a piece of a skirt off the second stage, or just what we don't know, but it is trailing the spacecraft by about 8 minutes. We have no estimate on its lifetime. We have the Canton Island tape wrapped up and are prepared to play it for you now.

Houston Flight Gemini V, Gemini V, this is is Houston here. Over.

Conrad Roger, Houston. We hear you fine.

Houston Flight Roger, Gemini V. This is Houston here. Be advised that there will be no, I say again, there will be no OAMS burns over the States. We will not attempt to rendezvous with the REP.

Conrad Roger, understand. No rendezvous and there will be no burn.

Houston Flight That is affirmative. Later on in the mission we expect to do some burns and we can bring the platform up and we will run through some exercises using the fuel for that.

Conrad Okay.

Houston Flight Gemini V, this is Houston.

Conrad Go ahead, this is Gemini V.

Houston Flight Roger. For your information the REP is about 375 miles out in front of you at the present time.

Conrad Oh, is that right.

Houston Flight Roger. Can you still see the lights.

Conrad

Houston Flight Okay, you'd better take your vision test again.

Houston Flight Would you put your ECS O₂ heater to auto please.

Conrad You are fading out on your ... transmitter.

Houston Flight Roger, I state again. Would you put your ECS O₂ heater to auto. Your ECS O₂ heater to auto.

Conrad Roger. Going to auto ECS O₂.

Houston Flight Roger.

Houston Flight Be advised that the flight plan updates that you had for your pass across the States will remain the same.

Conrad Roger, understand.

Houston Flight Okay.

END OF TAPE

This is Gemini Control Houston, 27 hours 2 minutes into the flight. The spacecraft is directly overhead us here at Houston and Jim McDivitt just ask Pete Conrad if he saw him wave, a joking reference of course, and Pete said no, it was a little cloudy. He also said he couldn't quite see the Domed Stadium, although he was looking. West Texas must be clear because they had a, they gave us a beautiful description of the El Paso area, and they -- in the course of this pass they have turned their radar on, they have powered up their computer, and they have also turned on what is identified as the MDIU. That is the manual data insertion unit, which is a piece of associated electronics that goes with the computer and into which data can be inserted annually. We are still on an open line to the spacecraft and, which is right now over the state of Alabama. Let's tune in live to see if there is any further discussion.

Gemini Control again. Apparently they have nothing to report right now. We will stand by. In the course of the pass, our environmental systems man, who watches the fuel cell area, says it is looking good on the fuel cell situation. Here we are again.

Conrad .66 miles

Houston Flight Very good.

Conrad 222.48, as we go by the Cape.

Houston Flight Roger.

Houston Flight You think you can make a REP out on that?

Conrad You bet. Not only that, but I wish we hadn't had those little problems because I think we would have caught the REP.

Houston Flight Yep.

Conrad We just went by the Cape, 166.92.

Houston Flight Roger.

Conrad Closest approach is 164 miles.

Houston Flight Gemini V, you have completed your radar pass. Gemini V, you have completed your radar pass. We would like to have you turn off your radar again, turn your computer off, and bring your horizon scanners back up.

Conrad Roger.

Conrad We're still getting readouts. 248 miles.

Houston Flight Roger.

Conrad ... (broken)

 This is Gemini Control again. In the course of that pass you heard Pete Conrad talking about the radar. Here we go again, stand by.

Conrad This is Gemini V. We are powered back down now, Jim.

Houston Flight Okay, fine. Listen, for your information, we would like to have you complete that Loredø pass on that next pass, and then it's time to get some sleep, don't you think.

Conrad We highly concur.

Houston Flight Oh, yawn.

Conrad I got pretty sleepy on that last light side.

Houston Flight Roger, listen. If your getting sleepy, go ahead and cat nap around there.

Conrad Say again.

Houston Flight Don't forget the good old cat naps now when you are floating around.

Conrad S.

Gemini Control Houston here again. Jim McDivitt passing on some advise about catching cat naps, advise which he didn't follow to closely during his 4-day flight, but he is certainly an expert in that department now. The reference to the sighting over the Cape is this. There is a spare pod, or REP as it is referred to in the flight, on a tower at the Cape, which is still live. It was powered up at this time, the boys turned their radar on, and they caught some measurements with it, so their radar is effective, and it apparently is quite accurate. The pod is broadcasting in L-band signal and now we are getting more transmission. We'll go back to the crew.

Conrad ...

Houston Flight Oh, it makes a lot of noise, huh?

Conrad Everytime it cycles, the valves really bump.

Houston Flight Gemini V, the Flight Director suggests that if you start liking the M-1 maybe it will put you to sleep.

Conrad I like it! I like it!

Houston Flight Not that much.

Gemini Control Houston here. The spacecraft down on the lower edge of the Bermuda area and the upper right edge of the Antigua acquisition area and we probably reached the end of our communication.ability for this pass. The most informative pass, I think, and we will wrap up this tape and play it in its entirety for you as soon as it is available. This is Gemini Control out at 12 minutes after the hour.

END OF TAPE

This is Gemini Control Houston, 27 hours 35 minutes into the mission with the Spacecraft down over South Africa. No contact since the State side pass, the tape of which we are -- have wrapped up and are prepared to play for you, but before we get into that, I want to call your attention to an announce we made early yesterday before launch. We indicated that we had information from the Department of Defense that a crewmember aboard the Chipola, that ship parked about 500 miles northeast of Hawaii, had suffered a serious illness, an apparent heart attack and that a destroyer there, the Tarzon, had been sent from Pearl Harbour to the ship to take him back to Pearl Harbour for additional medical care. Later in the day, the crewmember died. We have confirmed that it was a heart attack and the Department of Defense has gone through its normal notification process. The name of the crewmember was Boatswain Mate Second Class William Gustov Krauss, last name Krauss, 32 years old. Boatswain Mate Krauss is the son of August Theodore Krauss of Lindenhurst, New York. Lindenhurst, New York. Apparently suffered a fatal heart attack on the Chipola early yesterday morning, was ill for some hours, and died in the morning. We are now prepared to play for you the tape of the State side pass, some 8 to 9 minutes in duration. Let's have the tape now please.

Guaymas Cap Com Gemini V, Guaymas Cap Com standing by.

Cooper All right, Gemini V here.

Guaymas Cap Com How are you doing?

Conrad Our status is green. I think we got some good D-4 and B-1 on the moon this last pass, and we have been taking

all the gear down now. We got 4 pictures of the moon each magazine.....

Guaymas Cap Com You say you got 4 pictures of the moon and what else?

Conrad Got 4 pictures of the moon with each magazine, 12 pictures total.

Guaymas Cap Com Okay, I got that.

Conrad We continually have had these RCS heater lights come, so we have just turned the RCS heaters on and left them on.

~~Guaymas Cap Com~~ Ah, roger.

~~Houston Flight~~ Gemini V, Houston here.

~~Conrad~~ Hello Houston. Gemini V coming up on El Paso.

Houston Flight Roger. Say, when you make this pass across the Cape, that radar test, we would like to have you power down your horizon scanners and bring your computer up in the Catch-up Mode.

Conrad Okay. Put the radar to on and turn the scanners off, and we'll bring the computer up in the Catch-up Mode.

Houston Flight Roger. And if you have any problem with delta P lights or anything, we want you to turn the computer back off again, of course.

Conrad Roger. Computer is on. I'd like to bring the MDIU on.

Houston Flight Well, we are trying to keep the power down here Pete, and the only reason we are bringing the computer up is we can't get the data out of the radar unless we've got the computer on.

Conrad Okay, we just passed El Paso, International and Biggs.

Houston Flight Very good.

Conrad Boy, it's a pretty day out there. You can really see well.

Houston Flight Gemini V. This is Houston.

Conrad Go ahead Houston.

Houston Flight Why don't you go ahead and power up the MDIU then?
It's only a quarter of an amp and maybe you can read something out on the range or range rate.

Conrad Roger. We got a computer light on in the Catch-up Mode.

Houston Flight Okay.

Conrad We just passed Houston a couple of seconds ago.

Houston Flight Could you see me wave?

Conrad

Houston Flight Okay.

Houston Flight Gemini V. This is Houston. Could you see the Domed Stadium when you went over?

Conrad You could just see Galveston Bay, there's some clouds between us and we are north of it.

Houston Flight Okay.

Conrad tracking right down there, 222.48, as we go by the Cape.

Houston Flight Roger.

Houston Flight Do you think you can make a REP out on that?

Conrad You bet. Not only that, but I wish we hadn't had our little problem because I think we would have caught the REP.

Houston Flight Yep.

Conrad We just went by the Cape, 166.92.

Houston Flight Roger.

Conrad Closest approach is 164 miles.

Houston Flight Gemini V. When you have completed your radar pass,
we'd like to have you turn off your radar again, turn
your computer off, and bring your horizon scanners back
up.

Conrad Roger. We are still getting readouts, 248 miles.

Houston Flight Roger.

Conrad That is it, yeah, lost the pod.

Houston Flight Gemini V, Houston. Give us a call when you get powered
back down again.

Conrad Roger, Gemini V. We're powered back down now, Jim.

Houston Flight Okay. Fine. Listen, for your information, we'd like
to have you complete that Lorado pass on the next
pass and then it's time to get some sleep, don't you
think.

Conrad We heartly concur.

Houston Flight Oh, yawn.

Conrad I got pretty sleepy on that last night side pass.

Houston Flight Roger, and listen, if you are getting sleepy, go ahead
and cat nap around there.

Conrad Say again.

Houston Flight Don't forget the good old cat naps now when you are floating around.

Conrad

Houston Flight Gemini V, Houston here. Have the thrusters been making enough noise to keep you awake?

Conrad The thing that really makes the most noise, and I was wrong and Gordo was right, is the M-1 experiment. It keeps clicking away merrily.

Houston Flight Oh, it makes a lot of noise, huh?

Conrad Everytime it cycles, the valves really thump.

Houston Flight Gemini V, the Flight Director suggests that if you start liking the M-1, maybe it will put you to sleep.

Conrad I like it! I like it!

END OF TAPE

This is Gemini Control, Houston; 28 hours into the mission on the eighteenth orbit, with the spacecraft on the northern coast of Australia. During the last State-side pass, 40 to 50 minutes ago now, we brought equipment up, which created a total power drain of 28 amps. This is by far the highest power load we've put on the spacecraft since very early in the flight, in fact, since the second revolution; no difficulty with that power drain at all, and the oxygen reactant supply to the fuel cell continues to build in pressure. We presently estimate that pressure within the tank at about 80 pounds. This has been a steady climb from a low value yesterday, or some 12 to 15 hours ago, of down the order of 65 pounds. Among the visitors here in the Control Center this morning is Mr. J. S. McDonnell, Chairman of the Board of the McDonnell Aircraft Company in St. Louis, prime contractor for the Gemini spacecraft, watching with interest. We have ready for you at this time a taped conversation of the, between the crew and the Canarvon Station which conversation just ended a minute or two ago. Could we have the tape now please.

Canarvon Cap Com Gemini V, Canarvon Cap Com.

Conrad Canarvon, Gemini V.

Canarvon Cap Com Roger, I have some PLA and CIA updates. Are you prepared to copy?

Conrad

Houston Flight Update only to PLA's.

Conrad

Canarvon Cap Com Roger, Flight. Area 20-4, 01 day, 21 hours, 14 minutes, 40 seconds, 8 + 38, 15 + 09, roll left 51, roll right 69. The bank angles of all these are roll left 51 roll right 69. Area 21-4, one day, 48 28 8+19, 15+39. Area 22-3, second day 00 hours, 09 minutes, 13 seconds, 09 + 29, 15 + 28. Area 23-3, second day, 01 hours, 43 minutes, 32 seconds, 8 + 33, 14 + 58. Area 24-3, second day, 03 hours, 17 minutes, 20 seconds, 8 + 17, 15 + 41. Do you copy?

Conrad 02, 03, 17?

Canarvon Cap Com That last one was 03 hours, 17 minutes, 20 seconds.

Conrad Roger, I'm copying them. Our status is green?

Canarvon Cap Com Roger, you look good on the ground.

Houston Flight Canarvon, Houston flight.

Canarvon Cap Com Flight, Canarvon.

Houston Flight The 22 and 23 -3 recovery areas have marginal weather just to pass the time of day.

Canarvon Cap Com Roger. Gemini V, Canarvon. The area 22-3 and 23-3 have marginal weather conditions. All the other weather conditions are good.

Conrad Did I understand area 22-3 and 23-3 have marginal weather?

Canarvon Cap Com Roger.

END OF TAPE

Gemini Control, Houston here; 28 hours, 28 minutes into the flight with the spacecraft rapidly approaching the coast of California. In the Hawaii pass, just a very few minutes ago, the Pilot Pete Conrad received up-dating on his star charts aboard, advice as to where and when to look for certain stars, and fixing the charts that are already on there. Gordon Cooper we suspect is sleeping this time. The Surgeon isn't sure whether the lowered rates are an indication of sleep. He says sometimes Gordo just gives us these low heart rates down in the 50's just when he is relaxing, but the suspicion is that he may be sleeping. Earlier this morning the crew breakfasted on a meal which included a grapefruit drink, six bites of chicken, in the bite-size form, that is about $\frac{1}{2}$ inch square; they also had corn chowder, peaches, and some small brownies. The total calories in such a meal is 932. As we swing across the United States, the pilots will be looking down at that big eye chart over, just north of Laredo, and as we have been talking, the TM contact has been established with Guaymas. Let's cut in now live on the Guaymas-Gemini 5 conversation.

Guaymas Cap Com OK. We're looking pretty good here. We'll be standing by for you.

Conrad OK. Thank you.

Guaymas Cap Com Flight Guaymas.

Houston Flight Go ahead.

Guaymas Cap Com OK. Wheneverdrop out, the telemetry was on acquisition. Did Hawaii send the TX?

Houston Flight Negative.

Guaymas Cap Com OK.

Houston Flight Guaymas, we would like to know the summary when you got solid TM.

Guaymas Cap Com Roger. We're getting good solid TM at this time.....

Gemini Control Gemini Control here. For some reason he had some bad TM at the start of the Guaymas pass; perhaps they were out of range. However, the TM is solid now. Flight controllers didn't like the looks of the early summary. They had asked for another one, and they are getting it now. It's cleaner data. Let's stand by and listen again.

Guaymas Cap Com Texas go remote.

Texas Cap Com We did it, Jim.

Guaymas Cap Com Texas is remote.

Gemini Control In just a second or two we should hear Cap Com Jim McDivitt calling the spacecraft as the Texas site has been remoted. Our Corpus Christi station now has TM solid.

Guaymas Cap Com Houston, Texas let me know. We need a station for our air to ground remoting.

Gemini Control Still standing by. A rather untypical pass--untypical in the sense of lack of conversation. We do expect Jim McDivitt to come up momentarily. Our Surgeon reports he is very satisfied with the medical telemetry he is receiving here. Within a very few seconds the spacecraft should be directly over Laredo and ready to start that eye test.

Conrad To Houston, Gemini 5.

Houston Cap Com Go ahead.

Conrad Now we came to awe could see Corpus alright, and our yaw angles weren't too good that you gave us for that air shield air passed under our nose, but we had already gotten by it by the time we had picked up the air shield.

Houston Cap Com OK. You were supposed to be quite a ways up, north of the thing there, Pete; and wasn't the best pass, but it was the best pass we've had today.

Conrad OK.

Houston Cap Com Say, I would like some information from your vision tester.. Can you tell me what your scores were? You know inside the spacecraft vision test?

Conrad Well, they are stored in the vision tester. We took them yesterday, and I would have to get them out for you. Do you want me to get them out?

Houston Cap Com Oh, no. It's not necessary right now. I'll tell you what--from now we would like to get back on the sleep cycle that we've got on our flight plan, and we really want you to get to sleep now.

Conrad We both got some the last night time.

Houston Cap Com Say again.

Conrad We both got some the last night time.

Houston Cap Com OK. Very good. Let me ask you a question-- did you pick up any good acquisition aids for that Lando

thing?

Conrad

We had Houston in sight very clear like.

Houston Cap Com

Roger. Gemini 5, Houston here again. We'd like a summary of your experiments you've accomplished and where you think we stand. We'd like to have you prepare this and give it to us at some later time.

Conrad

I'll give it to you right now.

Houston Cap Com

OK, if you want to do that.

Conrad

I'll read them down in the order that you sent them up-- on the first D-4's we deleted; both of them in Hawaii.

Houston Cap Com

Just a second, say that again.

Conrad

2 half sixes at 010748, 010922.

Houston Cap Com

Pete, stand by. Let me get ^{that} /thing we read up to you.

OK. Go ahead now.

Conrad

Then we missed the first Apollo land mark at the UHF test, got the second Apollo land mark.

Houston Cap Com

OK.

Conrad

I believe, yeah, we missed the D-4 at 011210.

Houston Cap Com

OK. What was the time on it again?

Conrad

01121000

Houston Cap Com

OK.

Conrad

Then we got the D-4 at sequence 4-11 and 4-12.

Houston Cap Com

OK.

Conrad

We deleted the D-6 sequence 134.

Houston Cap Com

Roger.

Conrad We did not do the D-4, D-7 at 420, but we did get the 4-10A, and the 405. We got the D-1, sequence 01, and the D-4, sequence 422.

Houston Cap Com OK.

Conrad We got the radar sequence test 8.

Houston Cap Com OK.

Conrad We got the S-6, sequence 8. We're standing by for the S-7. Copy?

Houston Cap Com Roger. You got the S-6, sequence 8. I missed the (interrupted)

Conrad We had a view of a large storm at 01171200 to photograph, and we got it.

Houston Cap Com OK. That was a S-7 there. Right.

Conrad I'm sorry---S-7.

Houston Cap Com 9-1 telemetry, at AON.

Houston Cap Com Another thing here, Gemini 5 (interrupted)

Conradgarbled

Houston Cap Com Yes, I mislooked myself. We had it listed as D-6, and I meant to say D-6. Can you go through the first part of your thing again? the S-8?

Conrad Yeah, we deleted the first D-4, D-7, at Hawaii.

Houston Cap Com OK.

Conrad We got the 2 S-6 sequence 8's at 01074826 and 01092249.

Houston Cap Com OK.

Conrad We did not get the Apollo 208 the first time.

Houston Cap Com OK. I got that part of it, Pete. How about the

SAD 13 at 10620?

Conrad Say again, Houston.

Houston Cap Com Roger. How about the SAD 13 at 10620?

Conrad The vision test?

Houston Cap Com Yes.

Conrad It was in the flight plan?

Houston Cap Com Yes. Actually we added it to the flight plan right there, Pete. It wasn't in the printed flight plan.

I guess though they are part of the vision test that you did on board, aren't they?

Conrad That's affirmative.. We've just done one of those, and I also did the flotometer window scan for the first day. I just did that before the Laredo pass just now.

Houston Cap Com OK. You did the flotometer window scan. Roger.

Conrad Yeah, first day window scan.

Houston Cap Com OK.

Conrad Now for photography, we've taken about 85 S-5 and S-6 pictures.

Houston Cap Com You say you have taken about 85 S-5 and S-6. Is that right?

Gemini Control Gemini Control here. That apparently wraps up the conversation between the spacecraft and Jim McDivitt. You heard Pete Conrad read off all the experiments that they had completed to date, and earlier I believe we

heard references perhaps over Hawaii tape that you may not have heard as yet, which we will play for you at the conclusion of this pass--just some of the planned-landing areas in the early 20 revolution series, caution that that is just a standard up-dating. We have no plans to come in on orbits 20 or 24 although the numbers for those orbits were passed along as a matter of flight planning routine. This is Gemini Control, out at 46 minutes pass the hour.

END OF TAPE

This is Gemini Control Houston. We now are 29 hours 2 minutes into the mission. We are on the 19th revolution down over the South Atlantic. We have ready for you at this time some tape that proceeded the live portion on the last State side pass, and we will break that and come back with about two minutes of additional conservation that followed a long drop in the live portion, at which point we broke over the States. So, with the tape backed up on Hawaii, we will play that for you now.

Hawaii Cap Com Gemini V, Hawaii Cap Com.

Conrad Go ahead Hawaii, Gemini V.

Hawaii Cap Com Roger, I've got a flight plan update for you when you are ready to copy.

Conrad Roger, wait one. Roger, go ahead.

Hawaii Cap Com Roger, Sarah 7, first day, 20 04 43. Sequence 03. Command Pilot only, followed immediately with a 04, that is a sequence 04.

Conrad Roger, understand. S-7 - 01 20 43, Command Pilot only, sequence 03, immediately followed by 04.

Hawaii Cap Com Roger. Also a Sarah 8/delta 13. First day, 18 34 38. Sequence 03, pitch down 30 degrees, yaw right, 37 degrees.

Conrad Okay, 01 18 34 38, sequence 03, for a S 18 13. Pitch down 30, yaw right 37.

Hawaii Cap Com Roger, we have a map update, at - on the first day at 19 36 48, under remarks it's 128.1 degrees east, on rev 19.

Conrad 01 36 49, 128.1 east, rev 19.

Hawaii Cap Com Roger. You start your start at the same time. It's right Ascension 2 hours plus 12 minutes.

Conrad Roger. Right at Ascension, 2 hours plus 12 minutes.

Hawaii Cap Com Roger. Be advised you have a UHF 6 over the States.

Hawaii Cap Com All systems look good Flight.

Houston Flight Rog.

Gemini Control here. The updates that Pete Conrad was receiving there from the Hawaii Cap Com were for the star charts lock angles and the like that are onboard. As this 19th revolution progresses, the flight plan calls for Pete Conrad to start a nap right now with the spacecraft down on the Southern tip of Africa. This nap to go on for several hours, and during the Carnarvon side, slightly before the Carnarvon acquisition, Gordon Cooper is to purge both the hydrogen side and the oxygen side of the fuel cell. The operation of which has shown steady improvement throughout the day. He will purge it by flushing extra amounts of hydrogen and oxygen through the cell. A little later, there will be a medical data pass over Hawaii, and as the spacecraft swings down off the western coast of Mexico, Cooper will attempt to get some photographs of the tropical storm Doreen which is now located somewhere south of San Diego. We have the tape now on the last 2 minutes of conservation from the State side pass and we are prepared to play it for you now.

Cooper We are sliding right down the coast of South America and it looks pretty nice down there.

Houston Flight Many clouds down there?

Cooper Quite a few big thunderstorms.

Houston Flight] I understand we got a great big thunderstorm on Antigua right now.

Cooper I believe we are already by that.

Houston Flight Yep.

Cooper I didn't take a picture of that big thunderstorm over Antigua.

Houston Flight Okay. Say, did you pick up any good land marks over Laredo that might help you acquire it on the -- in the next couple of days.

Cooper Yeah, there is a big lake out there. We've got to get the lake boresighted with the Laredo airfield.

Houston Flight Okay. One thing that you might keep in mind, the next time you go by there and look at it, there are some roads leading out to the -- those things that you are supposed to look at there, and they are, there is some concern that you might mistake the roads for channels, so if you see that the road is misleading you, give us a call and we'll see if we can get the thing fixed up so it doesn't look like canals.

Cooper Okay. It looks like they had about as good weather as we could expect there.

Houston Flight Okay.

Houston Flight Gemini V, we'd like to have you delete the aeromed pass over Carnarvon. We'll pick it up over Hawaii.

Cooper Okay, I understand. Skip the aeromed pass over Carnarvon, pick it up at Hawaii.

Houston Flight Roger. Your primary O₂ pressure looks very good. We'll just leave it right in auto heater.

Cooper Okay.

Gemini Control here, 29 hours 32 minutes into the mission on the 19th revolution, With the spacecraft in touch with the Carnarvon station. Gordon Cooper has been talking to the ground there. He has just completed a purge of the hydrogen side of the fuel cell followed by a purge of the oxygen side of the fuel cell. And, it should be a relative brief pass because we are on the high side of Carnarvon. We have been furnished some additional numbers on the REP from the NORAD people at Colorado Springs. They now estimate the REP is ahead of the spacecraft by a little more than 200 nautical miles, or 230 statute miles. The REP precedes the spacecraft. All quite here, going very routinely. This is Gemini Control.

END OF TAPE

Gemini Control here. Twenty-nine hours, 32 minutes into the mission on the 19th revolution. The spacecraft in touch with the Canarvon Station. Gordon Cooper's been talking to the ground and has just completed a purge of the hydrogen side of the fuel cell followed by the oxygen side of the fuel cell and it should be a relatively brief pass because they the high side of Canarvon. We've been firming some additional numbers on the REP from the Norad people at Colorado Springs, they now estimate the REP is ahead of the spacecraft by a little more than 200 nautical miles or 230 statute miles. The REP precedes the spacecraft. All quiet here, going very routinely, this is Gemini Control.

END OF TAPE

Gemini Control here, 29 hours 46 minutes into the mission on the 19th revolution. We have the brief Carnarvon discussion racked up for you and ready to play. In this discussion you will note that half way through the purge, on the first purge on the oxygen side, Pete Conrad wakes up, he had been sleeping for about 1 hour, and he noted that the crossover switch as he referred to it, as the crossover valve, was not in the proper place for the purge. This needs a little bit of explanation. This switch has to be in an on position so that the oxygen from both tanks can flow through the oxygen side of the fuel cell and this is what increases the flow which provides the purging action. It was not in the proper position on the first one so it was an invalid purge, however, it was repeated and everything is moving along smoothly. Now, Pete presumably has gone back to sleep. As we said, we have the tape and are prepared to play it for you now.

Carnarvon Cap Com Gemini V, Carnarvon Cap Com.

Cooper Go ahead Carnarvon, Gemini V.

Carnarvon Cap Com Roger, we'd like a purge on fuel cell section 1, the O_2 and the H_2 , exercising the same precautions on the O_2 .

Cooper Roger, you want a purge on section 1, O_2 and H_2 , right.

Carnarvon Roger, would you give us a mark on the start and stop times.

Cooper Roger, stand by one.

Carnarvon Cap Com Roger.

Cooper Crossover is on.

Carnarvon Cap Com Roger.

Cooper Purging H₂ starting.

Carnarvon Cap Com Roger.

Cooper Roger, we had a fuel cell delta V light, section 1.

Carnarvon Cap Com Roger, we copied.

Houston Flight Was that hydrogen or oxygen.

Carnarvon Cap Com That was hydrogen.

Cooper Are you ready for the oxygen purge?

Carnarvon Cap Com Roger, go ahead.

Cooper Roger, oxygen purge starting now. Conrad's still asleep. We got a delta V light.

Carnarvon Cap Com Stop the purge.

Cooper Roger, we've stopped.

Carnarvon Cap Com Flight, we've got a delta V light on the O₂.

Houston Flight Roger.

~~Carnarvon Cap Com Purge has stopped.~~

Houston Flight Roger. What is your pressure readout on the ground.

Carnarvon Cap Com Stand by, we are getting it now. That binary count is 19.00.

Conrad Carnarvon, this is Gemini V.

Carnarvon Cap Com Go ahead.

Conrad I didn't have the crossover on. I woke up out of a sound sleep to ... so, let's try it again. I didn't have the crossover open.

Carnarvon Cap Com That explains it.

Conrad Stand by. MARK. Starting off the purge.

Carnarvon Cap Com Roger.

Conrad Pressure is holding good and no delta V light.

Carnarvon Cap Com Roger, we concur.

END OF TAPE

This is Gemini Control, 30 hours 2 minutes into the mission, on the 19th revolution. We have just completed a medical data pass over Hawaii in which the Command Pilot, Gordon Cooper, filled in the surgeon on the ground with all of the medical quantities, took the blood pressures and associate readings. Among other items that he reported, apparently the cuffs, the cuffs on Pete Conrad's legs, are not working just as they should. Cooper reports that the little drive mechanism is actuating but the cuffs are not inflating. The system is so designed that the cuff inflates just like a blood pressure cuff on your arm and then it deflates and stays down for 4 minutes and then it inflates for a period of 2 minutes. The cycle continues, but apparently the inflation process is not going on. Apparent malfunction in the cuff. Cooper is leaving the cuffs on his legs* and we will see what develops there. We have the tape of the Hawaii conversation ready to play for you at this time.

Houston Flight Gemini V, Gemini V, this is Houston here.

Hawaii control Hawaii has telemetry solid.

Cooper Go ahead Houston, Gemini V.

Houston Flight Roger, Gemini V, Houston here. We were trying to
get you earlier. I just wanted to check out the
wheeling voice loop now. We have taken care of the
situation.

Cooper Roger.

Houston Flight Roger, how do you read us through the wheeling.

*Cuffs were on Conrad's legs.

Hawaii Cap Com Gemini V, this is Hawaii.

Cooper Roger Hawaii, Gemini V.

Hawaii Cap Com Roger, we have your temperature. Standing by for your blood pressure.

Cooper Roger, sending blood pressure now.

Hawaii Cap Com Did you copy, Flight.

Hawaii Cap Com Gemini V, this is Hawaii Surgeon. Your cuff is full scale.

Hawaii Cap Com We have a good blood pressure, give me a mark when you begin your exercise.

Cooper Roger, starting exercise now.

Cooper Ending exercise now. Sending blood pressure now.

Hawaii Cap Com Roger. Cuff is full scale.

Hawaii Cap Com We have a real fine blood pressure that time. Standing by for your water and sleep report.

Cooper Okay, one moment.

Cooper Roger, on water, the Command Pilot has had 1 ounce over 7 pounds, and the Pilot has drunk not quite 1 ounce over 6 pounds.

Hawaii Cap Com Understand. 1 ounce plus 7 for the Command Pilot, 1 ounce plus 6 pounds for Pilot. How about sleep report.

Cooper Roger, the Pilot has been asleep here on and off. He has gotten a couple of real good naps here and there. I've had about 45 minutes of sleep on the previous night side. The Pilot's M-1 cuffs appear to have quit working. We

can hear the little bottle still actuating, but apparently the cuffs are no longer actuating.

Hawaii Cap Com

Roger, understand. Pilot's M-1 cuffs are actuating but not inflating.

Cooper

That's affirmative.

Hawaii Cap Com

Thank you Gemini V. Hawaii Surgeon out.

END OF TAPE

This is Gemini Control at 30 hours and 32 minutes. Spacecraft Gemini V is now passing off the west coast of South America and at this time in the Control Center the second shift controllers White team has taken over. Flight Director Chris Kraft and several of his controllers on the Red team have left the building and are on their way to NASA Building No. 6, the Press Center, for an interview with the newspaper and news media representatives. At this time in the Control Center our new Flight Director Gene Kranz is making a status check and we expect to have an up-to-date summary of the flight as it is right now during our next transmission.

This is Gemini Control.

END OF TAPE

This is Gemini Control at 31 hours and 41 minutes into the mission. The spacecraft is now passing over Guaymas, Mexico on its twentieth revolution around the earth. We have had a status check here in the Mission Control Center connected by our Flight Director Gene Kranz, as follows: aboard the spacecraft the power situation continues to improve, the crew is able to consume more power, drawing something like 20 to 25 amperes while the fuel cell pressure holds steady above 80 pounds per square inch. From a medical stand point, the crew is in excellent shape after 31 hours of flight. There are no physical problems evident. Dr. Dwayne Catterson, our flight surgeon, thinks the crew should have a little more sleep. He feels this will be taken care of naturally. At this time in the spacecraft, Pilot Pete Conrad is in a sleep period. He is due to awaken shortly, and Command Pilot Gordon Cooper will begin a sleep period. Cooper has also finished his second meal, meal B for the second day. There is very little programmed activity slated for the crew for the next couple of hours. The flight crew has been performing some of the experiments that were programmed, both photographic experiments and visual experiments. They have been doing this activity, except when cloud cover and fuel cell checks interfered with this activity. The Mission Controllers here in the Control Center appear to be settling down for a routine, long-haul operation. Our last voice communication with the spacecraft, we had two, one at 31 hours and 31 minutes over Hawaii, At that time Hawaii advised the spacecraft crew that they were green from

the ground, and Cooper replied, "Everything is
go up here." Essentially, the same thing happened
as the spacecraft passed over the Guaymas tracking
station. This is Gemini Control

END OF TAPE

This is Gemini Control at 32 hours, 20 minutes into the flight mission. Spacecraft Gemini 5 is now passing over South America, and has started the twenty-first revolution over the earth. The power situation aboard the spacecraft continues to improve. The pressure reading, the last one we had, showed 86.2 pounds per square inch, 86.2 psi. Chris Kraft, the number one flight director, has returned to the Control Center and with him, Jim McDivitt. At this time we have a cluster of three astronauts around the spacecraft communicators' council, Jim McDivitt, "Buz" Aldrin, who is on duty, and Neil Armstrong. Our last voice communication with the spacecraft was over the Guaymas tracking station. The conversation was very brief, and we will now play be that tape to communication.

Conrad Hi, Guaymas. This is Gemini 5.

Guaymas Cap Com OK. How are you doing up there?

Conrad Roger. Doing fine.

Guaymas Cap Com OK, you are looking real good here on the ground. We would like you to turn the ECS O₂ heater switch to the off position.

Conrad Roger. ECS O₂ heater to off.

Guaymas Cap Com Roger.

Conrad It's off.

Guaymas Cap Com Roger. Are you all squared away? Do you need anything at all?

Conrad Not at all, don't believe so. Believe we're in pretty good shape.

Guaymas Cap Com OK.

Conrad Thank you.

This is Gemini Control, 32 hours and 32 minutes into the mission. Our spacecraft, Gemini 5, is on its twenty-first revolution of the earth, and is approaching the continent of Asia. At the present time in the Control Center, everything is quiet. We have had no voice transmission or conversation with the flight crew for approximately 30 minutes. According to our flight plan, the Command Pilot Gordon Cooper is asleep, and the Pilot Pete Conrad will shortly be performing some checks aboard his spacecraft, one of which will be a thruster illumination check; but that is sometime off. Our next voice transmission with the spacecraft is expected to take place over the Guaymas, over the Coastal Sentry Quebec tracking station south of Japan in the Pacific Ocean. This is Gemini Control at 32 hours and 33 minutes into the mission,

END OF TAPE

This is Gemini Control at 33 hours and 2 minutes into our mission. The spacecraft is now approaching the Hawaiian tracking station on its twenty-first revolution over the earth. Our last voice communication with the flight crew came just a few minutes ago as the Spacecraft Gemini 5 passed over the Coastal Sentry Quebec tracking station, located in the Pacific, south of Japan. At that time Pilot Pete Conrad reported that Gordon Cooper is in a sleep period. He also reported that the blood pressure cuffs built into his flight suit are working again. Conrad said a kink had worked out at the suit attachment, and that he had been able to fix it. The Coastal Sentry Quebec advised Conrad to do a cabin lighting survey experiment. This is a measurement with a potometer to determine the amount of light at various points within the spacecraft. The voice conversation was somewhat garbled between the Coastal Sentry Quebec and the spacecraft. This is Gemini Control.

END OF TAPE

This is Gemini Control at 33 hours and 32 minutes into the mission. Our spacecraft is now passing over South America and has just begun its twenty-second revolution over the earth. Our last voice transmission, or communication, with the spacecraft was over Hawaii. At that time Pilot Pete Conrad was advised to make a thruster illumination experiment over the Rose Knot Victor tracking station ship located on the west coast of Peru. This particular experiment consists of pulse firing the yaw thrusters and measuring the amount of light with a photometer. Conrad will also make pictures of the thruster firing. Hawaii Cap Com (Capsule Communicator) during the pass over Hawaii observed that Conrad's voice sounded a little hoarse. Doctor Dwayne Catterson, here in Mission Control Center, expressed no concern over this, as his medical data indicates both members of the flight crew are in excellent physical condition. We will now play back the taped voice communication between the spacecraft and the Hawaiian tracking station.

Hawaii Cap Com Gemini 5, this is Hawaii.

Conrad Hello, Hawaii. Gemini 5 flight.

Hawaii Cap Com Roger. I have a tracking test up-date when you are ready to copy.

Conrad Garbled

Houston flight Hawaii, that's a map up-date.

Hawaii Cap Com Roger. Go ahead, flight.

Houston flight That's a map up-date, Hawaii.

Hawaii Cap Com Roger. Gemini 5, this is Hawaii; a map up-date, 2000559 degrees east. Copy?

Conrad Roger, I understand map up-date 02000559 degrees east.

Hawaii Cap Com Roger. Star up-date, 20005, 2 hours, 4 minutes, 40 seconds. Got it?

Cooper Star, 020005, 2 hours, 4 minutes, 40 seconds.

Hawaii Cap Com Roger. . . . flight

Cooper Did you get the tape dump okay?

Hawaii Cap Com That's affirmative. Gemini 5, this is Hawaii; we're standing by.

Cooper Gemini 5's green up here.

Hawaii Cap Com Roger.

Cooper One thing Hawaii, looks like our hydrogen pressure is building up - the point if any, you're getting close to it. Can you check on that?

Hawaii Cap Com Roger, Gemini 5. Gemini 5, could you give me a readout. We hold 275 pounds.

Conrad Okay, I read up here that my quantity is 95 percent and pressure is six thirty.

Hawaii Cap Com Roger.

END OF TAPE

This is Gemini Control at 34 hours and 2 minutes into our mission. Our spacecraft, Gemini 5, is passing over the Tannarive tracking station off the southeast coast of Africa. Command Pilot Gordon Cooper is still in his sleep period, and in approximately 17 minutes Gordon Cooper will have exceeded his own record of traveling in space. As you may recall, on May 15, 1963, in spacecraft Faith 7 Gordon Cooper went 22 revolutions, for a total time in space of 34 hours and 20 minutes. Although he is asleep at this time and is scheduled to be asleep for another hour, we think he will be awake approximately 60 minutes from now and we'll attempt to advise him as the spacecraft approaches the Rose Knot Victor, the tracking ship located off the east coast of South America. The west coast of South America. And we hope at that time he will be awake and we can get some comment from him. However, if he is still asleep we will advise Pilot Pete Conrad and I'm sure we'll get some comment from Pete. At this time the spacecraft is in drifting flight, all systems appear to be in very good condition and there are no immediate experiments coming up. This is Gemini Control.

END OF TAPE

This is Gemini Control at 34 hours, 20 minutes and 4 seconds into our mission. Spacecraft Gemini 5 is now passing just south of Okinawa and it is on its 22 revolution over the earth. Command Pilot Gordon Cooper is still in his sleep period as he surpasses his own previous record for space flight. It was just a little over two years ago that Cooper in his Faith 7 spacecraft closed out the Mercury program with a 22 revolution flight that lasted 34 hours and 20 minutes. Here are some additional figures on our spaceflight program. Total American spacecraft flight hours has now reached more than 100 and 91 hours. Total time in space for all American astronauts since we are now flying with multiple crews is more than 338 hours. We expect to advise Cooper of his new personal record in about 40 minutes as spacecraft Gemini 5 passes over the Rose Knot Victor, our tracking ship located off the east coast, west coast of Peru. This is Gemini Control.

END OF TAPE

This is Gemini Control at 34 hours 32 minutes into the mission. Gemini V spacecraft is now over the Pacific Ocean approaching the Hawaiian tracking station. Activity aboard Gemini V at the present time is in a very low key. Command Pilot Gordon Cooper is in his sleep period and the flight surgeon aboard the Coastal Sentry Quebec tracking ship said data received on the ground just a few minutes ago indicates that Cooper is sleeping soundly at this time. The Hawaiian station reported -- I mean the Coastal Sentry Quebec reported again that pilot Conrad sounds a little hoarse by Dr. Dwayne Catterson, our flight surgeon here in the Mission Control Center said the pilot's condition is excellent and he feels no concern and will make no special moves at this time. This is Gemini Control.

END OF TAPE

This is Gemini Control at 34 hours and 57 minutes into the mission. Spacecraft Gemini 5 is approaching the Rose Knot Victor, our tracking ship located off the west coast of Peru. It is nearing the end of the 22nd revolution over the earth. Pilot Pete Conrad has just advised over Hawaii that his flight team Commander Gordon Cooper awakened from his sleep while passing over Hawaii. We plan to have voice communication with the spacecraft over this tracking ship and will transmit to you now live.

RKV Cap Com Gemini 5, Gemini 5, this is RKV Cap Com. Over.

Garbled.

RKV Cap Com Roger Gemini 5.

Garbled

RKV Cap Com Gemini 5 this is RKV Cap Com. We have your systems go on the ground. We have the PLA up-date for you; acknowledge when ready to copy.

Garbled

RKV Cap Com Gemini 5 this is RKV for a short count - 1 2 3 4 5 -
5 4 3 2 1. How do you read?

Garbled

RKV Cap Com Roger. Are you ready to copy?

Garbled

RKV Cap Com Area 25 delta 04092718 plus 56, 23 plus 17, roll left 51, roll right 69. Area 26 delta 05443216 plus 53, 21 plus 13, roll left 51, roll right 69. Area 27 delta 07230313 plus 38, 18 plus 07, roll left 51, roll right 69.

RKV Cap Com Area 28 - 2 08581711.42, 16 plus 23, roll left 51, roll right 69. Area 29 - 2103339, 9 plus 57, 15 plus 27, roll left 51, roll right 69.

Conrad Okay, give me area 25 delta again.

RKV Cap Com Roger, area 25 delta 040927, 18 plus 56, 23 plus 17, roll left 51, roll right 69.

Conrad Okay, this is Gemini 5 here. We got them all.

RKV Cap Com Roger. The weather in 26 delta and 27 delta is marginal. All other areas are good.

Conrad Roger. 26 and 27 delta marginal areas.

RKV Cap Com That's affirmative. Gemini 5 this is RKV Cap Com. Is the command pilot sleeping at this time?

Conrad He woke up a few minutes ago. He's gone back to sleep again.

RKV Cap Com Roger. When he wakes up we'd like to pass on our congratulations to Gordo for surpassing his previous flight record.

Conrad Sure will. Have another look at the flight plan.

RKV Cap Com Roger. Flight this is RKV Cap Com, did you copy?

Houston Flight That's affirmative, RKV.

RKV Cap Com Roger. Do you have anything else.

Houston Flight Negative, none at this time.

RKV Cap Com Roger. Standing by.

Conrad RKV, Gemini 5.

RKV Cap Com Roger. Go ahead, Gemini 5. This is RKV.

Conrad How's the weather down there?

RKV Cap Com Well, we're rocking and rolling.

Conrad What is your position off Lima.

RKV Cap Com Our position off Lima - We're 21 south 85.

Conrad Roger.

RKV Cap Com We're about 700 miles off the coast at the present
time. We've got someone on deck trying to find you.

Conrad Okay, we hit sunset a while back. There's no sun
shining on the spacecraft right now so I doubt if
you can see it.

RKV Cap Com Roger. We saw you last night.

Conrad Oh you did.

RKV Cap Com Affirmative.

Conrad Voice control, you want to cut the RKV, please.

RKV Cap Com Voice Control say it again please.

That was live voice communication between the Rose Knot Victor tracking
ship and the Gemini 5 spacecraft which has already begun its 23rd
revolution over the earth. This is Gemini Control at 35 hours and 6 minutes
into our mission.

END OF TAPE.

This is Gemini Control. We are 35 hours and 32 minutes into our mission. At the present time spacecraft Gemini V is passing over south, central Africa - Africa. We have had no voice communication with the spacecraft crew since we gave you a live-voice communication over the Rose Knot Victor tracking ship quite some time ago. At the present time our spacecraft is in a revolution with apogee of 210 statute miles and a perigee of 103 statute miles. The orbital lifetime is approximately 8 days based on standard atmosphere. Aboard Gemini V spacecraft activity is at low key. According to our flight plan command pilot Gordon Cooper is still in a sleep period. The pilot Pete Conrad is about to perform a hydrogen purge and on the next pass, the next revolution over the RKV, he will give a medical data pass. The revolution period 94 minutes 20 seconds, to complete one revolution of the earth in our present orbital parameters. This is Gemini Control.

END OF TAPE

This is Gemini Control. Spacecraft Gemini V is now 36 hours and 2 minutes into its flight. It is on the 23rd revolution and now is passing over the Pacific Ocean, having just left voice range of the Coastal Sentry Quebec, our tracking ship located just south of Japan. Flight Director Gene Kranz is keeping the spacecraft crew tasks to a minimum so they can get a maximum amount of rest. The only activity slated was a fuel cell purge over the Coastal Sentry Quebec and we lost voice communication before the pilot could report results. The only other activity slated in the upcoming hour or so is a medical pass over the Rose Knot Victor, a tracking ship located off the west coast of Peru. The Coastal Sentry Quebec did report that the spacecraft systems looked normal from the ground readings. This is Gemini Control.

END OF TAPE

This is Gemini Control at 36 hours and 32 minutes into our flight mission. The Gemini 5 spacecraft is approaching the Rose Knot Victor tracking ship located off the West coast of Peru. We are now in our 24th - we are about to begin the 24th revolution of the earth in just a few minutes. Flight surgeon Dr. Duane Catterson reports both flight crew members in top physical condition. He is satisfied with the food and water intake reports that have been made since the flight began, and he anticipates no difficulties at this time from the medical standpoint. The fuel cell oxygen pressure situation aboard Gemini 5 continues to show a slow but a steady improvement. Pressure was up to 91.3 pounds per square inch. This was reported during the last readout made by the Coastal Sentry Quebec tracking ship a few minutes ago. Here in the Mission Control Center there is a relaxed atmosphere as command pilot Gordon Cooper continues in his sleep period, and pilot Pete Conrad has the spacecraft powered down and in drifting flight. The flight controllers are taking advantage of this lull to talk over the mission and also to take a coffee break. This is Gemini Control.

END OF TAPE

This is Gemini Control at 37 hours and 2 minutes into our mission. Spacecraft Gemini V is now on the 24th revolution and is passing over west central Africa. We had voice communication with pilot Pete Conrad as the spacecraft passed over the Rose Knot Victor tracking ship about 10 minutes ago. He reported on the food and water intake for himself and for command pilot Gordon Cooper. He also gave a sleep report. Dr. Catterson, our flight surgeon, indicated great satisfaction with the report and said both men are in good physical shape. Conrad related the suit temperatures had been carried at a low 49 degrees for some time but that he had recently warmed them up a bit. This is Gemini Control.

END OF TAPE

This is Gemini Control after 37 hours and 32 minutes of flight by the Gemini 5 spacecraft. Our flight crew is now passing over the Coastal Sentry Quebec, tracking ship in the Pacific Ocean. It is on its 24th revolution around the earth, and both crew members are awake at this time and soon will be ready to perform the Human Otolith Function experiment. This test is devised to check the astronaut's ability to orient themselves during flight without normal visual assistance. A tester used is a pair of special lightproof goggles. In one eyepiece is a light source in the form of a moveable white line. The astronaut will rotate this line and then position it. A readout scale on the eyepiece then tells them how accurately they were able to place the white line with respect to the horizon. We have voice communication with the Coastal Sentry Quebec at this time and we will attempt to play back the tape of this voice communication as soon as the contact is completed.

This is Gemini Control.

END OF TAPE

This is Gemini Control. Spacecraft Gemini 5 is on its 24th revolution passing over the Pacific Ocean and approaching the African continent after 38 hours and 2 minutes of flight. A few minutes ago while the spacecraft passed over Canton Island spacecraft communicator astronaut Buz Aldrin here in Mission Control by a remote voice transmission through the Canton Island station briefed pilot Pete Conrad on the status of spacecraft systems as they read out on the ground. He also discussed some of the plans for spacecraft maneuvers to come. We will now play back the tape of that voice communication between spacecraft communicator astronaut Buz Aldrin and pilot Pete Conrad aboard the spacecraft Gemini 5.

Houston Cap Com Gemini 5, Gemini 5, Houston Cap Com. Over.

Conrad Houston Cap Com, Gemini 5. Go ahead.

Houston Cap Com Roger, Pete, got some up-dates on primary landing areas. Are you ready to copy?

Conrad Garbled - Ready to copy.

Houston Cap Com Roger. Area 26, Charlie 1, second day 05 plus 15 plus 22, 25 plus 18, 31 plus 11, roll left 51 degrees, roll right 69 degrees. Weather is good. Area 26 C 2, second day 06 plus 53 plus 01, 23 plus 48, 29 plus 58, roll left 51 degrees, roll right 69 degrees. Weather good. These areas replace 26 delta and 27 delta.

Conrad Roger. Copied and understand they replace 26 and 27 delta.

Houston Cap Com Roger. These are both area 26. However, they are about one rev apart. We changed revs right between the two areas.

Conrad Okay

Houston Cap Com Could I get a rundown from you on the spacecraft systems as you see them now?

Conrad All systems are green. We just took a cabin temperature reading of 72 with a 58
56 percent cabin. It's dry as a bone in here.

That was the taped voice communication between astronaut Buz Aldrin here in Mission Control Center and pilot Pete Conrad aboard the Gemini 5 spacecraft. In our Gemini - NASA news room here in Houston we have been receiving calls from various parts of the United States throughout the evening from people who report that they may have seen Gemini 5 pass over the United States. As a matter of fact, since this white team of controllers came on duty at 2 p.m. this afternoon the Gemini 5 spacecraft has not passed over the United States. It has passed well below the United States throughout this day. This is Gemini Control.

END OF TAPE

This is Gemini Control at 38 hours and 32 minutes into the flight. Spacecraft Gemini 5 is now approaching Kano, Nigeria on its 25th revolution around the earth. About 20 minutes ago, as the spacecraft passed over the Rose Knot Victor, our tracking ship off the west coast of Peru, command pilot Gordon Cooper made a type 1 medical report to that tracking ship. This consists of an oral temperature, a blood pressure check, 30 seconds of exercise with a Bungee cord exerciser followed by a second blood pressure. The flight surgeon on the RKV, or Rose Knot Victor, reported his data good. He asked Cooper if he or pilot Pete Conrad were experiencing any physical discomforts. Cooper gave a negative reply. The Rose Knot Victor reported to Cooper that all the spacecraft systems looked good from that tracking station. Here in the NASA Mission Control Center the blue team of flight controllers has reported for duty. The shift change is due to take place in approximately one-half hour, and the new controllers coming on duty are being briefed on the status of the flight. This is Gemini Control.

END OF TAPE

This is Gemini Control, 39 hours 2 minutes after lift-off. Gemini V spacecraft is now over central China and 1 minute from acquisition by the tracking vessel Coastal Sentry near Okinawa. During the pass over the Coastal Sentry command pilot Cooper is scheduled to conduct a routine purge of the liquid hydrogen and liquid oxygen systems of the section 2 of the fuel cells. Also, a delayed-time playback of a telemetry tape is scheduled during the Coastal Sentry pass. Pilot Conrad is still sleeping at this time. This is Gemini Control.

END OF TAPE

This is Gemini Control, 40 hours 32 minutes after lift-off. Gemini V spacecraft is now over south-central Asia on a track that will carry it over the Philippine Islands. The next station contact will be with the tracking vessel Coastal Sentry 6 minutes from now. While pilot Conrad still sleeps, command pilot Cooper is scheduled to do a cabin lighting survey in the heads-down attitude, that is, with the spacecraft flying inverted. • This is Gemini Control.

END OF TAPE

This is Gemini Control, 41 hours 2 minutes after lift-off. Gemini V spacecraft is now over the south-central Pacific near the end of the 26th revolution and just now going into darkness. The spacecraft will be in contact with the tracking ship Rose Knot in about 15 minutes from this time. Right now it is assumed that pilot Conrad is still asleep. Spacecraft communicator Arda Roy aboard the tracking ship Coastal Sentry reported to flight director John Hodge here in Mission Control that Gemini V looked real good on his telemetry readouts during the pass over that station some 19 minutes ago. This is Gemini Control.

END OF TAPE

This is Gemini Control 41 hours 32 minutes after lift-off. Gemini V spacecraft is now crossing the South American coast just at about the equator. It should be in voice and telemetry contact with the Canary Island tracking station 8 minutes from now. During the pass over the Canaries command pilot Cooper will conduct a purge of the section 1 fuel cell oxygen and hydrogen systems. He will also conduct a routine periodic run of the electrostatic charge experiment in which measurements are made of the electron and ion flux interaction with the spacecraft. This is Gemini Control.

END OF TAPE

This is Gemini Control, 42 hours 2 minutes after lift-off. Gemini V spacecraft is now passing across northern India on a ground track that will carry it over the city of Bangkok, Thailand, and Townsville, Australia. The next command station to be in contact with Gemini V will be the tracking ship Rose Knot 51 minutes from now. We have a tape recording of the pass over the Canary Islands tracking station early in this, the 27th revolution. Let's hear that tape now.

Canary Cap Com Gemini V, this is Canary Cap Com.

Cooper Roger Canary, this is Gemini V.

Canary Cap Com Roger. We are expecting a fuel cell purge from you on section 1 on both hydrogen and oxygen.

Cooper Roger. Section 1, hydrogen and oxygen purge.

Canary Cap Com That's affirmative.

Cooper Roger, stand by one. Garbled.

Canary Cap Com Roger.

Houston Flight How does that purge look?

Canary Cap Com OK. We don't have any indication on it yet. We're doing a bit count at 21 on EAO2 Gemini V, Canary, have you started your purge as yet?

Cooper _____ (garbled) _____ switch on now.

Getting ready to start.

Canary Cap Com Roger

Cooper Actuator (garbled) now. . . hydrogen off.

Reading 91 percent quantity on hydrogen - going to purge oxygen now.

Cap Com Do you copy, Flight?

Houston Flight Roger, Canaries.

Cap Com He's purging now.

Flight Roger

Cap Com Quantity is running roughly 88 percent and pressure is still holding. Roger, Gemini V, it's looking good on your pass.

Cooper Roger. It looks good here. Canaries, did you ever find out from Houston why they wanted us to turn our OAMS heater on?

Cap Com Roger, stand by one.

Cooper Ok.

Cap Com Houston, did you copy?

Flight Say again.

Cap Com He wanted to know why you wanted the OAMS light on

Cooper On account of we still have our RCS heater on. . . . and the warning light on it.

Cap Com He reports the RCS heater light in on due to the warning light on it. Was he requested to turn the OAMS heater off?

Houston Flight Yeah, we turned it off because the temperature is ample and we just wanted to save the power.

Cap Com Ok. Flight advises that the reason for turning the OAMS heater off was that the temperature was ample and they wanted to conserve on power.

Cooper Ok, Flight.

Cooper . . . is off on section 1.

Cap Com Roger. Thank you. Everything still looks good here on the ground.

Flight How's your dump down, Canaries?

Cap Com I've got a flight plan up-date for you.

Cooper Roger.

Cap Com Are you ready to copy?

Cooper Roger, go ahead.

Cap Com Ok. It'll be a UHF pass at 10 hours 39 minutes 40 seconds, sequence number 04. It will be Delta V 5 minutes and 10 seconds. Do you copy?

Cooper Roger. Got that.

Cap Com Ok, we've got about 30 seconds left for pass time here.

Cooper Roger. We got that.

Cap Com Ok, you're looking good.

Cooper That's very good.

Cap Com Flight, we've got 20 seconds to go. You have anything else?

Flight Negative.

Cap Com Rog.

Flight How's he look?

Cap Com Looks real good. Pressure stayed up. We're running for MSC-1. Flight, we just had LOS and we're getting modulation on dump right up until LOS.

Flight Very good.

That was a tape of the Gemini V pass over the Canary Islands tracking station up through loss of signal. This is Gemini Control

END OF TAPE

This is Gemini Control. 42 hours 32 minutes after liftoff. Gemini 5 is now over the south central Pacific east of the Australian city of Brisbane and due north of New Zealand. Gemini 5 is still 21 minutes from contact by the tracking ship Rose Knot. There has been no contact with Gemini 5 since the pass over the Canary Island station earlier this revolution. Gemini 5 has just entered darkness toward the end of the 27th revolution. This is Gemini Control.

END OF TAPE

This is Gemini Control 43 hours 2 minutes after liftoff. Gemini 5 is now crossing the Venezuelan coast at the beginning of the 28th revolution. The spacecraft will be in acquisition by the Antigua tracking and voice remoting station in about 1 minute. Spacecraft communicator here in Mission Control will be able through the voice remoting to talk to the spacecraft. A lighted time playback of telemetry data is scheduled for the Antigua pass. Pilot Conrad is still sleeping, and command pilot Cooper is scheduled to have a meal consisting of chicken and gravy, bacon and egg bites, beef sandwiches, and chocolate pudding. This is Gemini Control.

END OF TAPE

This is Gemini Control 44 hours and 2 minutes after liftoff. Gemini 5 spacecraft is now crossing the east coast of Australia, and has just had loss of signal at the Carnarvon tracking station. Routine plan landing area up-dates for revolutions 30 through 34 were passed up to the spacecraft by the Carnarvon spacecraft communicator Charles R. (Chuck) Lewis. The pilot is scheduled to be awakened shortly and briefed by the command pilot on the status of the spacecraft systems and flight plan activities. During the pass earlier on this 28th revolution over Antigua the command pilot made a food and water usage report; and the Canary Island spacecraft communicator reported the spacecraft looked good on his telemetry readouts. This is Gemini Control.

END OF TAPE

This is Gemini Control, 44 hours 32 minutes after lift-off. Gemini V is now near the end of the 28th revolution and will be within telemetry and voice range of the Eastern Test Range station in about 4 minutes. During this pass tests of the various spacecraft UHF antennas will be made primarily to determine antenna efficiency at low elevation angles. This is also a scheduled meal period for the pilot and a nap period for the command pilot. Canary Island tracking station should acquire the spacecraft 17 minutes from now. A medical data pass is scheduled for the pilot in the Canaries pass. This is Gemini Control.

END OF TAPE

This is Gemini Control, 45 hours and 2 minutes after lift-off. Gemini V is now over the Libian desert in north Africa about one-fourth of the way into the 29th revolution. The tracking station at Carnarvon, Australia should acquire the spacecraft in 21 minutes. During the Carnarvon pass flight plan up-dates will be passed up to the crew. We now have a tape of the pass of Gemini V over the Grand Turk Island, Antigua, and Bermuda stations. Let's hear that tape now.

Houston Cap Com Gemini V, Gemini V, Houston Cap Com.

Cooper Goodmorning. Gemini V here. Go ahead.

Houston Cap-Com Rog, Gemini V. You're looking good here on the ground. Be advised that there is a medical data pass on the pilot at Canaries with an acquisition time of 10 49 29. Copy?

Cooper Affirmative.

Houston Cap Com And we got a couple questions here for you. Elliot will ask you.

See We are interested in what you might have seen, or whether you saw, D-4 D-7 deflections during the time you had the REP out and were looking at it right after putting it out. We would like to know if you saw a cool IR indications on the OAMS meter.

Cooper Yeah, I think I did, Elliot. It was fairly low and I didn't get to looking at it until rather late in the game. We had a couple of problems when we

put the REP out which we will discuss when we get back.

See Roger. Then you'd say you think you got some data on it but you don't know just how much.

Cooper I think we did and I don't know how much.

See OK. Got one other real quick comment. We're about to lose acquisition here. We think the hydrogen tank is real close to venting so you should see its pressure level off pretty quickly.

Cooper OK

See They have a question here for you on the secondary scanner. Did you have a problem with the primary?

Cooper No, I just put it over there awhile ago to see how it was working and also, we were passing over a great vast amount of clouds coverage, more than we had seen before and it seemed to be firing the thrusters quite a bit so I just took a look at the secondary and left it there.

See OK. Well, I guess we are about to lose you now.

END OF TAPE

This is Gemini Control 45 hours 32 minutes after liftoff. Gemini 5 is now nearing loss of signal at the Carnarvon Australian tracking station midway through the 29th revolution. The command pilot is scheduled for a nap period at this time. The next station contact will be with the stateside stations starting about 34 minutes from now. We now have a tape recording of a Canary Islands pass earlier in this revolution. Let's hear this tape now.

Canary Cap Com Gemini 5, this is Canary Cap Com. We have a good oral temperature with you, it should be, or would you pump us the blood pressure. Gemini 5, Canary station, you've got the full scale. We have a good blood pressure. Give me a mark when you begin exercise.

Garbled

Canary Cap Com Say it again.

Cooper We're on primary horizon scanner now.

Canary Cap Com Roger. Gemini 5, Canary station, we've got the full scale. We have a good blood pressure; standing by for a water and food report.

Cooper Roger. The command pilot is taking his 2 hour nap period now. The pilot slept about 4 hours and 45 minutes worth a 6 hour period very soundly. And I'll get you the water in just a second. Total water to date on the Command Pilot is 12 pounds, and on the Pilot, 11 pounds 3 ounces.

Canary Cap Com Roger. We'd also like to find out if you have completed the meal A and B of day 1.

Cooper No, we left a fair amount of that and we are into, or jest getting ready to eat, oh, let me see -- just getting day 2 meal Charlie.

Canary Cap Com Roger, Canary Surgeon, out.

Canary Cap Com Gemini V, this is Canary Cap Com. We have about a minute and one-half left in this pass. All systems are go from the ground. We're showing that you have fuel cell H₂ quantity read on.

Cooper Yeah, it's affirmative, standing by to see if it will vent.

Canary Cap Com Roger.

Cooper What do you show on the ground.

Canary Cap Com Roger, we're reading 360 psi on the ground.

Houston Flight Canary, this is Houston Flight.

Cooper Okay, my scale is sitting right at a little below 800.

Canary Cap Com Roger

Cooper About 795.

Houston Flight Canary Cap Com, this is Houston Flight.

Canary Cap Com Go ahead Flight.

Houston Flight We believe that's been venting for the last couple of hours.

Canary Cap Com Flight advises that they agree that it has been venting off and on for the last 3 hours.

Cooper Okay, roger. I can't seem to pick it up on this gauge.

Canary Cap Com Roger.

Canary Cap Com Flight, we have about 20 seconds.

Houston Flight Roger.

Canary Cap Com He's also turned that quantity readoff on.

Canary Cap Com We've has LOS.

Houston Flight Roger.

Canary Cap Com Is there any information that you would like.

Houston Flight No, how did it look, good pulse.

Canary Cap Com Blood real good again.

Houston Flight Okay. Standby.

END OF TAPE

This is Gemini Control, 46 hours, 2 minutes after lift-off. Gemini 5 is approaching the southwest coast of Mexico and will be acquired by the tracking stations of the eastern test range in about 4 minutes for a pass lasting about 13 minutes. During the pass over these stations, Astronaut David Scott, spacecraft communicator here in Mission Control, will pass up to the crew maneuver data for the so-called Phantom Agena rendezvous exercise planned for the next three to four hours of the mission. This is Gemini Control.

END OF TAPE

This is Gemini Control, 46 hours 32 minutes after lift-off. Gemini V spacecraft is now over Central Africa early in the 30th revolution. Here in Mission Control, a handover from the blue team to the red team is underway and each flight controller briefs his relief man on the events of the past 8-hours. We have now a tape recording of the recent State side pass. Let us hear that tape now.

Houston Flight Gemini V, Gemini V, Houston Cap Com.

Cooper Hello Houston Cap Com, Gemini V. Go ahead.

Houston Flight Rog. We have a continuation of your flight plan and it's a lengthy one. It will take us probably about 8 or 10 minutes to read it out. I'll release the key after each update and if you have a question come back at me right then, okay?

Cooper Okay, give it to me by the times, and I'll have to turn the pages too, so take it slow.

Houston Flight Okay, it's sequentially all the way. It includes all your experiments plus the maneuvers for this Phantom rendezvous, copy.

Cooper Rog.

Houston Flight Okay, all set to copy?

Cooper Rog.

Houston Flight Okay, all set to copy?

Cooper Rog. All set to go.

Houston Flight Ah, rog. The first one is a power up for your UHF
no. 1, the time is 13 00 00, and all the times are
for day no. 2. Copy?

Cooper Roger, power up, 13 00 00 for UHF 1.

Houston Flight Roger. D-1, 13 10 00, sequence 02, remarks, Venus.
Speed 30.

Cooper That's D-1, say again the sequence.

Houston Flight 02.

Cooper Okay, 13 00 00 sequence 02, Venus.

Houston Flight Rog. Speed 30.

Cooper Okay.

Houston Flight D-1, 13 20 00, sequence 03. Alpha Centaurus, speed
60.

Cooper Okay.

Houston Flight D-6, 13 41 46; sequence 012; mode, 019; pitch, 30 degrees
down; yaw, 02 degrees right; speed 1000, one thousand,
F-4.

Cooper Roger.

Houston Flight UHF test, 13 47 05; sequence 01; pitch, 20 up; roll,
0; yaw, 14 left.

Cooper Give me that one again please.

Houston Flight Roger. UHF test, 13 47 05; sequence 01; pitch 20 up;
roll, 0; yaw, 14 left.

Cooper Okay.

Houston Flight S-5 and S-6, 14 01 00; during African pass.

Cooper Say the remarks.

Houston Flight That's during the African pass.

Cooper Go ahead.

Houston Flight Okay, backup one on your UHF test, that you just copied, have a delta T of 6 + 42.

Cooper Roger, delta T 6 + 42.

Houston Flight Roger, okay. Next test, D-4, D-7, 14 04 00; sequence 420; over Kano.

Cooper Roger.

Houston Flight S-1, 14 26 12; remarks are sunset time.

Cooper Roger.

Houston Flight Then power up, this is for UHF no. 2, 14 40 00. That's to power up your platform.

Cooper That's the time to power it up, or the time to test?

Houston Flight That is the time to power up the platform.

Cooper Roger.

Houston Flight D-6, 15 16 59; sequence 20; mode 09; pitch 30 down; yaw 09 right.

Cooper Say again the pitch, you faded.

Houston Flight Pitch, 30 down.

Cooper Roger, 30 down.

Houston Flight Speed 60 on that last one.

Cooper Speed 60.

Houston Flight UHF test, 15 21 19; sequence 02; delta T 6 + 43; pitch, 0; roll 139 left; yaw 0.

Cooper Roger.

Houston Flight S-6, 15 45 00; sequence 07. No remarks.

Cooper Roger.

Houston Flight Maneuver, this is a preparation for your maneuvers.
15 50 00. Platform on, cage BEF.

Cooper 15 50 00, platform cage BEF.

Houston Flight That's affirmative. Next on is another maneuver.
16 15 00. Aline BEF, rate gyros on.

Cooper Roger.

Houston Flight Next one is another maneuver preparation. 16 45 00;
computer on; address 25 90 201.

Cooper Roger, computer on address 25 90 201.

Houston Flight That's affirmative. The next on is apogee adjust,
16 50 17; translate forward to zero the IVI's.

Cooper Run me the time again.

Houston Flight 16 50 17.

Cooper Roger, translate forward.

Houston Flight That's affirmative. Next one is D-6. 16 56 49;
sequence 134; mode 09; pitch 30 down; yaw 0 degrees;
speed 125.

Cooper Roger, say again the time.

Houston Flight 16 56 49.

Cooper Okay.

Houston Flight Next one is a maneuver preparation. 17 20 00;
aline platform SEF; computer on; address 25 00 158.

Cooper Okay, maneuver prep, 17 20 00; aline platform SEF;
computer 25 00 158.

Houston Flight That's affirmative. Next is phase adjust, 17 34 58; translate forward to zero the IVI's.

Cooper What kind of zero was it?

Houston Flight That is your phase adjust.

Cooper Go ahead.

Houston Flight D-4, D-7; 17 42 00; sequence 410 Bravo; and 407. Over Carnarvon.

Cooper Go ahead.

Houston Flight Another maneuver preparation, 17 50 00, aline platform SEF; computer on; address 27 00 150; yaw 90 left.

Cooper Okay, maneuver prep, 17 50 00, aline platform SEF, address 27 00 150; yaw left 90.

Houston Flight That's affirmative. The next on is a plane maneuver; 18 06 50; translate forward to zero the IVI's.

Cooper Okay, go ahead.

Houston Flight Okay, we have about 3 more, if I don't get to them, we'd like to advise you to power up as necessary to minimize your power usage, and power down in between the various maneuvers and experiments. We estimate that your maximum power during the burns will be about 40 amps and with the platform on only, about 30 amps, and otherwise about 20.

Cooper Okay.

Houston Flight Okay, then you can turn your platform off after each UHF test, but I think you'll see that in the sequence.

Platform on during all the simulated maneuvers and rendezvous exercises.

Cooper

....

Houston Flight

Gemini V, I think we have LOS, if you copy, we will pick you up over the Canaries.

END OF TAPE

Canary Cap Com Roger. We are expecting a purge on section 2, the fuel cell on this pass. We would like to get a quantity read out before we start the purges.

Cooper Roger. The fuel cell O₂ is 93 percent, and about 80 psia.

Houston Flight Canary Cap Com, this is Houston flight.

Cooper Fuel cell hydrogen is 93 percent, the cell is 800 psia.

Houston flight Canary Cap Com, this is Houston flight.

Canary Cap Com Roger, flight.

Houston flight Roger. Before you do that purge, we have some flight plan up-dates we would like to relay through your site.

Canary Cap Com You want to get the flight plan up-dates completed prior to the purge?

Houston flight Roger, no remarks on your line.

Canary Cap Com OK. Go ahead, up-date.

Houston Cap Com Gemini 5, Houston Cap Com. Do you read?

Conrad Go ahead.

Houston Cap Com Roger. We'll pick up where we left off on the maneuvers. Are you ready to copy?

Conrad Yeah. I've got 180650 planning, planning maneuver.

Houston Cap Com Roger. Affirmative. The next one is SAD 13, 182458, sequence 03, pitch 30 down, yaw 08 right.

Conrad Roger.

Houston Cap Com Next is a maneuver preparation, 185000. Align platform SEF, computer on, address 2500164.

Conrad Roger. 185000, align platform SEF, computer on, 2500164.

Houston Cap Com That's affirmative. Next one is reverse co-elliptic,

190418. Translate forward to 0 the IVI's.

Conrad

Roger.

Houston Cap Com

And there's a correction on your UHF test no. 1, which was at 134705. If you'll go back to it, I'll pass you the correction.

Conrad

Go ahead.

Houston Cap Com

It's pitch 90 up, vice 20 up.

Conrad

Roger. Pitch up 90 degrees.

Houston Cap Com

That's affirmative, and did you copy the rest of the instructions relative to keeping the power down and powering off after the UHF test?

Conrad

Yeah. With initial platform power, you wanted 1300. Right?

Houston Cap Com

That's affirmative.

Conrad

OK. We got it. I don't know whether we'll get it all done or not. (Chuckle)

Houston Cap Com

Well, give it a try, and be advised do not use the aft firing thrusters at any time. Copy? Forward firing thrusters.

Conrad

Just the firing thruster?

Houston Cap Com

No, negative. Do not use the forward firing thrusters at any time, forward.

Conrad

Roger. Do not use the forward firing thrusters.

Houston Cap Com

This is because we don't want to use the oxygen in the fuel cell oxygen tank.

Conrad

OK.

Houston Cap Com We don't want to disturb it, and all the thrusting will be done with the aft firing thrusters.

Conrad Roger.

Houston Cap Com OK, and then observe the fuel cell O₂ pressure and don't let it drop much at the high power loads, when you are all powered up and thrusting.

Conrad OK. Canary, stand by for the H₂ purge commencing right now on section 2.

Canary Cap Com Flight, we are not going to be able to get quite all our purge in. We've got a minute and 30 seconds.

Conrad Purge. Go into O₂.

Houston flight Roger. Tell him to go ahead and finish it. It doesn't matter if it's beyond your pass. Tell him to just keep an eye on that pressure drop. Canarys?

Canary Cap Com That's affirmative. Gemini 5, Canary Cap Com. We'll be unable to monitor the end of your purge. We have approximately one minute. Continue your purge to completion, and continue to monitor that pressure.

Conrad We have a minute and 20 seconds to go, and everything looks fine.

Canary Cap Com Roger. Everything looks fine here so far.

This is Gemini Control again. For a re-cap on our weather this morning, the weather bureau is supporting us here in the Gemini Control Center and advises that the weather conditions around the world remain very good for at least two additional days of orbital operations since Typhoon Lucy has

moderated and moved completely out of the west Pacific recovery area. A recovery ship will be available on nearly every revolution during the next 24 hours or more. The west Atlantic landing area between Florida and Bermuda has ideal weather. Scattered clouds, winds, mainly less than 10 knots, and waves of no more than 3 feet will continue into Tuesday morning. In the east Atlantic areas, some 300 miles west of the Canary Islands, clouds will be scattered, and normal trade winds of 15 to 20 knots will raise waves of between 4 to 6 feet. For possible landing areas in the mid-Pacific, about 500 miles north of Honolulu, skies remain partly cloudy, winds have increased somewhat during the last 24 hours, being reported as high as 24 knots. This should give us a maximum during the next 24 hours, raising seas to heights of 5 to 6 feet. The wind in the west Pacific area has decreased to about 15 knots, the sea has subsided to around 4 or 5 feet and will probably decrease even further. Some cloudiness remains, but showers will end during the day. About the only large scale weather phenomenon to be over-flown during the next 24 hours is tropical storm Doreen in the eastern Pacific about 1000 miles south and a little west of San Diego. A whole family of cold fronts have moved up near the 30th parallel of latitude in all three oceans of the southern hemisphere. This is Gemini Control out at 15 minutes after the hour.

END OF TAPE

This is Gemini Control, 47 hours, 19 minutes into the mission. Say again on those rendezvous - that rendezvous maneuver sequence. Four principal maneuvers; the first, a height adjustment; the second, a phasing adjustment; the third, a very slight plane change; and the fourth, a co-elliptic maneuver. We have the recorded conversation between the spacecraft and the Kano ground station ready to play for you at this time.

Cap Com Gemini 5, Gemini 5, this is Houston.

Cooper Go ahead, Houston, this is Gemini 5.

Cap Com Roger. We have a medical data pass over Carnarvan that's going to conflict with a couple of your experiments. It's coming up in just a few minutes. We'd like to have you scrub the medical pass over Carnarvan and we'll do it over Canaries.

Cooper Scrub the medical data pass over Carnarvan.

Cap Com Gemini 5, Gemini 5, this is Houston here. That is correct - scrub the medical data pass over Carnarvan and we will pick it up over Canaries.

Cooper Ok. Can you get a verification on the shutter speed on the D-2 experiment . . .

Cap Com The speed of the D-2 is one 1/25th.

Cooper And what is the . . .

Cap Com Say again.

Cooper What is the lens?

Cap Com Gemini 5, Gemini 5, this is Houston here.

Cooper Go ahead, Houston, Gemini 5.

Cap Com Roger. That is taken with the Questar lens.

END OF TAPE

This is Gemini Control, 47 hours 32 minutes into the mission. In the last 24 hours, each of the men, apparently has slept a total of about 10 hours, that's 10 hours in contrast to the first day's operation when each man slept a total of about 2 hours. Obviously the Flight Surgeons are very happy over this pickup. They indicate, however, the Flight Surgeons indicate that the men still aren't eating quite as much as is expected. They are eating each of the meals, but apparently not all of the meal, so their calorie intake is somewhat down. But doctors are completely satisfied that the men are getting their share of water, however. The fuel cell oxygen reactant supply pressure has climbed to something over 91 pounds. This is a 10 pound increase over this time yesterday which in turn, was a 10 pound increase over that time the day before. So, things are looking up in that department. The climbing pressure is generally attributed to the repeated purges, which is slightly reducing the reactant supply quantity. We are on the 30 th revolution with a pass coming up across the United States and everything is looking very nice. Forty-seven hours 33 minutes into the mission.

END OF TAPE

This is Gemini Control Houston, 48 hours 34 minutes into the mission. Within the last 60 seconds the spacecraft has gotten in touch with the Carnarvon Station. They are in discussion now; they will be discussing the maneuvers that are presently planned for the 32nd, 33rd, and 34th revolution. In the course of the last pass across the United States, Gordon Cooper and Pete Conrad were both awake. We have a visitor here in the Control Center, Mrs. Conrad, was here, and at one point during the pass, the Flight Director/^{said} that Pete Conrad might say "Hello" to his wife. He did, of course, and ask, his only question was, how are the boys doing. Mrs. Conrad, behind the glass here in the viewing area waved back and by lip reading, we understood that she meant to convey to him the word "fine". Jim McDivitt passed this up. The crew then performed a rather intricate UHF test, a test of their various antennas over the Bermuda area. A test wherein they orient the spacecraft antennas directly to the ground and then read them out on the ground station. It is anticipated that at some point in this next hour or hour and one-half, the spacecraft may be given a go for a 47 revolution flight, they have not yet been given that go, when they do, we will break in and advise you. This is Gemini Control at 48 hours 36 minutes into the mission. We have several tapes backed up which we can play for you at this time, beginning with the U.S. pass. Let's have the tape now.

Houston Cap Com Gemini V, Houston here, standing by.

Cooper Roger Houston, Gemini V. We've burned out the sight reticle..... (broken) ... You ought to have a little talk with the flight planning people. Their ceiling is just a little bit too full. We can't get the equipment

put together and torn apart by the time they are putting these things together.

Houston Cap Com Okay, Gordo, I'll take a check on that. Let me ask you one thing, have you tried all the combinations of cords and utility outlets that go along with the sight just in case it's not the sight, but one of the cords instead.

Cooper Roger.

Houston Cap Com Okay, I sort of suspected you had.

Houston Cap Com I think one of the flight planning problems, Gordon, is that we are not blessed with too -- the weather is not too good today, so they are trying to stick them in where they have good weather. I think it's putting a bunch of them together.

Cooper Yeah, well some of these, like on our time, there were just bang, bang, bang, right together. We just can't do them that close together. That's rather poor planning.

Houston Cap Com Okay.

Cooper Yeah, we've got to watch these lens changes, we got every piece of gear in the spacecraft floating around in here trying to keep up with it.

Houston Cap Com Roger, roger.

Houston Cap Com Hey, Pete. Gemini V, Houston here. Why don't you make a few comments for the better sex.

Cooper Hello there. We just passed over Tampeco, Mexico.

Houston Cap Com Pete, Jane's up here. Why don't you say something.

Conrad Hello there. How are the boys doing?

Houston Cap Com She says, "fine".

Conrad That's good. We just passed Monterray which seemed to be under the overcast and I tried to get the area around Tampeco, and I got one quick picture of it.

Houston Cap Com Okay. Say listen, you know you might sort of be thinking about that Lorado pass and what the weather is. If you don't think you can hack that, it looks like you have already gone by that area, but if it looks to cloudy up there, why don't you let us know.

Conrad Okay.

Conrad We may not get this UHF test either because we never did get the platform fully alined before the D-6 run.

Houston Cap Com Okay, understand. You are not going to be able to do the UHF test. Is that correct.

Conrad We'll give it a try here. We are trying to get back back in here and get the platform alined, a little bit anyhow, just so we can do it.

Houston Cap Com Okay.

Houston Cap Com Gemini V, Houston here. I believe if you can't get the platform alined completely, when you get there, just put it in Orbit Rate, and then when you ^{through,} ~~zero,~~ come back

down, if you have the horizon scanners on, maybe we can get an idea from what the horizon scanner output is and what the platform angles are, and what the difference between the real angles were and what your indicated ones were.

Conrad We'll throw it in here real quick. We just -- just one second till it gets caged.

Houston Cap Com Rog.

This is Gemini Control again. In that conversation you heard Gordon Cooper advise that the boresight reticle on his side of the spacecraft in his window apparently is no longer operative. This is a standard telescopic sight. It uses a light in a prism affair where the light is reflected and magnified and a series of crosshairs which helps them in the various experiments to sight on various objects. The indication here is that he will probably just make on his window another X mark with his grease pencil or employ some other way to arrange a sighting on his window for the other experiments as we progress through the flight. The reticle has two elements within, he has tried both and neither is operative. We also heard some moderate complaints about the pace of the flight plan. Pete Conrad indicated that there was a lot of gear loose in the spacecraft, a lot of lenses, much activity there, they suggested a general slowing down of the flight plan activities and this will probably be the case. We will not do all of the experiments should we go ahead with these maneuvers. We have been talking with the flight plan back room here in the last few minutes and they generally agreed that during the maneuvering time, we would slow down the pace of some of the camera experiments and the other measurements. Up coming now, we are running with a fairly high power drain. We have

the computer on, the platform is up, the power drain should be well up in the 30 amp area. Over Texas, we are planning a D-6, that is, a land picture taking exercise. And, somewhere between Texas and the Cape, we should reach a decision point on a 47 revolution flight. Now, we have the tape wrapped up on the Canary conservation on this last half orbit, and we will play it for you now.

Canary Cap Com Roger, Gemini V. Would you give us a reading -- quantity reading on the fuel cell H₂ please.

Canary Cap Com We have a good blood pressure, standing by for your water and sleep report.

Conrad Roger, on the sleep we both slept. The pilot slept for about a full 6 hours last night, and the Command Pilot, at the same time, slept for a good 3 hours. Just a moment and I'll read you the water report.

Canary Cap Com Would you switch fuel cell to quantity read to fuel cell H₂ please.

Canary Cap Com Quantity read to ECS O₂ please.

Conrad Roger, and right now, the Command Pilot has drunk 11 pounds of water, the Pilot has drunk 10 pounds 3 ounces.

Canary Surgeon Gemini V, Canary Surgeon, understand, 11 pounds, Command Pilot, 10 pounds 3 ounces Pilot. Is there any indication on the degree of depth of sleep for the Command Pilot.

Cooper Pretty deep.

Canary Surgeon Roger, Canary Surgeon out.

END OF TAPE

This is Gemini Control in Houston, 49 hours, 2 minutes into the mission. We've just completed a Canton Island pass, a swing across the Pacific, and during the course of that pass our Flight Surgeon, Doctor Berry, talked with the command pilot. He wanted to check on the sleep cycle. Cooper reported, "We're both well rested. We slept all last night, got a good night's sleep." Cooper also advised that they were doing some extra exercise in addition to that associated with pulling on the bungee cord during the medical data passes. He didn't elaborate on what type of exercises. He simply affirmed that they were doing additional exercise. Other conversation involved the checking on the radical, which apparently is no longer operative on Gordon Cooper's side of the side of the spacecraft. That is the little prism which is used for sitting and magnifying ground-sited objects. It apparently is no longer functioning. We also queried him about the food intake. However, the transmissions got ragged at that point, and we could not determine exactly how much of the Day 2 rations the crew has eaten. This is Gemini Control out at 4 minutes after the hour.

END OF TAPE

Gemini Control, Houston here; 49 hours, 17 minutes into the mission. Within the past 30 seconds Cap Com Jim McDivitt has passed up the decision of the Flight Director that we are go for at least a 47 revolution flight. I repeat, he has been given a go for a 47 - 1 area and the new values for a landing in that area are being set up by digital command system. The spacecraft is over the southern United States, and we are proceeding according to the, proceeding now to undertake the planned maneuvers coming up in the next revolution. This is Gemini Control out.

END OF TAPE

Gemini Control, Houston here; 49 hours, 32 minutes into the mission. The spacecraft is now out over the central Atlantic. At the conclusion of that last pass, Pete Conrad was going through a series of antenna checks over Bermuda, switching from one antenna to the other, probably using a total of a half a dozen or more. This involved a lot of test counts and that sort of thing, and at the end of that Jim McDivitt, in one of the lighter touches that we've noted during the flight, said that he reminded Conrad that he certainly did like to talk a lot. At this point Conrad came back with, "What would he like him to do, sing a song?" He then promptly launched into a song which went like this, "Over the ocean, over the blue, here's Gemini 5 singing to you." At the conclusion of that brief song, the command pilot advised that Conrad sings slightly off key. We'll be coming up on the first rendezvous maneuver at 10:50 Central Standard Time. Everything is progressing very nicely. This is Gemini Control.

END OF TAPE

This is Gemini Control; 49 hours, 57 minutes into the flight, on the 32nd revolution. The oxygen supply pressure is presently reading, at the last check, 98 pounds, 98 pounds, another rise from the earlier figure quoted to you this morning. The quantity in the fuel oxygen cell supply shows 92.8 percent. We are estimating that we have on board about 270 pounds of maneuvering fuel, as opposed to approximately 360 pounds of take-off, and we're also estimating that the series of maneuvers we will perform in chasing the Phantom Agena today will use another 50 to 60 pounds of fuel, about 25 percent of the onboard supply. This time we have the tape of the latter portion of the State-side, the last State-side pass racked up for you and ready to play for you now.

Houston Cap Com Gemini 5, this is Houston, here. You did not acknowledge this message--be advised you have a go for 47 - 1, and we are sending up the TR's and the retro loads for your computer, so you will be getting some of these yes lights.

Conrad Gemini 5, roger. Waco was under the clouds, so we did look at Dallas, the Dallas airport there.

Houston Cap Com OK. So you did Dallas instead of Waco, right?

Conrad Affirmative.

Houston Cap Com OK. Are you all done? Gemini 5, Houston. Have you completed your pass there?

Conrad Roger.

Houston Cap Com OK. We've got a couple of messages for you. We would like to have you turn your computer off at

Gemini Control here, 50 hours 32 minutes into the mission on the 32nd rev. During the last pass there was additional discussion on the amount of food eaten. The crew confirmed they were then in the process of eating meal 2 charlie of the second days ration. This meal consists of orange-grapefruit drink, tuna salad, apricot pudding, toasted bread cubes, and date fruit cake. It's a meal with a total calorie intake of 923 calories. They also indicated they are fine, they are not eating all of the meals. They are just not that hungry and the Surgeon apparently is satisfied with that estimate. This first maneuver burn is presently planned for 50 minutes after the hour, or about 15 minutes from now. It will take place at 32.7 degrees north, 105.3 degrees west, and to occur about 10:50 central standard time. It would be a point out somewhere in West Texas, we would estimate, perhaps in New Mexico. We have the Carnarvon conversation ready to play for you at this time.

Carnarvon Cap Com Gemini V, Carnarvon Cap Com.

Cooper Go ahead Carnarvon, Gemini V.

Carnarvon Cap Com Does the Pilot have the oral temp probe in his mouth for the data pass this trip.

Cooper Coming down now. Blood pressures full scale.

Carnarvon Cap Com Your cuff is full scale.

Carnarvon Surgeon Gemini V, Carnarvon Surgeon, we have a good blood pressure, and we have a good oral temp. Standing by for exercise on your MARK.

Conrad Stand by. MARK.

Carnarvon Surgeon Your cuff is full scale. And we have a good second blood pressure. I assume neither of you have had any

sleep since your last report, but I will take a water update if you have it.

Conrad All right.

Carnarvon Surgeon Gemini V, Carnarvon Surgeon, standing by for your water report.

Conrad Roger. We don't have any further water report since we gave one at MCC.

Carnarvon Surgeon Roger.

Carnarvon Cap Com Gemini V, Carnarvon Cap Com. What is your status for area 47-1.

Conrad Everything still looks good.

Carnarvon Cap Com Roger, you're go on the ground. I'll update your TR clock for a 47-1.

Cooper Just a minute. Carnarvon, are you ready to copy our readouts for the 47-1 go.

Carnarvon Cap Com Roger, go ahead.

Cooper 1A read 7 amps, 1B read 7, 1C read 8, 2A read 6.5, 2B read 6.0, 2C read 6.9. A buss voltage 26 pounds, RCS A pressure 290, temp 70. Ring B, 280, temperature 60, left secondary O₂ 54 00, right secondary O₂ 52 50.

Carnarvon Cap Com Roger, I copied. And that data was read passing the East Coast at about

Houston Flight I want to speak to Surgeon.

Carnarvon Cap Com You said you read that data on the East Coast.

Houston Flight Surgeon

Carnarvon Surgeon Carnarvon Surgeon ...

Conrad I should ... time for that data in just a second.

Carnarvon Cap Com Roger.

Houston Flight How about talking into the -- to both the Pilot and Command Pilot and getting what the food how much food they had eaten and what meals they had.

Conrad That was read at about 15 18 00.

Carnarvon Surgeon Roger, you want how much food and which meals.

Houston Flight Confirm that they had 3 meals on the first day and what meals they have eaten, and how much they have eaten out of each one of the meals that they have had.

Carnarvon Cap Com Roger, I'm transmitting your TR.

Carnarvon Surgeon Roger. You've got it for 47-1.

Conrad We have received it.

Carnarvon Cap Com Gemini V, Carnarvon Cap Com. Stand by for Carnarvon Surgeon.

Carnarvon Surgeon Gemini V, Carnarvon Surgeon. We are still trying to get the precise handle on your food consumption. Would you confirm for us that Command Pilot and Pilot

both had 3 meals on day 1. Over.

Cooper You know the MCC Surgeon just questioned us on it last time over the States and we gave him a complete detailed report. Maybe they haven't gotten the word out yet.

Carnarvon Surgeon Negative. We didn't get it.

Carnarvon Cap Com That's negative, Flight said that they did not get it.

Cooper. Tell him to ask the Surgeon back there.

Carnarvon Cap Com Say again. Gemini V, Carnarvon Cap Com. Gordo, they had trouble receiving through Canton when you were giving that report. They are asking for it again.

Cooper We've had four meals to date. Now we are on meal 2 charlie. We had 2 meals on the first day and 2 yesterday. Now, we are not eating all of it, but we feel fine, but we didn't eat all of it.

Houston Flight Okay, that's very good. That's the information we wanted.

Carnarvon Cap Com Gemini V, Carnarvon Cap Com. We are standing by.

Cooper Roger. Did you get that report on the food.

Carnarvon Cap Com Roger, loud and clear.

END OF TAPE

This is Gemini Control, 50 hours, 46 minutes into the mission, and we are coming up on the first burn, which will be performed in about 10 minutes. The burn duration has been set at 20 seconds. It will be in a retro grade position, we will be reducing the velocity by 21.1 feet per second. Pete Conrad is to give us a mark at the start of the burn and at the end of the burn, and the Guaymas station has been declared the prime for the exercise. They've been in contact for about one minute now; let's tune in live now and see how the burn goes.

Conrad I checked the accelerometer bias here, and I have a little drift, so I am waiting until the last minute and am going to catch up.

Guaymas Cap Com OK. You did catch up now, right?

Conrad Confirmed.

Guaymas Cap Com OK.

This is Gemini Control. The ground voice you are hearing is that of Ed Fendell, the Capsule Communicator at the Guaymas station. Stand by for any additional conversation. The burn should start within this minute.

Conrad 5, 4, 3, 2, 1, burn. Copy?

Guaymas Cap Com OK. I got all that. Give me your IVI read up starting the TM.

Conrad Roger. They are all O's.

Guaymas Cap Com OK. Before and after, alright? What's your attitude hold?

Conrad Right on the money.

Guaymas Cap Com OK. What thrusters did you use?

Conrad The aft firing thrusters.

Guaymas Cap Com OK. Very good. Attitudes look real solid right now on the ground.

Conrad Roger.

Guaymas Cap Com Flight Guaymas, did you copy all that?

Houston Flight Roger.

Houston Cap Com Gemini 5, Houston Cap Com.

Conrad Roger, Houston, Gemini 5. Burn is complete.

Houston Cap Com Roger. Will you read out 80, 81, and 82 for us please?

Conrad Roger. At 80, was 00004.

Houston Cap Com Roger.

Conrad At 81, was 0 and 82 was 0.

Houston Cap Com Roger. Thank you.

Conrad I take that back. 82 was 00007.

Houston Cap Com OK. Four zeros and a seven.

Conrad We're swinging around to 000 and getting ready for the D-6 sequence 134165649. Is that time still good?

Houston Cap Com Roger, but be advised that the target will be slightly down range from the, when we're using those pointing angles that we gave you, and the star will be somewhat behind.

Conrad Roger. We got a real good look at Houston today.

Houston Cap Com Roger. Was it raining down here?

Cooper Yeah. We could see Clear Lake and Taylor Lake.

Houston Cap Com How about the Center? Could you see the Center?

Cooper No, there's a cloud right there some place over you

I think. I can't quite make it out.

Houston Cap Com OK.

Cooper I see a big long white trail of smoke down the center of the bay, though.

Houston Cap Com Roger. Gemini 5, Houston here. We would like to send up your DCS load now for your next maneuver any time you are ready.

Conrad Roger. Do you want to wait one? OK. You can send it up any time.

Houston Cap Com Roger. Understand you are ready now. Gemini 5, Houston here. You didn't answer this transmission, but we sent the DCS load, and we'll give you an up-date based on U. S. tracking over Ascencion. White Sands confirms you maneuver. We've gotten their tracking already.

Conrad Got the ships in sight. We're pitching on now.

Cooper Houston, Gemini 5. We didn't get him. It's pretty hard to

Conrad There he is. There he is.

Cooper But we have a ship wake in sight.

Houston Cap Com OK. Go ahead and do it on that then. The target that you're looking for should have a pair of wakes. He should have the destroyer guard out there with him.

Cooper 91, AOS. Unfortunately, we've got the gun sight

the field of view on the scope and the camera are too small, and I can't find him in it.

Houston Cap Com Roger. I'm sure the water complicates, because one piece of water looks like another piece.

Conrad Yeah. Well it's amazing how well I can see through this crust on our lens, but I can't get it on the track with it because the field of view is too narrow.

Houston Cap Com How about the full-powered telescope, Pete?

Conrad No, the field of view is too narrow on it.

Houston Cap Com OK. Listen, I've got an up-date for you on the time of this burn.

Conrad ...if Gordo could stick it right on him, then I'd have it.

Houston Cap Com Roger. I've got an up-dated time for your next maneuver.

Conrad Say again.

Houston Cap Com I've got an up-dated time for your next maneuver. Are you ready to copy?

Conrad We're ready to copy. Houston, go ahead.

Houston Cap Com OK. 02173435, I say again, 02173435.

Conrad Roger, and you have loaded this into the computer. Is this correct?

Houston Cap Com We have loaded the delta V in the computer. We have to relay the times by voice.

Conrad Roger. I understand that, but you have loaded the maneuver load.

Houston Cap Com Roger. It's been loaded and verified, and we'll

check the U. S. tracking data and give you any further updates that are necessary over Ascencion.

Conrad Roger.

Houston Cap Com Gemini 5, Houston.

Conrad Go ahead, Houston, Gemini 5.

Houston Cap Com We have a section 2 purge at this time also. Will you be able to handle that?

Conrad Over Ascension or right now?

Houston Cap Com Right now.

Conrad OK.

Houston Cap Com Pretty busy, isn't it?

Conrad Fairly. Stand by for hydrogen purge mark.

Houston Cap Com Roger.

Conrad Hydrogen purge complete. Stand by for O₂ purge on my mark. Mark.

This is Gemini Control, 51 hours, 2 minutes after the, from lift-off. The Pilot Pete Conrad just reported that the O₂ purge is complete, and we are out on the edge of the Antigua acquisition area. The burn performed over Mexico and Texas apparently was successful, based on the White Sands radar tracking. It would appear that we brought the apogee down from 207 statute miles down to about 194 statute miles. The perigee remains at 103.9. Shortly after the burn you heard discussions which involved requests for a readout of 80, 81, and 82. Those are computer addresses that are used to check the effect of the burn with the ground data versus the onboard computer data, and a series of zeros and several other numbers were read out. Then as the spacecraft swung east over the Cape

and out over the ocean, the pilots attempted to get a picture of the prime recovery carrier, the Lake Champlain, parked out 5 to 600 miles off the Cape. Apparently, they were not successful in getting a picture through the big Questar lens, and they primarily blamed the loss of the retical on Cooper's side of the window as the reason for not getting it. Say again, the maneuver apparently quite successful in lowering the apogee, and we are continuing now to swing down across the Atlantic. This is Gemini Control out at 51 hours, 4 minutes into the mission.

END OF TAPE

This is Gemini Control, 51 hours 32 minutes into the mission. Just about 2 minutes from now, Gemini V will attempt another maneuver changing burn. This one is to be performed at precisely at 34 minutes 31 seconds after the hour. It will be a posigrade maneuver. They will use the aft firing thrusters. They will be oriented small-end-forward, in zero pitch and zero yaw. They will be trying to achieve a delta velocity, or velocity increment of 15.2 feet per second. The burn will require 20 seconds duration. If successful, it would raise the perigee to 113.5 statute miles, that is an estimate, and it would leave the apogee where it is right now at 194 statute miles. Again, if successful, we would have a new period of 94.9 minutes, that's a revolution period. This burn is to take place at 32.7 degrees south, 63.9 degrees east, which is the apogee point in terms of orbital mechanics. We will not be in contact with the spacecraft during the period of this burn, however, Carnarvon will pick it up about 5 minutes later. We should be able to bring you additional information when Carnarvon acquires. The pressure in the O₂, the fuel cell oxygen source pressure bottle, is, at last reading, 101.3 pounds, which is another increase, steady increase shown throughout today. This is Gemini Control out.

END OF TAPE

This is Gemini Control Houston here, 51 hours 56 minutes into the mission. We have confirmed, based on the Carnarvon contact within the last few minutes that the required burn was performed over the Indian Ocean as scheduled. The burn was performed in the platform mode. The exact delta V achieved was 15.7 instead of 15.2, but, this should put us very close to the 113 mile perigee and 194 mile apogee, and we have no additional correction for you at this time. The -- earlier we heard references to computer address 80, 81, and 82. This is a reference to the addresses in the computer that read out velocity increments in tenths of a foot per second, as opposed to the incremental velocity indicator windows on the left side of the spacecraft which read out the velocity changes in merely feet per second, a more precise check on the burn. Just after the Carnarvon contact, the crew was to perform several deep space exercises with their infrared sensors onboard. They were to look at the Milky Way Constellation, they were also to look at the star Denub. They found that they could not get a proper setting on the star Denub without that reticle on the left window, however, they were going ahead and attempting to orient toward the Milky Way. They also showed over Carnarvon, according to ground readouts, that the spacecraft was pulling something over 40 amps, slightly over 40 amps. This is the peak power load that's been on since probably this second revolution, with no apparent degradation to any of the electrical systems. That would have been created by the fact that the computer was on, the platform was up, very likely the cabin lights were up along with,

perhaps another dozen systems. We have the Carnarvon tape wrapped up for you and ready to play at this time.

Carnarvon Cap Com Gemini V, Carnarvon Cap Com.

Conrad Gemini V, go ahead.

Carnarvon Cap Com Roger, would you give me a time of your burn and the readouts for 80, 81, and 82.

Conrad Roger, time of burn was 17 34 31, and that 81 and 82 were zero, but getting them to zero, we wound up with a half-foot more burn, we burned 15.7.

Carnarvon Cap Com Okay, what is 80, 15.7?

Conrad No, 80 was -0005.

Carnarvon Cap Com Roger.

Conrad Okay, the reason for that was we burned in the platform mode to see how well it would do, and it got just a little sloppy, and we got some up, down, left and right in which we had to take out..

Carnarvon Cap Com Roger, I understand.

Conrad Next time I'll put it in rate command.

Carnarvon Cap Com You say next time you would try rate command.

Conrad Yeah, we did that before and that's much better than this platform run.

Carnarvon Cap Com Roger. O. K. I've got enough data for your next maneuver, your next flight change.

Conrad O. K. ready to copy.

Carnarvon Cap Com O. K. Time of burn is 18 hours, 06 minutes, 26 seconds. The Delta V is 14.6 . The time of burn

Delta V is 19 seconds. Pitch 0, yaw -90, aft-thrusters for 25 all zeros, for 26 all zeros, for 27 00146. This is maneuver number 3 now playing.

Do you copy?

Conrad Affirmative.

Carnarvon Cap Com Roger.

Conrad O. K.

Carnarvon Cap Com We have some trouble with your tape dumps. At this time we'd like for you to switch your DC to DC convertor to secondary.

Conrad Roger. DC to DC convertor to secondary.

Carnarvon Cap Com Roger and read it in that position and we'll take a tape dump over the states this pass and evaluate

.....

Conrad Roger. Be advised that at the jump site we are unable to hear the D 4 we will get the D 4 410 bravo. We will get the 407 if we have time.

Carnarvon Cap Com Did you say you would get 410 bravo?

Conrad No, we can't get that one we've been trying with the telescope over here and we haven't been successful. We'll do 407 if possible.

Carnarvon Cap Com Roger. Flight did you copy air to ground?

Houston Flight Roger, we'd like to ask an estimate of how much he used the lateral thrusters.

Carnarvon Cap Com Gemini V. Could you give us an estimate on how much you used the lateral thrusters?

Conrad Well, we kept one foot down and we were
4 tenths of a foot right.

Carnarvon Cap Com Roger.

Houston Flight We copied.

END OF TAPE

This is Gemini Control, 52 hours, 22 minutes into the mission, and out over the Wheeling, at a point 20.4 degrees north, 178.2 degrees east, that would be roughly a thousand miles west of Hawaii, the crew did perform that plane changing maneuver. They changed the plane of their orbit approximately two hundredths of a degree. The time of their burn was reported at 15.4 feet per second, total duration about 19 seconds. They have been in contact with the States now for several minutes, and we expect a quiet pass. They'll pitch down 30 degrees and in the next few minutes will attempt the vision testing experiment, reading out the ground blocks north of Laredo, Texas. Over Hawaii Cooper reported that to date both pilot and command pilot have consumed a total of about 12 pounds of drinking water. We expect a quiet pass this time because of the eye check, and we will come back with anything significant. This is Gemini Control out.

END OF TAPE

This is Gemini Control, Houston, 52 hours, 32 minutes into the mission. During the Laredo eye chart test, the crew, apparently Pete Conrad, could not get a reading from his side. He was to make a reading with his eye tester, and so forth; however, Gordon Cooper reported he could see the squares. He did not attempt to make any read outs. He said he could see the squares and could see the lines inside the squares. Apparently they are having some difficulty in lining up that eye chart out there, because of the lack of land contrast around the lack of sighting points to come up on the exact square targets. Continuing on from there, Conrad reported that the skies are quite clear over the Caribbean in the Gulf of Mexico. He said we are getting an awfully good look at Florida, the Bahamas, and Cuba today. At this time Jim McDivitt, Capsule Communicator here, is still in conversation with the spacecraft which is now down on the far end of the island chain in generally the Antigua area. The next maneuver there to perform will occur some 30 minutes from now at $3\frac{1}{2}$ minutes after the hour. This will be a co-elliptic maneuver. They are to fire their aft firing thrusters to achieve a velocity change of 19.8 feet per second. The duration of their burn will be 25 seconds. They will be pitched down 14.5 degrees and zero degrees in yaw. This burn is to take place at 32.7 degrees south, and 41.6 degrees east. This is Gemini Control at Houston.

END OF TAPE

This is Gemini Control Houston, 52 hours, 43 minutes into the mission. We have a state side pass racked up and ready to play for you now.

Conrad Houston, Gemini V.

Houston Cap Com Go ahead Gemini V, this is Houston here.

Conrad Gordo spotted it but I never did pick it up. The weather was not clear there. and I just couldn't see.

Houston Cap Com O. K. There's still, like I said yesterday, there aren't a lot of contrasting land marks. Did you get any of the readings?

Conrad No.

Houston Cap Com Was that negative?

Conrad That's right, that's negative. We got the spot pinned down, but boy it sure is hard to see.

Cooper You might tell them I could see the figures on the squares. I didn't try to take any readings, I was trying to get the position for Pete to take his readings, but I could see several of the figures quite clearly.

Houston Cap Com Okay.

Cooper You might also tell him it is just like we suspected from the airplane, that they increase and decrease with light angle.

Houston Cap Com Okay, your visibility of the target varied with your light angle, is that correct?

Cooper The figure inside the target.

Houston Cap Com Right.

Houston Cap Com I have some information here for you, Gemini V.

Conrad Roger, go ahead.

Houston Cap Com Okay, be advised that you have approximately 40 pounds of drinking water in your adapter in case you need it. Your fuel cells are working fine, and I've got an update for your reverse coelliptic maneuver here.

Conrad Roger, go ahead.

Houston Cap Com The G.m.t. of burn is 02 19 03 41. That's 02 19 03 41, delta V is 19.8, that's 19.8 with a burn time of 25, burn time of 25 seconds. Your pitch angle is -14.5, that's -14.5, yaw is 0, thrusters are aft. Address 25 is 00 192. That's address 25, 00 192. Address 26 is 000 50. I say address 26 again is 000 50. Address 27 is all zeros. That's all.

Conrad Roger. G.m.t. of burn 02 19 03 41, delta V 19.8, 25 seconds, pitch down 14.5, 00 to yaw, 25, 00 192 26, 000 50, 27, 000 000.

Houston Cap Com Roger.

Conrad We got a real good look at Florida

Houston Cap Com Gemini V, Houston here, say again, you were pretty garbled that time.

Conrad Roger, I say we are getting a good look at Florida and the Bahamas and Cuba today.

Houston Cap Com Roger.

Houston Cap Com Gemini V, also be advised that we'll update this data

I just gave you over Ascension based on U.S. timing.

Conrad

Roger.

END OF TAPE

This is Gemini Control, 53 hours 2 minutes into the mission. Two minutes from now our present flight plan calls for the Gemini V spacecraft to perform a 4th maneuver. The 4th maneuver in the last two revolutions. This would occur at an apogee of 32.7 degrees south 41.6 degrees east longitude. The delta velocity hoped for is 17.3 feet per second, and the duration of the burn is to be 22 feet -- excuse, 22 seconds. There will be pitch down 15.8 degrees and use the aft firing thrusters. This should bring that -- have the effect of bringing the perigee up some 6 or 7 miles. At the same we have been advised that the Pilot is to start, well, immediately after this coelliptic maneuver, they will go through a purge of the section 1 side of the fuel cell, hydrogen and oxygen, after that the Pilot is to take a nap, and shortly after that the Command Pilot is to have another meal. We have no tape for you at this time. This is Gemini Control at 53 hours and 3 minutes into the mission,

END OF TAPE

This is Gemini Control Houston, 53 hours 10 minutes into the mission. As we were talking to you on the earlier report. We did establish contact with the spacecraft via Tananarive. The crew was advised to purge both fuel cell sections, not just section one, as had been planned earlier. They will purge both fuel cell sections and then power down the spacecraft. They should have completed their maneuver burns by this time although the communication was so ragged, we couldn't exactly establish whether that had been performed. The next report should come to us some 10 minutes from now when the spacecraft is over Mid-Pacific in the area of Hawaii. We have the Tananarive tape for you and ready to play it for you now.

Houston Flight Gemini V, Gemini V, this is Houston here, over.

Conrad Houston, Gemini V.

Houston Flight Roger, Gemini V, this is Houston here can you give us your residuals in 80, 81, and 82?

Conrad 00001. I repeat 00001. is 00002.

Houston Flight Roger, understand. We got that. I won't bother repeating it. Be advised that we want you to turn both sections, I say again, both sections right after the coelliptic burn and then we want you to get to sleep. Over.

Conrad I thought you said to purge both sections, is that correct?

Houston Flight Roger. That is affirmative. Purge both sections before powerdown. Then we want the pilot to get to sleep.

Conrad Roger, purge before powering down. Pilot go to sleep.

Houston Flight Affirmative. Be advised that we're going to slip the sleep periods approximately one hour so that you'll still get the same amount of sleep but just start an hour later.

Conrad (garbled)

Houston Flight Gemini V, Gemini V, Houston here. You're unreadable. We've gotten the important messages across.

END OF TAPE

This is Gemini Control Houston, 53 hours 32 minutes into the mission, and on the basis of this 4th maneuver, we are now estimating a perigee of 124 statute miles, an apogee of 194 statute miles, and a revolution period of about 95 minutes. All three of those values are going to stand an additional check as soon as we get some more data from the last two sites and we will have to confirm them for you a little bit later. We are also assuming at this point, the phantom Agena orbit of 141 statute miles perigee, and 210 statute miles apogee. We have had no communication with the spacecraft since the Tananarive acquisition. We expect Hawaii acquisition in about 5 minutes from now. This is Gemini Control.

END OF TAPE

This is Gemini Control, 10 minutes after the hour. The spacecraft is on a swing down across the Mexican Peninsula. They had some medical data earlier in the pass. We have confirmed earlier the earlier change which occurred back over the Indian Ocean. We have ignition of a minute-man at the Cape. It has lifted off. It's about 3 seconds off the ground and it looks good. We are advised from the Cape that it's a beautiful shot, it's lifting and rising up nicely, and the spacecraft is about 1000 miles to the south. They are looking for it. We will try to keep up -- a running count on how it looks from the Cape. We are on a line with them and it is programing, it is in it's pitch program. Looks good, all the values are right in sinc. No word yet from the spacecraft on whether they are seeing it. Still looks good. Gordon Cooper just came up on the line and said, "We don't see anything down Florida way," but it is a little cloudy from where they are. Plus 90 seconds on the minute-man, but still no report on a sighting in the spacecraft. Plus 100 seconds. On time and on the line is the report from the Cape. Everything still looks good on that minuteman launch, but we have no sighting reported from the spacecraft. Still on time and on the line. As far as we know, this is not one of the planned IR experiments we referred to earlier on missile launchings. It's just an R and D missile launch from the Cape. Standing by for a MARK. We should be coming up on burnout, should we not Houston Recovery. The word on the minuteman, still everything looks good. Report on the minuteman, still everything quite normal. First stage entirely okay. Houston Recovery, would you give us a MARK please on the burnout please, we'd appreciate it. Booster well out of range

by now of the spacecraft which is approximately over Nicaragua, about to begin it's 35th revolution of the earth. We are advised that the second stage of the minuteman has ignited. It's right on the normal values. The first stage burnout occurred on time. We are crossing the 80th parallel at this time, 54 hours and 5 minutes into the mission. We are standing by, Houston Recovery, for a burnout on that second stage. We expect word any second now on burnout on that second stage. The spacecraft itself is well out of range of both our Texas station and our downrange Antigua station. I rather imagine the Antigua station, along with the rest of the island chain is busy tracking that Minuteman. We'll come back to you with the times, as more information occurs on the Minuteman. This is Gemini Control out at 54 hours and 7 minutes into the mission.

END OF TAPE

This is Gemini Control in Houston, 54 hours, 9 minutes into the mission. The Department of Defense advises that all three stages of it are, indeed, minute-man burned on time and on the line, as they put it. We want to emphasize that this particular launch had nothing to do, nothing to do with the Gemini 5 flight, and we really didn't expect the pilots to see it, although they did yaw around and take a look, but they saw nothing. The range on this particular minute-man flight is quoted at about 4000 nautical miles down the eastern test range. It is the ninth straight successful minute-man launch from the Cape. The spacecraft was in contact briefly with our Guaymas and our Texas station. We have the tape racked up and ready to play for you now.

Houston Cap Com Gemini 5, Gemini 5, this is Houston.

Conradgarbled

Houston Cap Com Roger. Would you put your C-band adapter switch to command, please.

Conrad Roger.

Houston Cap Com And Gemini 5, be advised that there is going to be a minute-man launch down at the Cape here in a couple more minutes. I'll get you a time hack on that. See if you can see it.

Conrad Roger.

Houston Cap Com I've got some news for you here. It says here in the headlines of the Houston Post this morning that GT-5 is going to chase an imaginary spacecraft.

Conrad Very good. Did we catch it?

Houston Cap Com Yeah, I guess you did. OK, Gemini 5, we will give you a mark in 60 seconds and 30 seconds. You might look out over toward the Cape and see if you can see anything out that way.

Conrad OK.

Houston Cap Com Sixty seconds now. Gordo, if you are fooling around at all with that sight, you might give us a call if and when you get it fixed so that we can plan some of our experiments for tomorrow.

Cooper OK.

Houston Cap Com Minus 30 seconds. Mark. Fifteen seconds. Can you see the Cape at all?

Cooper No. Not yet. There's a cloud cover from here.

Houston Cap Com Five seconds. Three, two, they're holding, Gordo.

Cooper OK.

Houston Cap Com Got you excited, didn't we?

Cooper Yeah.

Houston Cap Com Go, they just lifted-off.

Cooper OK.

Houston Cap Com Keep looking. Gemini 5, Houston here. You're looking very good from the ground. We really don't have much for you this time.

Cooper OK. Still don't see anything down Florida way.

 It's pretty cloudy from here.

Houston Cap Com OK. Say, how's the weather out today? Have you seen much of the ground?

Cooper Yeah, quite a bit.

Houston Cap Com Say, what do you think about the SAD 13 tomorrow?
 Do you think you have picked up enough knowledge
 about the area to help you find it?

Cooper I think so.

Houston Cap Com OK. Plan on doing it tomorrow such that whoever
 sees it first goes ahead and takes the measurements.

Cooper Got it. I was wearing my landing glasses.

Houston Cap Com Oh, very good, very good. The contacts or the ones
 with the horn rims?

Cooper The big horn rims.

Houston Cap Com OK.

END OF TAPE

This is Gemini Control at 54 hours and 32 minutes into the mission of Gemini 5. At the present time our spacecraft is on its 35th revolution over the earth and is approaching the southern tip of Africa. At this time in the Mission Control Center we are having a shift change. The Red Team of flight controllers, headed by Chris Kraft, will shortly be leaving their consoles to be replaced by the White Team of flight controllers; our flight director for the next eight hours will be Eugene Kranz. Chris Kraft and selected members of his flight controllers' team will be moving over to the NASA News Center in Building 6 at Clear Lake, Texas in just a few moments to have their daily press conference. After the press conference is over, we here in the Mission Control Center will give you a status report on the flight as the White Team of flight controllers takes over. This is Gemini Control.

END OF TAPE

This is Gemini Control at 56 hours and 2 minutes into our flight mission of spacecraft Gemini 5. At the present time the spacecraft Gemini 5 has passed over the South American continent on its 36th revolution around the earth. As it approached South America from the west, Command Pilot Gordon Cooper reported that he had started his Apollo land mark photography. The attempt here is to take pictures of selected landmarks as the spacecraft passes over the ground areas, and these land marks will be used for navigation studies for the navigation system that will be used for the Apollo program. At that time Conrad was programmed for an eating period. Doctor Dwayne Catterson, our flight surgeon here in Mission Control Center, said that from a medical stand point the health of the crew is excellent. They are eating enough food, drinking enough water, and getting enough sleep; and he has no problems as far as the medical program is concerned. Flight status of the spacecraft, all systems are operating in a normal fashion. The oxygen pressure on the fuel cells stands steady at 101.3 pounds per square inch. Mr. John Aaron, our electrical and environmental communications expert, said that they have powered up the spacecraft and have pulled as high as 40 amps from the fuel cells, and the cells are operating, as he put it, beautifully. During the recent pass over the Pacific, the Coastal Sentry Quebec tracking station, tracking ship, updated our spacecraft for continued sea landing areas, reported that all the spacecraft systems looked good from the tracking station, and the weather around the world is also good. This is Gemini Control at 56 hours and 4 minutes into the mission.

END OF TAPE

(first part of tape missing)

now approaching it's start over the Coastal Sentry Quebec, our tracking ship located south of Japan. It is on it's 36th revolution over the earth. We have had no voice contact with the spacecraft since their last pass over the Coastal Sentry Quebec on the 35th revolution. The time in between has been occupied here in Mission Control Center by Flight Director, Eugene Kranz, who has continued to make the very careful check of all systems and all the flight controllers here to get a good handle on the flight and, as the spacecraft moves over the Coastal Sentry Quebec and then over the Hawaiian tracking station, I believe that Flight Director Kranz intends to make voice contact with the crew through that tracking station and will update their flight plan. This is Gemini Control at 56 hours and 33 minutes into the flight.

END OF TAPE

This is Gemini Control at 57 hours and 2 minutes into the flight of spacecraft Gemini 5. The spacecraft has just passed out of voice range of our Hawaiian tracking station on its 36th revolution over the earth. A few minutes earlier it had passed over the Coastal Sentry Quebec. We had voice communication from both stations. Over the Coastal Sentry Quebec the spacecraft map, star-map was updated, and pilot Pete Conrad reported that they had lost the cabin temperature gauge. It was not working, but that they did have a hand temperature gauge. The temperature reading in the spacecraft from the ground was 74 degrees. Over Hawaii command pilot Gordon Cooper gave experiment status checkoff with the Hawaii station and listed all the experiments that the flight crew had been able to accomplish during the last 24 hours. This included 2 medical tests, cabin lighting tests, UHF tests, a series of Department of Defense experiments including visual and photographic exercises. They also photographed a tropical storm and the Apollo landmark experiment which is tied in with the study of navigation for the Apollo spacecraft system. Cooper also reported they had 2 full magazines of terrestrial object photography. At this time the spacecraft is heading for the coast of South America and will shortly pass over the Rose Knot Victor, our tracking ship located off the west coast of Peru. The next transmission will be over the Rose Knot Victor, and we expect to have a further update of our flight plan at that time. This is Gemini Control.

Garbled

CSQ Cap Com

Roger. We have you go on the ground, and I have a map update for you. Are you ready to copy?

Cooper

Roger. Go Ahead

CSQ Cap Com Roger. Map - 22 plus 25 plus 00. Rev 36. Longitude 77 degrees east. Star - 22 plus 25 plus 00, 01 plus 40 plus 16. Did you copy?

Conrad Affirmative.

CSQ Cap Com Roger. And we advise that your ephemeris is now 107.8 by 168.1 nautical miles.

Conrad Say again the ephemeris.

CSQ Cap Com Roger. 107.8 by 168.1 nautical miles.

Conrad Roger. We have one slight discrepancy in that we've lost the cabin temperature gauge. However, we have a hand temperature gauge to use.

CSQ Cap Com Roger. Copied.

Houston Flight Are you getting a reading on the ground out there, CSQ?

CSQ Cap Com Standby. I'm trying to get it now. Gemini 5, CSQ, be advised your cabin heat exchanger outlet air temp is 74 degrees.

Conrad Roger. Thank you. CSQ, Gemini 5.

CSQ Cap Com CSQ. Go ahead.

Conrad What's your position?

CSQ Cap Com Roger. CSQ's position is 21 degrees north, 125 degrees east.

Conrad Roger. You're not in the position you're supposed to be, are you?

CSQ Cap Com Affirmative. That's our assigned position.

Conrad Oh, I see. Did you move for the typhoon a while ago?

CSQ Cap Com The only movement we have is some drift, possibly
20 miles and then back to the OST.

Conrad Roger. So it's 21 north, 125 east. Right?

CSQ Cap Com That's affirmative.

Conrad Thank you.

END OF TAPE

This is Gemini Control at 57 hours and 32 minutes into the flight of spacecraft Gemini 5 which is now passing over the South American continent on the 37th revolution which started just a few minutes ago. Flight director Gene Kranz, upon being informed about 20 to 25 minutes ago that the onboard radar system appeared to be running a little cold - temperature (temperature was something like 16 degrees) - decided that they had better turn it on and put it on a standby position with the switch on to warm it up. And they did this over the Coastal Sentry Quebec tracking ship and left it on throughout the pass over the Pacific, and the Rose Knot Victor tracking ship off the west coast of Peru gave us a temperature reading at that point. The temperature had risen to approximately 26 degrees. It was about a 10 degree rise, and director - flight director, Gene Kranz considers this an adequate temperature.

The Rose Knot Victor reported that all spacecraft systems on the pass over that tracking ship appeared nominal. Their ground radar indicated the flight crew was activating the pitch and yaw thrusters. There was no voice communication with the spacecraft Gemini 5 at that time. This is Gemini Control.

END OF TAPE

This is Gemini Control at 57 hours and 54 minutes into the flight of spacecraft Gemini 5. Here in the Mission Control Center we have a computer problem which occurred at 5:23 c.s.t. Both computers, the mission operations computer and the dynamic standby computer, lost the historical data that had been stored during the past 12 hours. There is no problem here with the dynamic display material. However, the Mission Control Center maintenance and operations personnel are looking into this problem, and they have not yet found a cause. Loss of the historical data will not affect the Gemini 5 mission adversely. It simply means that the staff support personnel will need to calculate trends of flight data manually instead of having constant mechanically computed displays which indicate trends. This type of data is normally logged or stored in the computers for 12 hour periods and then erased from the computer memory. We expect to have more information on the status of these computers in a short while. This is Gemini Control. Spacecraft Gemini 5 is continuing in its 37th revolution over the earth.

END OF TAPE

This is Gemini Control at 58 hours and 2 minutes into the flight of Gemini V. At the present time our spacecraft is coming up over the west coast of India on its 37th revolution over the earth. Here in the Control Center we have no further information on the computer problem. It is still with us. We will keep you advised as soon as a fix is made. To run over that, at 5:23 central standard time, both computers here in the Mission Control Center, the missions operations computer and the dynamics standby computer lost the historical data that was stored in their memory drums during the past 12 hours. This type of information is normally stored for 12 hours and then erased and it is used to indicate trends with the various systems that are used during the flight. The problem does not effect the flight of spacecraft Gemini V adversely. It means that the staff support people will need to calculate trends manually instead of having reference to instant displays. The dynamic displays, however, are still with us; we have lost only that portion that is contained with the historical data. Our spacecraft shortly will be passing over the country of India and out over the Coastal Sentry Quebec tracking ship. We have not had a voice communication with the spacecraft for approximately 40 minutes. We expect that we will have some voice communication over the CSQ or over the Hawaiian tracking station and will update you at that time. This is Gemini Control.

END OF TAPE

This is Gemini Control at 58 hours and 41 minutes into the flight of spacecraft Gemini 5 which is now passing over the Pacific ocean and will be within the voice range of the Rose Knot Victor tracking ship within a few minutes. It is on its 37th revolution over the earth. Here in Mission Control Center our computer problems are clearing up. We had advised that certain data that is stored which gives instant visual, an instant visual look at trends had been lost. Within 11 minutes after loss of the trend data the mission operations computer was back on line, and the operations people had managed to retrieve some 3 hours of this stored data and put it back in the computer. The remaining 3 hours of trend data normally stored in the computers is now also being retrieved from tape material and is going back into the computers. So we now again have the ability to display trend data that comes from data approximately 3 hours old, and we will still retrieve the 3 hours prior to that. The cause of the loss of this trend data has not been pinpointed. But we do expect to soon have full normal trend display capability here in Mission Control. This is Gemini Control.

END OF TAPE

This is Gemini Control at 59 hours and 2 minutes into the flight of spacecraft Gemini 5 which is now passing, has just passed over the southern tip of South America and is on its 38th revolution around the world. During the past few minutes the Gemini 5 spacecraft passed over the Rose Knot Victor, our tracking ship on the west coast, off the west coast of Peru. At that time the Rose Knot Victor gave the spacecraft crew some updated data for possible landing areas and they also gave a go from the ground. The words were: "everything looks great." Here in the Mission Control Center our computer problems are rapidly straightening out. We again have access to the trend display data that is used here by those who need to call up an instant visual to look at trends with the spacecraft systems. And of course all our other displays, the dynamic displays were in operation throughout. We had no problem there. At this time the people who work with the computers are feeding in the data that had dropped out and we expect to be back in complete operation with the visual displays very soon. The Rose Knot Victor tracking ship, in talking to our flight director at Mission Control Center, reported that they have a little bit of weather there, waves of 11 to 12 feet and some high winds. They have been on station now 2 days and 18 hours.

This is Gemini Control.

END OF TAPE

This is Gemini Control 59 hours and 32 minutes into the flight of spacecraft Gemini 5. The spacecraft is now in its 38th revolution over the earth and is just leaving the east coast of Africa. Within a few minutes, 10 - 20 minutes, the spacecraft will be over the Coastal Sentry Quebec, our tracking station south of Japan. At that time we will perform a cabin lighting survey. This is a test with photometer and we read here the increment of light into the spacecraft, in the various portions of the spacecraft proper. Here in Mission Control Center things are in a low key. Some of the flight controllers are taking advantage of this silent period to get a quick sandwich, cup of coffee, discussing the mission, and flight director Gene Kranz is keeping activities somewhat subdued so that the spacecraft crew can get a little rest after a rather busy day that they have had the past 12 to 14 hours. This is Gemini Control.

END OF TAPE

This is Gemini Control at 60 hours and 2 minutes of flight with spacecraft Gemini 5 now passing over the Pacific Ocean almost alongside the Canton Island tracking station. There is no planned voice contact with the spacecraft at this time. Activity aboard the spacecraft has been rather a low key operation. The boys have been engaged in housekeeping activities mainly getting things stowed away aboard the spacecraft that they have used and are not planning to use for the immediate future. According to our flight plan our pilot Pete Conrad will start an eat period shortly, and command pilot Gordon Cooper is scheduled to be in a sleep period. However, he is not asleep and probably will shortly go to sleep. We are making telemetry dumps to various stations along the way. This is data that is fed into the computers on the ground, relayed to them and relayed back here to Mission Control Center. Voice conversation has been held to a minimum. Our flight surgeon, Dr. Duane Catterson, reporting on the medical status of the flight said that both pilots are in excellent condition. He is very pleased with their physical situation at the present time. This is Gemini Control at 60 hours and 3 minutes into our mission.

END OF TAPE

Here in the NASA Mission Control Center our controllers are very relaxed during this period of relative inactivity. The flight appears to have settled down for the long haul. All spacecraft systems are normal and our flight crew is in top physical and mental shape, according to our medical directors. According to flight director Gene Kranz, there is nothing presently apparent to keep this flight from going the full route. We will now give you the live voice transmission as spacecraft Gemini V passes over the Rose Knot Victor tracking ship. We should have acquisition very shortly within a matter of a moment or so. At the present time aboard the spacecraft command pilot Gordon Cooper is in a sleep period and our pilot Pete Conrad should be eating, according to the flight schedule.

Conrad Roger. (garbled)

RKV Cap Com Say again, Gemini V.

Conrad Here is the ECS quantities involved and I'll go through these ECS quantities involved and the fuel cell O₂.

RKV Cap Com Roger, standing by.

Conrad Roger. The onboard reading is 88. Garbled

RKV Cap Com I copy

Conrad Fuel Cell O₂ is ___ percent _____ psia
Garbled

RKV Cap Com Roger, I copy. You have a go on all systems from the ground.

Conrad Roger. We are go up here. Be advised that (noise)

RKV Cap Com Roger, I understand. We have a map update for you.
Acknowledge when you are ready to copy.

Conrad Roger. Let me put down so I can use my other
hand. . . . Go ahead. Ready to copy.

RKV Cap Com Roger. Map at 02 53 07, longitude 8 degrees east,
rev 39

Conrad Roger, map 02 53 07, 8 degrees east, rev 39.

RKV Cap Com Roger. Star 02 53 07 01 33 03

Conrad Roger. 01 33 03

RKV Cap Com Roger. Be advised you have a fuel cell purge over
Kano. I'll give you the time. 02 50 00.

Conrad Roger, 02 50 00, purge the fuel cells and purge both
of them.

RKV Cap Com Roger, sections 1 and 2.

Conrad How's the weather down there?

RKV We just got an advisory that gives us _____
2 or 3 feet. Feels more like 10 or 12 feet from
inside this ship.

Conrad Roger. You might pass on to Houston that there are
two very very large cloud areas out over the Pacific.
We passed over both on the last 2 revs and it really
bothers the horizon scanners

RKV Cap Com I understand. Your horizon scanners are effected
by this large cloud coverage over the Pacific

Conrad That is correct.

RKV Cap Com How's the spaghetti and meat balls?
Conrad Very good. I never thought cold spaghetti and meat
 balls could taste this good but it sure does.
RKV Cap Com .Real Italian style.
Houston Flight RKV Cap Com, Houston Flight
RKV Cap Com Go ahead, Houston Flight.
Houston Flight Roger, how's your tape dump going?
RKV Cap Com My tape dump is coming along fine.
Houston Flight Roger. You get yout TX in?
RKV Cap Com That's affirmative. TX in.
Houston Flight OK.

That was the live voice communication between spacecraft Gemini V
and our tracking ship the Rose Knot Victor. This is Gemini Control.

END OF TAPE

This is Gemini Control. We are now 61 hours and 2 minutes into our flight Mission. Spacecraft Gemini 5 is crossing the northeast portion of the African continent on its 39th revolution over the earth. We have had no voice communication with the spacecraft since our last conversation when it was over the Rose Knot Victor tracking ship off the west coast of Peru. Command pilot Gordon Cooper is still programmed in his sleep period. In the NASA Mission Control Center we have some additional information on the computer problem we discussed earlier this evening. The computer loss of trend or historical data that we reported on has been traced to an operator error by the entry of incorrect data into the computers. This caused the computer programs to halt during processing. The entry which was attempted is performed only during periods of low mission activity. There was no malfunction of the computing equipment or of the computer program. I'd like to repeat that. There was no malfunction of the computing equipment or of the computer program. The history and trend data was reestablished in the computers some time ago by replaying the previously recorded data. Everything is operating and has been at normal here at Mission Control Center. This is Gemini Control.

END OF TAPE

This is Gemini Control at 61 hours and 32 minutes into our flight mission. The Gemini 5 spacecraft at the present time is passing over the Pacific Ocean nearing the Canton Island tracking station. Everything aboard the spacecraft is in a normal condition. We had a pass over the Coastal Sentry Quebec just a few minutes ago and the Coastal Sentry Quebec gave the spacecraft a go from the ground. Pete Conrad reported he had purged the fuel cells, and at this time we will give you a tape playback of that voice communication between the Coastal Sentry Quebec tracking station and the Gemini 5 spacecraft.

Houston Flight CSQ Cap Com, Houston Flight.

CSQ Cap Com CSQ Cap Com

Houston Flight Roger. You could advise the crew that we'll give them their systems update briefing, their spacecraft systems briefing, over Canton on this rev; and I'll standby and I'll give you time from now. It's about 13 minutes from now.

CSQ Cap Com 13 minutes from now. Roger. Gemini 5, CSQ.

Conrad Go ahead, CSQ.

CSQ Cap Com Roger. Houston advises they'll give you a systems update over Canton approximately 13 minutes from now.

Conrad Roger. Understand systems update over Canton 13 minutes from now. Thank you sir.

That was the live voice communication, or tape voice communication, between spacecraft Gemini 5 and the Coastal Sentry Quebec tracking ship. This is Gemini Control at 61 hours and 34 hours into the mission.

END OF TAPE

This is Gemini Control at 62 hours and 2 minutes into the flight of spacecraft Gemini V, which at the present moment is just about ending its 39th revolution and will shortly be picking up on its 40th revolution over the earth. At the present time we have voice communication between the Rose Knot Victor, our tracking ship, and the Gemini V spacecraft, and at this time the spacecraft communicator aboard the Rose Knot Victor is updating the tracking tasks that will be accomplished by the flight crew from now through the rest of their flight tonight and tomorrow. A few moments ago - a few minutes ago, rather, as the spacecraft passed over the Canton Island tracking station, the Houston spacecraft communicator, Buzz Aldrin, briefed the crew on their spacecraft systems as seen on ground readouts, and at this time we will play back for you the taped voice communication between the Canton Island tracking station, remote voice of the Houston spacecraft communicator through Canton to the spacecraft.

Houston Cap Com Gemini V, Gemini V, this is Houston. I do not receive you. I'd like to give you a status report on your systems. Over.

Houston Cap Com Gemini V, I still do not read you. Your status report is as follows: Your fuel cells seem to be adequately replacing your water consumption. Tank A quantity is 46 pounds. The fuel cells seem to be doing real well. There is no significant degradation in either of them. At present

there is no real concern now for either the H₂
or the water pressure limiting your duration.

We show your cabin temperature holding at
70 to 71 degrees. How do you read, Gemini?

Cooper

Garbled.

Houston Cap Com

Gemini V, this is Houston. Say again.

Cooper

garbled

Houston Cap Com

Roger, we show your consumables are quite close to
the predicted values. Your fuel cell H₂ is expected
to vent for approximately 80 more hours. We have
your coolant temperatures holding steady with the
radiator outlet temperature varying from 20 degrees
on the day side to 0 degrees on the night side.
Your G and C systems all seem to be doing quite
well. Your fuel remaining is 79 pounds. The
oxidizer remaining is 139 pounds. With your
projected experiments, we project them to require
59 pounds of fuel, leaving a pad of 20 pounds.
Your radar average temperature dropped to 19 degrees
over the RKV on the 35th rev. This is the reason
we asked you to bring the radar to standby. Your
temperature is presently 36 degrees. Over.

Cooper

Roger, 36 degrees on radar.

Houston Cap Com

Roger. On your phantom Agena rendezvous today,
the results were quite encouraging. We had your

perigee within 2 nautical miles of being coelliptic, and your .2 of a nautical mile, and your apogee within .3 of a nautical mile. This would have given about a 2-minute difference in initiation time for terminal phase. Many of your experiments tomorrow are going to depend on how well we can get the reticle fixed. How do you seem to be doing on that now?

Cooper

I'm getting ready to work on it now.

Houston Cap Com

Okeydoke. We've been taking a couple of them apart here to see what you might - what problems you might have. We'd like to conduct some radar tests tomorrow. The ones we did day before yesterday were quite encouraging. In these tests we'll be doing three different types of rendezvous tests, or radar tests, and two tests involving the IMU and the scanners. Could you tell us whether either during the REP exercise or during the pass over the Cape you observed your FDI needles to be centering as you were tracking either the REP or the Cape? Over..

Cooper

Yes they were, Elliot.

Houston Cap Com

This wasn't confirmed by our summaries on the ground. We're also considering some rendezvous terminal phase visibility tests starting about

20 minutes prior to assimilated initiation burn and carrying on through to the breaking point. We'd like -

Cooper

Garbled

Houston Cap Com

Say again. . . . Gemini V, Houston, say again.

Cooper

. . . . we do not read Houston any more.

Unknown

Roger, Gemini V.

Houston Cap Com

Gemini V, how do you read Houston now?

Cooper

I can read you again.

Houston Cap Com

Roger. We'd like to do some of these tests, power permitting, during your non-stateside passes. If you have any comment on whether you care to be occupied while one person is sleeping we'd be willing to help.

Cooper

I think we've been kept fairly busy. It hasn't been too bad so far.

Houston Cap Com

Roger. This would be while one crew member is sleeping and the other one is sitting by.

Cooper

Roger. Some of these things will probably wake the other man up.

Houston Cap Com

Understand.

END OF TAPE

This is Gemini Control at 62 hours and 34 minutes into the flight of Gemini 5 which is now passing over the southeast part of the continent of Africa. We had a recent status review over Canton island and the spacecraft and the flight crew are in a go condition. In the Mission Control Center everything is operating normally. The blue team of flight controllers have reported in and are about ready to take over direction of this flight. At the present time they are receiving their routine briefing prior to assuming command. As our flight director, Gene Kranz, commented earlier, there is nothing apparent at this time to prevent this flight from going the full route. This is Gemini Control at 62 hours and 34 minutes into the mission with our spacecraft on revolution 40.

END OF TAPE

This is Gemini Control, 63 hours, 2 minutes after lift-off. Gemini 5 just completed a pass over the tracking ship Coastal Sentry stationed near Okinawa, midway through the 40th revolution. During the pass over the Coastal Sentry a medical data check was run on the command pilot, Cooper. He also made a food and water usage report. A delayed time telemetry tape was dumped to the ship during this pass and a cabin lighting survey with the spacecraft in the upright position was also scheduled. Spacecraft Communicator aboard the Coastal Sentry said Gemini 5 was Go on the ground. Pilot Conrad is asleep at the present time. This is Gemini Control.

END OF TAPE

This is Gemini Control, 64 hours 32 minutes after lift-off. Gemini V spacecraft now is over the southwest Pacific, just south of the Philippine Islands, midway through the 41st revolution. During the pass over the tracking ship Rose Knot at the end of the 40th revolution, command pilot Cooper reported that he had successfully repaired the spacecraft reticle. Many of the various tracking tasks and experiments are dependent upon the reticle for alining the spacecraft toward ground objects. The reticle is foresighted along the longitudinal axis of the spacecraft. This is Gemini Control.

END OF TAPE

This is Gemini Control, 65 hours 2 minutes after lift-off. Gemini V is now over the southeast Pacific toward the end of the 41st revolution and will be in voice and telemetry contact with the tracking ship Rose Knot 6 minutes from now. Pilot Conrad is still sleeping at this time. There have been no changes in the status of the spacecraft crew or on its systems during the past hour. If the Gemini mission runs full 8 days, retrofire will occur next Sunday morning at approximately 7:29 central standard time. This is Gemini Control

END OF TAPE

This is Gemini Control, 65 hours 32 minutes after lift-off. Gemini V at this moment is in telemetry and voice contact with the Canary Island tracking station, and will cross the African coast shortly on a track passing over the Sahara Desert and along the southern shore of the Mediterranean toward the end of the 41st revolution. Gemini V passed over the tracking ship Rose Knot for the last time until the 50th revolution. We now have a brief tape of the voice communication between Gemini V and Rose Knot. Let's hear that tape now.

RKV Cap Com Gemini V, RKV Cap Com.

Cooper Roger RKV Cap Com, Gemini V.

RKV Cap Com Roger. We would like to verify the position of your fuel cell heater and O₂ heater circuit breaker. We would like for it to be open.

Cooper Roger. Fuel cell _____ heaters are all open.

RKV Cap Com I'm referring to the heater circuit breaker on the pilot's circuit breaker panel

Cooper _____ heater circuit breaker. That's all?

RKV Cap Com Roger, thank you. They were wanting to make sure that we didn't vent anymore of the H₂ overboard than we had to. Everything looks real good here on the ground,

Cooper Gemini V. Everything looks good up here.

RKV Cap Com Roger.

END OF TAPE

This is Gemini Control, 66 hours 2 minutes after lift-off.. Gemini 5 is now crossing the Bay of Bengal, east of India, midway through the 42nd revolution. At the present time command pilot Cooper is scheduled to conduct measurements of the spacecraft's electrostatic charge potential, experiment MSC-1. Pilot Conrad is still asleep. This revolution will be one of the quietest of the entire mission for there is a gap of 1 hour 10 minutes between the Canary Islands pass earlier in this revolution and acquisition by the stations of the Eastern Test Range at the beginning of the 43rd revolution. This is Gemini Control.

END OF TAPE

This is Gemini Control, 66 hours 32 minutes after lift-off. Gemini V is now over the south-central Pacific toward the end of the 42nd revolution. There has not been any voice, radar, or telemetry contact with the spacecraft during the past half-hour. The next station to contact Gemini V will be the Antigua station in the Eastern Test Range. While pilot Conrad presumably is still asleep, the flight plan calls for the command pilot Cooper to be eating at this time. This is Gemini Control.

END OF TAPE

This is Gemini Control, 67 hours, 2 minutes after lift-off. Gemini V is now over the mid-central Atlantic at the beginning of the 43rd revolution. During the just-completed pass over the stations of the Eastern Test Range, command pilot Cooper completed a purge of the fuel cell oxygen and hydrogen system. Cooper also described how he repaired the spacecraft reticle. We now have a tape of this pass. Let's listen to the tape now.

Antigua Cap Com Could you give us a little description how you repaired your reticle, please.

Cooper Rog. I took it all apart and completely dismantled it and was installing the aux receptacle line inside when I discovered that the aux receptacle, when the cord was pulled out to the fairly full extent, it shorted out. And further I discovered it was my aux receptacle cord and not the reticle.

Antigua Cap Com Rog. Understand. Very good. You've started a new concept--in inflight maintenance down here.

Cooper Rog. So then I went back to it and I put the thing all back together again and put another aux receptacle on it and it works fine.

Antigua Cap Com OK, very good. We're interested in that and that really saves us quite a bit on the experiments.

END OF TAPE

SUPPLEMENT

MISSION COMMENTARY TRANSCRIPT - 8/24/65

Tape 180, Page 1

This is Gemini Control at 67 hours 32 minutes after lift-off. Gemini V is now over the Indian Ocean, one-third of the way through the 43rd revolution. Carnarvon, Australia tracking station, due to acquire Gemini V 8 minutes from now, will pass up the the crew flight plan updates for the stateside passes in the next several revolutions. Pilot Conrad presumably is still asleep at this time. The balky spacecraft reticle has now been repaired and is functioning again. Command pilot Cooper did some first echelon inflight maintenance on the device by replacing the cord powering the reticle's light source. This is Gemini Control.

END OF TAPE

This is Gemini Control, 68 hours and 2 minutes after lift-off. Gemini V is now over the south-central Pacific toward the end of the 43rd revolution. During the pass over Carnarvon, ending 12 minutes ago, the Carnarvon spacecraft communicator Charles (Chuck) Lewis passed up to the crew several plan landing updates and experiment updates. Carnarvon reported to Houston Flight that the telemetry showed Gemini V was go on the ground. We now have a tape of the Carnarvon pass. Let's hear that tape now.

Carnarvon Cap Com Gemini V, Carnarvon Cap Com.
Conrad Come in Carnarvon, Gemini V.
Carnarvon Cap Com Rog, Gemini V, we've got a lot of updating to do this pass. We'll start by updating your POA's. Are you ready to copy?
Conrad garbled
Carnarvon Cap Com Prior to that we will finish up this platform test procedure and go on to flight plan update.
Conrad OK. Ready to copy.
Carnarvon Cap Com Roger. Area 45-1, 11 + 45 + 36 14 + 07 19 + 17 Area 46-1, 13 20 9 12+ 59 18 + 32. 47-1, 14 55 36 12 + 09 18 + 07. Area 48-1,
Houston Flight Carnarvon systems, this is Houston Flight. Can you give me a readout?
Conrad + 48

Houston Flight Can you get me those two temperature readouts?

Carnarvon Cap Com (command pilot talking on air-ground loop -
transmission not received.)

Houston Flight You'll have to cut the air-to-ground off.

Carnarvon Cap Com 49-4

Houston Flight I can't read you. You'll have to cut the
air to ground off.

Carnarvon Cap Com Roger, Frank. Bravo bravo 05 reading 70 percent -
70 degrees.

Houston Flight Roger. Now the other one.

Carnarvon Cap Com Bravo Charlie 03 reading 65 degrees.

Houston Flight OK. Put back air to ground on.

Carnarvon Cap Com Roger. How far did you get with that update over
the states on the platform test?

Conrad We just got the platform test and the line of
configuration and the platform computer
configuration and the attitude control config-
uration. -

Carnarvon Cap Com OK, I'll go back and start platform test . . .
you got part of it. The configuration is
platform to attitude control
horizon scan . . . star mode 01 30
and procedures as follows: Yaw 90 left. Take

one photo of horizon. Copy?

Conrad

Roger, yaw 90 left, take one photo of horizon.

Carnarvon Cap Com

Roger. OK, platform test no. 2 configuration.

Same as platform test 1. Procedure as follows:

Point at Southern Cross and take one photo.

Should be on horizon. Next point at

and take one photo. Should be . . .

Conrad

Point where?

Carnarvon Cap Com

Z zero, ZULU, zulu.

Cooper

I copy.

Carnarvon Cap Com

Right. That's it on the platform test 2.

Conrad

What's the time for platform test 1 and 2?

Carnarvon Cap Com

Say again.

Conrad

What is the time for test 1 and 2.

Carnarvon Cap Com

OK, that is the next on the flight plan update,
Pete. I'll start that now. OK. this
is platform, 12 hours 40 minutes 00 seconds.

.

OK, next is D-4, D-7 - 12 50 00

No. 408. The next one is the platform 13 hours
10 minutes 00 seconds. Remarks, aline SEF.

Next is S8D13. Time 13 32 46. Sequence number 03

Remarks, pitch down 30, yaw left ___ degrees.

Next - are you copying OK?

Conrad

Yeah.

Carnarvon Cap Com

OK, next, medical data pass. 13 47 01. Remarks
command pilot at Canary Island instead of
Carnarvon. Next is platform 14 hours 00 00.
Aline SEP. Next is S1, time 14 hours 18 16.
Remarks, sunset time. Next is D6. 15 hours
08 56. That's sequence no. 021. . . . no. 08
Remarks, pitch down 30, yaw left 2 degrees
. . . . 60. We've got about 30 seconds left and
I've got about half way through this, and I'll
fix you up later. I'll give you the next one.
D6 is 15 hours, 13 minutes, 51 seconds. Sequence
no. 134. . . . no. 08, pitch down 30, yaw 0
. . . . 125. Do you copy?

Conrad

I copy you.

Carnarvon Cap Com

OK, that's about it any minute now.
You will pick up the rest of these next station.

END OF TAPE

This is Gemini Control, 68 hours, 32 minutes after lift-off. Gemini 5 is now over the western Atlantic, northeast of Cuba, at the beginning of the 44th revolution. During the present pass over the Eastern Test Range Station, spacecraft communicator Dave Scott, here in the Mission Control Center, completed relaying to the crew the information on experiments. The Carnarvan station was unable to complete the updates before loss of signal in the previous revolution. Canary Islands station will acquire the spacecraft 3 minutes from now. This is Gemini Control

END OF TAPE

This is Gemini Control, 69 hours and 2 minutes after lift-off. Gemini 5 is now crossing the east coast of Africa and going out over the Indian Ocean. During the pass over the Canary Island station, completed 14 minutes ago, the Canary spacecraft communicator, Keith Kundel, reported to Flight Director John Hodge that Gemini 5's telemetry readouts looked good from the ground. The next station to acquire Gemini 5 will be the Carnarvan station some 12 minutes from now. We now have a tape of the pass over the Eastern Test Range station earlier in this 44th revolution. Let's listen to that tape now.

Cap Com Gemini 5, Gemini 5, Houston Cap Com, over.

Conrad Hello, Houston Cap Com, Gemini 5 here. Go ahead.

Cap Com Roger. I have a continuation for your experiments update.
Are you Ready to copy?

Conrad We copy.

Cap Com Rog. The first one will be D-4, D-7. 15 59 00, sequence 409, and 410 Bravo. Next one is a platform at 16 15 00, a line SEF. Next one is power up at 16 20 00, radar and rate gyros on. Next one is D-4, D-7, 16 37 24, sequence 423 Alpha, mode 08, pitch 30 down, yaw 42 left, speed 60. Next one is computer, 16 45 00, power up. The next one is a radar test, 16 46 02, sequence 09, pitch 30 down, yaw 07 left. The next - will be complete at 16 55 00. Radar off, a line SEF. Next one is a platform test at 17 05 00, sequence 01. The next one is the other platform test at 17 21 43, sequence 02. And we have a change on the stars, it will be Venus instead of the Southern Cross and Fomalhaut instead of Pollux. Next one is S-8, D-13 at 18 16 14, sequence 03, pitch 30 down, yaw 22 left. The last

one is apowered down at 18 25 00, computer off, platform
off and rate gyros off. Do you copy?

Conrad

. . . .

Cap Com

Roger, and would you turn your radar off now please.

Conrad

Roger, radar off.

Cap Com

Ok. You look real good here on the ground. Do you have any
questions on the experiments?

Conrad

No. I'll tell you we got a full day. I hope we can get them
all done.

Cap Com

Yeah, it should bunch up a little bit sometimes, but we tried
to plan them so you have time in between. If you have any
questions as you go along, just ask and we'll be standing by.

Conrad

Okey,dokey. How's the weather back there in Houston?

Cap Com

Gemini 5, Houston .

Conrad

I say, how's the weather back there, Houston?

Cap Com

Oh, it's real nice. Just hot and sunny, as usual. No rain in
particular. Every once in a while a little thunderstorm.

Conrad

Roger.

Cap Com

Say we've noticed that the temperature up there is a little
cooler than we expected. How is your comfort?

Conrad

Cold.

Cap Com

Cold, huh? Have any rain up there?

Conrad

We're taking the inlet hose of our suits every once in a while
to warm up. We've got quite cold.

Cap Com

Roger. Understand.

Conrad I wish you'd tell John Yardley I'm gonna have to eat crow on that. We've had the suit set on the full-hot position. And we had both suit flows down to . . . and we still get cold.

Cap Com Roger. Understand.

Conrad I guess both those coolant loops really did it.

Cap Com Rog.

Flight Hey, Gemini, this is Houston Flight.

Flight Gemini, Houston, go.

Conrad For your information, the relative humidity has been running around 56 to 59 percent.

Cap Com Roger. Understand, 56 to 59. That's nice and dry.

Conrad Yep.

Cap Com Wish we were up there.

Conrad Say again.

Cap Com Wish we were up there.

Conrad After another day or two, I'll be glad to trade with you.

Cap Com You got a deal.

See How many peanut cubes you got left.

Conrad I haven't found any yet but we're collecting an awful lot of stuff.

See How much of that stuff are you having left over from the meals?

Conrad Hey, Elliott, Gemini 5.

See Go.

Conrad What's the deal on the hydrogen - it seems to be going down fairly fast.

See Yeah, it's venting and we expect it to be going down pretty fast. We're watching it very closely. It's following the

predicted curves.

Conrad Roger.

Flight Hey, Gemini 5, this is Houston Flight.

Conrad Go ahead, Flight.

Flight That's just about exactly the way it was predicted prior to lift-off. There's been hardly any difference at all -we can't measure the difference between preflight predicted and what we're getting right now.

Conrad I see.

Cap,Com Gemini, your O₂ pressure's around 115 now, in case you're interested.

Conrad What temperature?

Cap Com No, you O - your oxygen pressure is around 115. You've done real well pumping it up , up there.

Conrad Yeah.

END OF TAPE

This is Gemini Control, 69 hours, 32 minutes after lift-off. Gemini 5 is now over the southwest Pacific, north of New Zealand, and nearing the end of the 44th revolution. During the Canarvon pass 8 minutes ago, Pilot Conrad said the Gemini 5 was "go" from the crew standpoint, and that the cooler-than-normal suit temperatures were correcting themselves. Canarvon reported that Gemini was "go" from the telemetry read-outs. We now have a tape of this pass over the Canarvon station. Let's roll the tape now.

Canarvon Cap Com Gemini 5, Canarvon. We have a valid oral temp. Stand by for Surgeon.

Canarvon Surgeon Gemini 5, Canarvon Surgeon. Standing by for your first blood pressure.

Conrad Roger. Coming down. Your cuff is full scale.

Canarvon Surgeon We have your blood pressure. Standing by for exercise on your mark.

Conrad Roger. Mark. The cuff is full scale.

Canarvon Surgeon Now we have your second blood pressure. On your food report, if you could, give it to us by day and letter, and if you remember the items which you did not eat.

Conrad Alright. OK. The water is 15 pounds.

Canarvon Surgeon Roger.

Conrad 8 ounces, and I am presently eating meal 3A, and I've pretty well been eating the dehydrated foods, but not the solid.

Canarvon Surgeon Roger. Sleep report now?

Conrad Yeah, I slept about 4 hours last night on the nap period, and I slept about $2\frac{1}{2}$ on the 2-hour nap period.

Canarvon Surgeon Roger. Anything else to report?

Conrad Nope.

Canarvon Surgeon Roger. Canarvon Surgeon out.

Canarvon Cap Com Gemini, Canarvon Cap Com. What is the position of your suit temperature control valve?

Conrad Roger. I'll give you a number reading. It's just off number eight.

Canarvon Cap Com Is it 4 o'clock warm?

Conrad No, not quite.

Canarvon Cap Com Are you too cool?

Conrad No, we were last night. It gets pretty cold in here with two coolant loops running.

Canarvon Cap Com Roger.

Conrad Our suit temperatures run down around 44.

Canarvon Cap Com Roger. Copy, 44.

Conrad Yeah, we've got it running up around 50 right now.

Canarvon Cap Com Roger.

Houston Flight Canarvon Cap Com. This is Houston Flight.

Canarvon Cap Com Flight, Canarvon. Go ahead.

Houston Flight Point out to him that if that thing is in the full warm position, it cuts off the coolant supply completely.

Canarvon Cap Com Roger, Flight.

Houston Flight So it has to warm up under those circumstances.

Canarvon Cap Com Roger. Gemini, be advised that that temperature control valve is in the full clockwise, or full warm position. It should cut off the coolant loop.

Conrad Yeah, I think we discovered that.

Canarvon Cap Com Roger.

Conrad Now we're go up here.

Canarvon Cap Com Roger, Gemini. You look real good down here, also. We have the initial size of the booster which is following you about 8 minutes, about 10, 15 minutes ago.

Conrad Roger.

Canarvon Cap Com There's a question on that. It's about 36 minutes ahead of you.

Conrad Oh. How's everything going down there? We keeping you busy?

Canarvon Cap Com Very busy. Got up this morning about noon, the piano player at the... got us up, we had a delicious meal at, and then came to work.

Conrad Roger. Give my best to all my friends down there, please.

Canarvon Cap Com Will do, Pete. They send you their regards also, they miss you.

END OF TAPE

This is Gemini Control, 70 hours and 2 minutes after liftoff. Gemini V is now over the Gulf of Mexico and in contact with the State side stations nearing the end of the 44th revolution. We expect to have a tape of this pass which we will play back for you within the next 10 to 15 minutes. This is Gemini Control.

END OF TAPE

This is Gemini Control, 70 hours, 14 minutes after lift-off. We now have a tape of the last State-side pass by Gemini 5. We'll hear this tape now.

Cap Com Gemini 5, Gemini 5, Houston Cap Com.

Conrad Go ahead, Houston. Gemini 5 here.

Cap Com Rog. You're looking good here on the ground. We'd like to get a number of readouts from you for correlation with our T/M data. First, could you give us your cryo-quantity readout in all three positions, please?

Conrad ECS O₂ - 87 percent. 790.

Cap Com Rog. Understand. 87 percent, and 790.

Conrad Roger. Fuel cell O₂ 91- $\frac{1}{2}$ and 100.

Cap Com Roger. 91- $\frac{1}{2}$ and 100.

Conrad Hydrogen is 82 percent - maybe just a notch above that - make it 82.5 and about 785.

Cap Com Rog. 82.5 and 785. Next could we have your OAMS source pressure and temperature, please.

Conrad OAMS source is 50 and 50.

Cap Com Roger. 50 and 50. And your OAMS regulator pressure, please.

Conrad The OAMS regulator pressure - the temperature is 50 and the pressure is 50-50.

Cap Com Roger. I understand. 50 and 50. Next the RCS ring A - source pressure and temperature.

Conrad I'll say again. The OAMS source temperature is five-zero, the pressure is one-five-five-zero.

Cap Com Rog. Five-zero and one-five-five-zero.

Conrad Roger. Going to your RCS ring A - temperature is 65, 290.

Cap Com Roger. Temperature 65 and 290 pressure. Ok. RCS ring B.

Conrad 63, 285.

Cap Com 63 and 285. And your propellant quantity, please.

Conrad 40 percent.

Cap Com Roger, understand. 40. Thank you. Could we have another read on your OAMS regulator pressure, please.

Conrad Roger. You're keyed. Hello, Houston.

Cap Com Go ahead.

Conrad The OAMS regulator source pressure - 1550.

Cap Com Gemini, could we have your regulator pressure, not your source pressure - your regulator pressure.

Conrad Ah, Roger. Sorry. Fuel is 50, 300.

Cap Com Roger, understand.

Conrad Anything else, Houston?

Cap Com Yeah, Elliott wants to talk to you about the H₂ here.

See Pete, I'd like to give you a little further briefing on what to expect on this fuel cell hydrogen. As you'll notice, you've used about 20 percent over the past three days and you can now start expecting a rate of about 23 percent per day until you get down to about 25 percent remaining. And then the curve will flair out there and decrease at a slower rate and it's a little bit unknown at that point. We'll have to wait and see how it goes down in there as to just what it will behave like. We are venting now and that's why it's going down so rapidly.

Conrad Ok. And would you give me one more detailed information on this radar test 09. You want us to acquire it the first time, in the rendezvous mode or should we be in catch up for acquisition?

See You can be in rendezvous. That's ok. As you approach the target, you can have a readout going on 69 and it shouldn't change,

as I understand it, it shouldn't change until you actually acquire the target and start reading out some range. And then once you get a range readout, you can start into your cycles.

Conrad

I'm with you.

See

Is it clear, otherwise?

Caonrd

Say again.

See

Is it clear otherwise?

Conrad

I think so.

See

Ok.

Flight

Morning, Peter, how are you this morning?

Conrad

Fine. Who's that? Mr. Kraft?

Flight

That's right.

Cooper

Morning, Chris.

Flight

How are you, Gordo?

Cooper

Pretty fine.

Flight

You both sound great.

Cooper

Good.

Conrad

We discovered one thing. Gordo's beard is white.

Flight

Rip Van Winkle.

Cooper

That's right

Conrad

Nope. Santy Claus.

Flight

Doing a great job up there.

Cooper

Thank you, Chris.

Conrad

Listen, after these next eight passes, we look like we're awful busy. I hope we get it all done for you.

Flight

Do what you can. That's all we want.

Conrad Roger. Say, I want you to tell John Yardley I really was wrong. Boy, those two cooler loops on there really cool things down.

Flight Yeah, that's one of the reasons we want to power up here to see if we can't warm things up a little bit.

Conrad That's be great. We've both been sitting here shivering all the last few hours.

Cap Com Did running that suit temperature up to full warm help out any there, Gordo.

Cooper When we get it on full warm, if you run it completely to full warm, it shuts the flow completely off.

Cap Com That warms it up a little bit, doesn't it?

Cooper Yeah, but aren't we apt to get a little bit too cool on the radiator business that way?

Cap Com Negative.

Cooper No?

Cap Com No.

Cooper Ok. We'll turn it clear off, then.

Cap Com They're monitoring the coolant loop temperature here on the ground, and they'll let you know if it gets too cool.

Cooper Ok. You should have seen . . . -last night, handling all the nuts and bolts and the screws rebuilding that reticle.

END OF TAPE

This is Gemini Control, 70 hours 32 minutes after lift-off. Gemini V spacecraft is now over Central America, one-third of the way through the 45th revolution. During the recent pass over the Canary Islands station, spacecraft communicator Keith Kundel told the crew of Gemini V that he had nothing for them this pass, only a C-band radar track. This is Gemini Control

END OF TAPE

Good morning. This is Gemini Control. We have just completed a rather long and very silent pass across Carnarvon. The spacecraft now to the East Coast of Australia on the 45th rev around the earth. As we come up across the Pacific over Canton Island, the flight plan calls for the crew to align the platform, small-end-forward, and then as we swing across the States, they will take another long look at those eye charts 40 miles north of Lorado. We hope with more success than they had in that area yesterday. The Pilot, Pete Conrad, read out some of his values on the hydrogen storage and the oxygen reactant supply at the start of the Carnarvon pass. There was no other conservation. This is Gemini Control at 71 hours 3 minutes into the mission.

END OF TAPE

This is Gemini Control, 71 hours 32 minutes into the mission. Two minutes ago the spacecraft came in touch with the Guaymas station, now proceeding across Mexico and we expect this to be an extremely quiet pass because they, with the reticle fixed, Gordon Cooper fixed it last night, the boys are going to try a very determined effort to site on those squares 40 miles north of Laredo. If there is conversation, we'll cut in and listen to it, but if not, or until there is, let's cover some other things. The breathing oxygen onboard, the quantity is 86 percent, the environmental control system oxygen tank pressure shows 940 pounds per square inch. The fuel cell oxygen supply is riding at 91 percent and it is showing 115 pounds per square inch, up again better than 10 pounds from yesterday at this time. Fuel cell hydrogen quantity is 81 percent, it's pressure level is 354 pounds. During the last 8 hours, apparently the Pilots got a little bit chilly. There was some concern, some hesitancy, about regulating the suit temperature controls, and the suit inlet temperature got down to about 45 degrees. Gordon Cooper then, went ahead and did adjust it upwards, the suit inlet temperature is now about 50 degrees. We expect that it will slowly climb up to about 54 degrees -- 54 to 55 degrees which has been the most comfortable level in past flights. That's a suit inlet temperature which consistently runs about 5 degrees or more below the actual suit temperature. We have onboard, 155 pounds of maneuvering fuel remaining. We expect to use some 15 to 20 pounds. Jim McDivitt is in touch with Pete Conrad now, and at Laredo we are advised that they have hit some smoke signals, as an additional acquisition aid. Let's cut into that conversation now alive.

Conrad Right smack over the site.

Houston Cap Com Okay.

Conrad We had no trouble tracking it, we had no trouble picking up the smoke, but we did not see the squares, either one of us.

Houston Cap Com Okay Pete, I'll check and make sure that they had the smoke and I'll give you that information over the Canarys, okay. As a matter of a fact, we'll try to get it for you before you leave the States.

Conrad You ready for our onboard readings?

Houston Cap Com Say again?

Conrad Are you ready for our onboard readings?

Houston Cap Com Roger, go ahead.

Conrad Okay, the A bus is 26.0 volts, the LA stat current is 8.1, 1B is 8.0, 1C is $9\frac{1}{2}$. 2A is 7.0, 2B is 6.9, 2C is 8.5.

Houston Cap Com Roger.

Conrad RCS ring A is 65 degrees, 295 is the pressure, RCS ring B is 60 degrees, and 285, secondary O₂ left is 5400, right reads 5300. We are go for 47-1 as you are.

Houston Cap Com Roger, you have a go, you have a go for 62-1.

Houston Flight Gemini V, this is Houston here, did you get your go?

Conrad Roger, we got a go from you. We were just whistling over Houston here. We wanted to get some pictures.

Houston Cap Com Okay, I've got some other information here for you. You don't have to bother to acknowledge most of it.

We'd like to have you be aware that we want you to do a medical data pass on the Command Pilot over the Canarys.

Conrad We got that, have you got an AOS time?

Houston Cap Com Roger, it'll be at 03 13 47 01.

Conrad Roger.

Houston Cap Com We'd like to know what condition your in with the suit gloves and helmets. Do you have the gloves and helmets off or on?

Conrad Oh, about the time you gave us a go to pass 6-4 we took off the helmets and gloves and we haven't had them on since.

Houston Cap Com Okay, very good.

Conrad Now Gordo's not wearing the cuffs on his wrists and I am, that's just because I got use to it. The relative humidity has stayed down around 56 percent all the time so we feel we are in good shape that way.

Houston Cap Com Okay, how about the

Conrad Say again Houston.

Houston Cap Com Roger, are you wearing your neck dams?

Conrad That's affirmative. We've been wearing the neck dams the whole time.

Houston Cap Com Okay.

Houston Cap Com We'd like to know if your staying warm now. Do you have the cooling under control?

Conrad Yeah. Our problem is that the temperature really doesn't

change in here too much, but when either one of us go to sleep, we're just not putting out to much ourselves and we really chill down.

Houston Cap Com Yeah, I noticed that a little too. Listen, one thing I want to tell you about, don't worry about turning the coolant off into cockpit. We've got some excellent TM on the radiator outlet temperatures and we'll keep you advised if they go down, so don't worry about turning off the coolant to the suit loop or the cabin loop.

Conrad Okay. Boy, Florida is really clear today. I can see Jacksonville and all the streets in it and the Cape and all the way down to Miami.

Houston Cap Com Very good, very good.

Conrad Florida is really pretty out there today.

Houston Cap Com Can you give us a couple of general comments on house-keeping. Are you keeping the stuff under control?

Conrad Yeah, but we are going to have a lot in the end. I'd like to tell you right now, I've got three airplanes in sight flying off Jacksonville.

Houston Cap Com Well, very good. We'll run a separate visual acuity test here.

Conrad Yeah, we may not sight a target, but we are seeing all kinds of other things.

Houston Cap Com Roger, roger.

Conrad Yeah, we're keeping housekeeping under control, but it takes a great deal of time.

Houston Cap Com Rog. How's that bag working out behind the seat, Pete?

Conrad It's full.

Houston Cap Com All ready?

Conrad With gear that has other places to go later.

Houston Cap Com Oh, okay. Be advised you've got a good 47-1 load in.

Conrad Roger.

Houston Cap Com Are you having any trouble with those blue bags?

Houston Cap Com Gemini V, Houston here. Gemini V, Houston here.

Conrad Go ahead Houston.

Houston Cap Com How many of the blue bags have you had to use?

Conrad One.

Houston Cap Com Roger.

Conrad Houston, Gemini V. Do you want us to leave the computer up?

Houston Flight Gemini V. Houston here. You can go ahead and power down the computer now.

Conrad Roger, computer coming down in just a second.

Houston Cap Com Gemini V, Houston here. Do you still read?

Conrad Read you loud and clear.

Conrad out.

Houston Cap Com Okay.

Conrad .. comfortable.

Houston Cap Com You say you are comfortable?

Conrad Yeah.

Houston Cap Com Yeah, it's pretty nice floating around, isn't it?

Conrad Yeah.

Houston Cap Com Hey listen, you were the big singing star of television last night.

Conrad We did what?

Houston Cap Com You were a big singing star on television last night. You got requests for thousands and thousands of copies of that song you sang.

Conrad I'll tell you the story about where those words came from when I get back. That's quite a good story also.

Houston Cap Com Okay.

Hodge We always have this levity first thing in the morning. The red team comes on, then the jokes come on.

This is Gemini Control Houston here again. We don't expect much more conservation with the spacecraft out in the far eastern edge of the Bermuda area. You heard Jim McDivitt reference a "blue bag". This is a reference to a fecal bag. Pete Conrad confirmed that there had been at least one bowel movement to date during the flight. We are not exactly sure which Pilot had the bowel movement. The go for the 62-1 area was given by McDivitt on instruction of Chris Kraft. At the time of the go it was 7:36 a.m. c.s.t. Our present orbit is 124 miles perigee, that's statute miles, 192 miles apogee, that's statute miles, with an estimated lifetime of 16 days without any further adjustment. Our period is 94.4 minutes. Dr. Berry says he is very satisfied with the crew. They sound sharp, he

says. He notes that they are eating again, still a little less than had been planned. They are getting about 2000 calories per day,* and eating about 2 meals a day, and not eating all of the meals. He is completely satisfied on the water intake and apparently this is enough food to keep them going, he says. Last night, we know Pete Conrad got about $6\frac{1}{2}$ hours of sleep. We are not sure about Cooper, but we have a medical data pass coming up over the Canaries in a very few minutes and should have a very good report on his sleep. This is Gemini Control Houston out at 45 minutes after the hour.

END OF TAPE

*This is a transcript correction. Commentary originally stated "2000 calories per meal". What was meant was "2000 calories per day".

Gemini Control here at 72 hours 18 minutes into the mission. We are now in our 4th day. The weather this morning goes like this, from the U.S. Weather Bureau Space Flight Meteorology Group. It advises that weather conditions around the World continue very good for orbital operations during the next 2 days and probably longer. The four planned landing areas are all located within broad zones of generally good weather which is characteristic of latitudes near 30 degrees north of this time of the year. The West Atlantic landing area between Florida and Bermuda has partly cloudy skies, with intermittent ceilings of 1500 to 2000 feet. Winds are less than 10 knots, and the waves are 2 to 3 feet. In the East Atlantic area, some 300 miles west of the Canary Islands, skies will be partly cloudy with infrequent ceilings of about 1500 feet. Winds will be near 15 knots and waves about 4 feet. In the Mid-Pacific area, 500 miles north of Honolulu, broken cloudiness will produce ceilings near 2000 feet most of the time. Winds are a little stronger than usual, averaging close to 20 knots and the waves are running around 5 feet. In the far West Pacific area, about 500 miles southwest of Tokyo. Skies are partly cloudy and ceiling, usually unlimited. Winds will average less than 15 knots and seas of about 4 feet. Tropical storm "Anna" first of the season in the Atlantic Ocean, formed far north of the usual storm generating area. It's present location is close to 500 miles north of the ground track of Gemini V, but could be seen by the Gemini astronauts while over the mid-Atlantic Ocean. Tropical storm "Doreen" meanwhile, centered about 1000 miles south and 500 miles west of San Diego continues it's westward movement of about-- at about 10 miles per hour. Extensive cloudiness and showers over the

Caribbean and the islands of Cuba and Hispaniola show no indication of being organized in any specific pattern. Otherwise, conditions around the world remain about the same as yesterday. With the spacecraft now over the Indian Ocean, the Pilots will slightly before Carnarvon acquisition, be in an S-1 experiment. This is the Zodiacal light experiment which will go on for some 20 to 30 minutes during the nightside pass. Toward the end of this nightside pass, up in the area of Hawaii, they will purge both the -- both of the sections of the fuel cell and on both sides of the diaphragm, the oxygen side as well as the hydrogen side. Later, over the States, between Texas and the Cape, they will take some D-6 photography and again out in the area of Bermuda, they will take D-6 pictures possibly of a Carrier, just as we attempted to get yesterday, perhaps we will have better luck today with the reticle repaired. We have the Carnarvon conservation wrapped up and ready to play for you, and let's roll that tape now. I'm sorry, it's not the Carnarvon, it's the Canary Islands tape.

Canary Surgeon
Canary Surgeon Gemini V, Canary Surgeon. Your cuff is full scale.
Cooper Roger.
Canary Surgeon We have a good blood pressure. Give me a mark when you begin exercise.
Cooper Roger. Begin exercise now. Ending exercise now.
Canary Surgeon Gemini V, your cuff is full scale.
Houston Flight Canary Cap Com, Houston Flight.
Canary Cap Com Flight, Canary Cap Com.

Houston Flight On the pass over Laredo

Canary Surgeon We have a good blood pressure, standing by for your
water and sleep reports.

Houston Flight Stand by, I'll listen.

Cooper Roger. My water report, I've had 16 pounds and 4 ounces
of water, last night I had about 2 hours of sleep during
my nap period and about another 2 to 3 -- about 3 hours
of sleep during my long sleep period.

Canary Surgeon Roger. This is Canary Surgeon. Could you give me
an estimate of the quality of your sleep, also Houston
Surgeon has asked us to get a food report from you.

Cooper Roger, the quality of my sleep was better in my short
nap period than it was in my long sleep period. It
was quite deep during my short sleep period. As for
the food, I just ate, I believe it was 3 -- meal 3
charlie.

Conrad 3A was the last one I had. 3 alpha was the last meal
I just had at 03:12:30:00.

Cooper Okay, go ahead Canary.

Canary Surgeon Would you repeat that please, this is Canary Surgeon.

Conrad Roger, meal 3 alpha was the last meal I had, at day 3,
that's today. 12 hours 30 minutes, 00 seconds was the
start of the meal.

Canary Surgeon Roger. We copied.

Canary Cap Com Go ahead Flight with what you wanted over Laredo.

Houston Flight Okay, over Laredo, there was smoke on the northwest corner of the target.

Cooper in that small cabin.

Houston Flight It was streaming toward the northwest about 3000 feet long.

Canary Cap Com Roger, copied. A smoke over Laredo was to the northwest about 3000 ...

Houston Flight In the northwest corner of the target.

Canary Cap Com And it was 3000 yards long, huh?

Houston Flight Feet, feet.

Canary Cap Com Okay.

Canary Cap Com Gemini V, Flight advises that over Laredo the smoke was at the northwest corner of the target, approximately 3000 feet long.

Conrad Roger, thank you very much. We saw the smoke loud and clear and we assumed it was the northwest corner, but we were unable to see the target. I think probably due to the slant angle.

Canary Cap Com Roger.

Canary Cap Com Flight, we've got about 50 seconds left.

Houston Flight Who is on this loop. Get off the loop. Who is counting on this loop please, and if you are, get off.

Canary Cap Com Flight, we're not reading it out here.

Houston Flight Roger.

Canary Cap Com Roger. We've had LOS.

Houston Flight Roger, Canarys.

END OF TAPE

This is Gemini Control at 72 hours, 32 minutes into the mission. The astronauts have just completed a rather quiet pass across the Canarvon site in which they asked for ground quiet while they worked with their cameras to get the zodiacal light pictures. Conrad reported that the first phase of the picture taking went extremely well. Stand by one minute to see if we have this tape racked up. I am sorry it is not ready for you. When it is ready, we will play it. This is Gemini Control out.

END OF TAPE

Gemini Control, Houston here; 72 hours, 38 minutes into the mission. We have the Canarvon tape ready for you now. It's a brief pass, and we will play it for you at this time.

Conrad Canarvon, Gemini 5.

Canarvon Cap Com Gemini 5, Canarvon. Go ahead.

Conrad Everything green up here. Unless you have something for us, we're very busy.

Canarvon Cap Com Roger. I'll up-date your TR for a 62-1, about mid-pass.

Conrad OK. Give me a call before you do it, because we're rolling the camera in the window when the light comes on.

Canarvon Cap Com Roger. Will do.

END OF TAPE

Gemini Control, Houston here; 73 hours, 2 minutes into the mission. In this pass across the States, we expect contact momentarily from the Guaymas station. We have knocked out the planned D-6 experiment which was to have been done in the Dallas area. It's been scrubbed because of weather in the Dallas area. We will, however, attempt a high resolution photographic experiment out over the carrier on the eastern edge of this pass. We have the tape of the Hawaii conversation ready for you, and we will play it for you at this time.

Conrad. . . Hawaii, Gemini 5. We're doing the F-1. Would you please check the speeds on the cameras with the D-6. I believe they should be 125th of a second, rather than 60th of a second; and one two fiftieth.

Hawaii Cap Com Roger. Will do.

Houston Cap Com We'll get you an answer on that.

Hawaii Cap Com OK, flight.

Houston Cap Com We want to delete the D-6 anyway. We've got a weather problem.

Hawaii Cap Com Roger. We want to delete that D-6 anyway. We've got a weather problem.

Houston Cap Com Stand by on that. Just one of the D-6's we're going to delete.

Conrad Both of them?

Hawaii Cap Com Negative. Delete the D-6, the time is 150856.

Conrad OK. That's the one over Texas.

Hawaii Cap Com Roger.

Houston Cap Com Affirmative.

Conrad Flight, listen, with this Questar lens, tell them we're going to pick a good sight somewhere going across the U. S. and get it.

Hawaii Cap Com Roger.

Conrad Afterall, we're in the process of rigging for it, and we'll be rigged for it for the one off the coast.

Hawaii Cap Com Roger.

Houston Cap Com That's right. We're working on those settings right now, Hawaii.

Hawaii Cap Com Roger, flight. They are working out the settings, Gemini.

Conrad Roger. My information up here says 127.

Hawaii Cap Com Roger, roger.

Conrad Hawaii, Gemini 5. Do you want this extra 1 and 2 purge?

Hawaii Cap Com That's affirmative.

Conrad Coming up right now.

Hawaii Cap Com Roger. Give me a mark.

Conrad Roger.....hydrogen purge commencing, now. No. 1 purge hydrogen complete. Commencing no. 2 hydrogen purge on my mark, mark. No. 2 hydrogen purge complete. Stand by for oxygen purge No. 1. Commencing no. 1

O₂ purge now.

Houston Cap Com One 160th and one 125th, as they suggested.

Did you copy, Hawaii?

Hawaii Cap Com Roger. We copy. Gemini 5, we're coming up on
LOS. Those settings for your camera is one - one
twenty-fifth, and one - one sixtieth.

Conrad Hawaii,.....

Hawaii Cap Com Roger. Flight, Hawaii.

Houston Cap Com Go ahead.

Hawaii Cap Com OK. We've had LOS, so you might pass that up over
Guaymas again.

END OF TAPE

This is Gemini Control Houston, 73 hours 23 minutes. In the last pass across the States, the Gemini V crew went through a fuel cell calibration exercise, and they also attempted to get a picture of a land object near Dallas, but the Dallas area was, as Gordon Cooper put it, "solid overcast" and they could not get a picture. They did, however, get a picture of a ship. They are not sure of whether it was the Lake Champlain, but this was the second picture planned for this pass, and they got a picture of a ship out, just west of Bermuda. They also received an update on the Zodiacal light experiment that they will do again on this present pass over the Carnarvon area. This will involve the use of the infrared sensors and the radiometer and they will take a similar measurement on the star "Deneb", D like in dog, e-n-e-b, in the same area over Carnarvon. This is a star that they had hoped to get similar experiments yesterday. They could not get because the reticle in Gordon Cooper's window was down and inoperative at the time. They generally reported that there were a lot of clouds over the States, they said in Texas, Houston was the only city that appeared to be open. We have the tape for you of the State side pass and will play it for you now.

Houston Cap Com Gemini V, Gemini V, this is Houston here. If you have time, give us a call. We have some information for you.

Conrad Roger, go ahead.

Houston Cap Com Okay, we'd like to have you put your cryogenic gauging switch to fuel cell O₂.

Conrad Roger, fuel cell O₂.

Houston Cap Com Okay. Are you through with your D-6 so I can give you some other stuff?

Conrad Roger, go ahead.

Houston Cap Com Okay, we'd like to have you put your calibrate switch to no. 1 position for 10 seconds. I'd also like to tell you that your target for your next D-6 will be going up track, so that the V wake will be downstream.

Conrad Roger.

Houston Cap Com I've got an update for your D-4, D-7 California background measurement whenever you are ready to copy. I also need your go for that over Carnarvon. I'd like to have you tell Carnarvon whether you will be ready to do it or not.

Conrad Okay.

Houston Cap Com Are you ready to copy the update.

Conrad Roger, go.

Houston Cap Com Okay, first put your calibrate switch to no. 2 for 10 seconds. Okay, here comes the D-4, D-7 update. New time is 03 16 37 28, pitch 26 down, yaw 38 left.

Conrad Okay, go ahead.

Houston Cap Com They are updating your TR over Texas and Bermuda so you will get a couple of DCS lights and stuff.

Conrad Okay.

Houston Cap Com I've got a map and star update for you also.

Conrad Roger, go ahead.

Houston Cap Com Okay, they are both at the same time. 03 16 17 37, the map is 162.5 degrees East, the star is 01 17 49.

Conrad All right.

Cooper What's the rev?

Houston Cap Com Stand by one.

Houston Cap Com Rev. 47.

Houston Cap Com And you can place your cryogenic gauging switch to off now.

Houston Cap Com Okay, that's all the information I have. Why don't you go ahead with your D-6 experiment.

Conrad Okay, we got a complete set of the Zodiacal pictures on the last night side.

Houston Cap Com Very good, very good.

Conrad Worked out okay on it.

Houston Cap Com Good.

Conrad I gave Gordo a well done for tracking tests. I really think we got some good ones.

Houston Cap Com Good.

Houston Flight Gemini V, Gemini V, Houston here.

Cooper Go ahead, Gemini V here.

Houston Flight How did you make out on your D-6 experiment?

Cooper Roger, there was quite a lot of clouds out there and we saw one ship with a wake. I don't really believe it was them, but we snapped a picture on it.

Houston Flight Okay. Did you pick up anything across the States

with your other D-6?

Cooper No, it was pretty solid undercast, it was all out West.

Houston Cap Com Yeah, that's why we scrubbed it, because of the bad weather.

Cooper Yeah, it's pretty solid out there all the way from the Coast on in, Houston was the only area that was really, it looked like it was open.

Houston Cap Com Okay.

Cooper Houston, Gemini V. Do we come anywhere near Austin next pass?

Houston Flight Well, it looks like you might be a little bit north of it there.

Cooper Okay

Houston Cap Com Why, are they open?

Cooper Yeah, they were when we went by, but we were too close in to yaw and gape.

Houston Cap Com Okay.

Houston Flight I'll take a look at that and see what we can do. You know, you are going to be pretty busy next pass anyway?

Cooper Well, we'll pick them up tomorrow. Maybe the weather will be better.

Houston Flight Okay.

END OF TAPE

This is Gemini Control; 73 hours, 32 minutes into the mission. We're on the 47th revolution and no contact since we left the Bermuda area. This 47th revolution began at 9:00 and 31 seconds, Central Standard Time. I would like to pass on to you a little background on this Red and White control team. We're configured, as you know, in four tiers here in the Mission Control Center. Starting down on the front tier on the left as you face from the top, the tank pressure monitor during the launch phase was Charles Bassett, Astronaut Charles Bassett. He is 33 years old; born in Dayton, Ohio; has a bachelor's degree in electrical engineering from Texas Tech in Lubbock. To his right is the booster-systems engineer who doubles in brass and is also assistant flight director; he is William Platt, 29, from Eunice, Louisiana; has a B.S. degree in mechanical engineering from the University of Southwest Louisiana in Lafayette. Our retro officer is Thomas F. Carter, 27, of Quitman, Mississippi; he holds a B.S. degree in civil engineering from Mississippi State. Our guidance controller is Charlie Parker. That's his full and official name, Charlie Parker; 31 years old; a native of Concord, Texas; holds a B.S. degree in electrical engineering from Lamar Tech in Beaumont. Our surgeon, Doctor Charles Berry, is 41. He was born in Rogers, Arkansas; holds a medical degree and a degree of Master of Public Health; his medical degree from the University of California, his Master of Public Health degree from Harvard. The flight dynamics officer is Jerry Bostick, "b" as in boy, O-S-T-I-C-K. Jerry is 26 years old; a native of Golden, Mississippi; holds a bachelors degree in civil

engineering from Mississippi State. Our capsule communicator, Jim McDivitt, 36 years old, from Chicago, holds a bachelor's degree in aeronautical engineering from the University of Michigan. Our ECOM officer and electrical, environmental, and communications officer is Richard Glover, age 30, native of Chicago; holds a B.S. degree in electrical engineering from the University of Texas, and a master of science and electrical engineering from Stanford. The guidance, navigation, and control officer is Gerald Griffin, age 30, native of Athens, Texas; holds a B.S. in aeronautical engineering from Texas A and M. Our operations and procedures officer is Jones Roach, first name Jones, J-O-N-E-S, Roach, age 32; a native of Richmond, Virginia; holds a B.S. degree in electrical engineering from Virginia Military Institute. Our network controller is Ernest L. Randall, age 30, from Oklahoma City; he holds a B.S. degree in chemistry from East Central State College in Oklahoma. Our flight director, of course, is Chris Kraft. He's 41 years old; a native of Phoebus, Virginia; holds a B.S. degree in aeronautical engineering from V. P. I. This is Gemini Control at 73 hours, 36 minutes into the mission.

END OF TAPE

This is Gemini Control; 74 hours, 2 minutes into the mission, and the Canarvon station has just established contact. The pilots reported they were performing their sightings and taking their infrared readings on the star Deneb. It's a relatively quiet pass. The crew is advised they would have a medical data pass over Hawaii this pass, and Hawaii should acquire in about 20 minutes. Let's see--I believe that wraps up all the information at this time. This is Gemini Control out.

END OF TAPE

This is Gemini Control; 74 hours, 22 minutes into the mission. We have a brief, about a minute and a half, of conversation over the Canarvon station. It's racked up, ready to play it for you now. Got a little mechanical difficulty there, rolling the tape. We'll stand by one until it's ready. Let's break and come back to it.

Conrad Canarvon, Gemini 5. We're doing 409 at this time, equipment is on.

Canarvon Cap Com Say again the last, Gemini.

Conrad Roger. We're doing 409 at this time, equipment is on.

Canarvon Cap Com Roger. We're receiving your FM, FM telemetry.

Conrad OK. Give me a mark in four minutes, please.

Canarvon Cap Com Roger.

Conrad Be advised, Canarvon, we'll be go for 423 alpha.

Canarvon Cap Com Roger, understand. We've got an up-date for you. They have a medical pass scheduled on the pilot at Hawaii this round. Hawaii's acquisition is 16 24.

Conrad Roger, 16 24.

END OF TAPE

This is Gemini Control, Houston, 74 hours 36 minutes into the mission. Over the last Hawaii pass, Gordon Cooper reported he finished meal C, which includes an orange drink, spaghetti and meat, butterscotch pudding, toasted bread cubes and cheese sandwiches. The Hawaii Surgeon said he noticed, what he interpreted was little shiverings and squiggles on his oscillograph reading out blood pressures and respirations. He ask the crew about this and they said, well, it probably came from an earlier reading. Conrad reported he was working up a good appetite. We are in contact right now with California station. Ten seconds ago we launched a Minuteman, the Department of Defense confirmed, and Pete Conrad just came up on the loop and said, "I see it, I see it." He sounds quite elated. He just said, "there it goes", they are orienting the spacecraft so they can get both photographs of that Minuteman launched out of Vandenburg Air Force Base at, we would judge very close to 38 minutes after the hour. We are standing by for further word on the flight itself. There's Conrad again, he says, "he's out over the water, see him." Conrad picked it up at about 10 seconds out and now we have an indication that the second stage has ignited and Conrad says, "Okay, we can see them real good." Standing by for further word on the flight of this Minuteman. Conrad says, "We can still it very clearly, we can also get a good background on it. Barely quite visible." And now apparently the booster, the Minuteman is out of sight of the Gemini V spacecraft. But, it sounded like a most successful test in an experiment aimed at finding out how well a crew in space can

sight an object launched from the ground and keep their spacecraft tightly aligned on it and get photographs of it. We have no word yet on the burnout or the path of the Minuteman. We should have additional information for you momentarily. We are now over Texas, and let's cut in on the conversation live.

Conrad

.....

Houston Cap Com

Say again.

Conrad

Wait a minute, we're getting something on the horizon scan.

Conrad

..... Holloman right now, and I can see the runways of the whole

Houston Cap Com

Say that again please.

Cooper

We are tracking Holloman Air Strip.

Houston Cap Com

Okay, I got you. Very good. Did you get a picture of that other thing.

Conrad

I got about 6 of them.

Houston Cap Com

Very good.

Gemini Control here. The crew, last report, was tracking the Holloman Air Force Base in West Texas. No further reports since then. We show them on our maps here as directly over Texas. Stand by for additional conversation.

Gemini Control here. The flight plan calls for the Pilots to turn the computer on over the Cape to perform another radar test with their onboard radar. We'll see how it goes immediately after leaving the Antigua area, they will turn off the radar and align their platform small-end-forward.

Conrad Okay, we got Bergstrom that time too.

Houston Cap Com Very good. Sounds like you are getting caught up on D-6.

Conrad Yeah, I hope so. Okay, we're going to 30 pitch down, yaw 7 left, and we're standing by for radar.

Houston Cap Com Okay, fine. You got that procedure all squared away, haven't you?

Conrad Right, we'll go to rendezvous and then back to catch-up after lock-on for second, back into rendezvous and keep that cycle up till we loose lock again.

Houston Cap Com Okay, very good. Do you have your FDI's up?

Conrad Confirmed.

Houston Cap Com Okay, are you going to be pointing at the transponder?

Conrad Yeah, you can track it.

Houston Cap Com Okay, very good.

Conrad Okay, we have solid lock.

Houston Cap Com Okay, kind of keep your eye on the FDI needles if you can as you go across and give us a little report on them.

Cooper Roger, I'm reading range, range rate,

Houston Cap Com Okay.

Cooper I'm locked on.

Houston Cap Com Very good.

Conrad I haven't gotten anything to read into the rendezvous mode yet.

Cooper My FDI's are locked.

Houston Cap Com Okay, are they null?

Cooper Rog.

Conrad I won't read into the rendezvous mode. Do you want me
to go to Catch-up?

Houston Cap Com Yeah, cycle it back and forth and see what happens.
Did you get the start comp button pushed there?

Cooper Locked on good with the ...

Houston Cap Com Okay.

Cooper Proceed with the reticle.

Cooper Holding lock as we go straight across.

Cooper Is it out at Merritt Island?

Houston Cap Com I don't know, just a second.

Houston Cap Com We've got the coordinates to 4 decimal places in seconds,
but I don't know where it is.

Cooper My radar is showing it's right on Merritt Island out
there.

Houston Cap Com Okay.

Cooper I'm still locked on.

Houston Cap Com Okay.

Conrad I don't understand. I'm not getting any range readout
either in Catch-up or Rendezvous.

Houston Cap Com Roger. You got the start comp button.

Conrad Yeah, I've tried everything.

Houston Cap Com Is the MDIU on?

Cooper Well over 250 miles an hour now I guess.

Houston Cap Com Did you have the MDIU power up?

Conrad Yeah.

Houston Cap Com Okay.

Cooper I'm still locked on. We're over 300, I guess now.

Conrad Well you'll have the data on the tape through, won't you.

Houston Cap Com We hope we do, yes.

Conrad Squeeze off a couple of D-6's go by there too. He was pointed right at it.

Houston Cap Com Okay.

Cooper Just broke lock.

Houston Cap Com Roger, broke lock at 40 47.

Gemini Control here. We are out on the Eastern edge, approximately 1000 miles east of the Cape now. But you heard what real good success Gordon Cooper had with that onboard radar, locked onto an L-band signal from the Cape and was still holding it and reporting good values at a range of 300 miles. Here in the Control Center we were watching closely the, Dr. Berry's oscillograph, which gives us the heart beat and the respiration information. During that Minuteman launch out on the West Coast, we noted some slightly elevated values, which would be an indication of the pickup of work. It certainly was a fast working, hard working 6 minute pass. Now, Jim McDivitt is trying to raise the spacecraft again, let's go back.

Houston Cap Com .. purge out the fuel cells. We want to do it over a site so we get some good data while we are doing the purge. We don't really have much else for you. We got about another 6 or 7 minutes here of acq time.

Cooper Okay, I'll give you a little information further, radar wise. I was getting radar range, and radar rate intermittently on my digital there, and on my analog there. I don't know why it wasn't steady. On my needles I had steady lockon and was pointing them away on out and away on past.

Houston Cap Com Okay, did you get that intermittent R and R dot throughout the whole pass?

Cooper A little bit. Although ... fairly close we lock up pretty solid on the analog and hold fairly steady.

Houston Cap Com Okay, so in close it was steady, but at greater range it was intermittent.

Cooper Greater range it was a little bit intermittent although it did seem to jump in and out a little there.

Houston Cap Com Okay

Houston Cap Com Gemini V, Houston.

Cooper Go ahead Houston.

Houston Cap Com Your attitude control fuel usage has been up pretty high lately and we want to make you conscious of the fact that you are going to have to start taking it easy and going at a little lower rate than you have been to make it through the rest of the flight here.

Cooper Roger.

Houston Cap Com As a matter of a fact, I'll try to fix up a little summary for you and give it to you across the States the next time and let you know where you are.

Cooper Okay.

Houston Cap Com Gemini V, Houston here. Would you hit the start comp button one more time. We want to see, get some stuff on the ground here?

Conrad It's in Catch-up, you want it in Rendezvous?

Houston Cap Com It doesn't make any difference. Just go ahead and hit the start comp button.

Conrad Okay.

 This is Gemini Control Houston. I think we're out of voice contact with the spacecraft now as it starts swinging across the Atlantic. We are on the 48th revolution. A revolution that started at the precise time at 10:47 central standard time. We have the tape wrapped up on the earlier portion of this pass beginning at Hawaii and we will play it for you at this time.

...

...

Conrad Blood pressure coming down.

Conrad Blood pressure coming down.

Hawaii Surgeon Gemini V, Hawaii Surgeon.

Hawaii Surgeon Gemini V, Hawaii Surgeon, full scale.

Hawaii Surgeon We have a good blood pressure. Standing by for your water report.

Conrad Roger. It's still the same as I think it was this morning. 16 pounds 4 ounces, and the meal, I still haven't eaten anything since the last meal. This was 3 charlie, I think.

Hawaii Surgeon Okay, real fine. Are either you are the Command

Pilot having any problem with the temperature now.

Are you fairly comfortable?

Conrad Oh yeah. We're fine now.

Hawaii Surgeon Okay, have either you or Gordon been doing any shivering on the last few revs, or any exercises. We've noticed, just checking on your respirations here, there are a few swiggels on it and we were trying to figure out why that was happening.

Cooper We were probably shivering, you know this last rev or two ...

Hawaii Surgeon Were you shivering on the last rev or two?

Cooper The last one rev has been good, but on the several before that we were probably shivering.

Hawaii Surgeon Roger. Everything else all right up there?

Cooper Say again?

Hawaii Surgeon Everything else all right up there.

Cooper Just fine.

Conrad The Pilot's working up a big appetite, I can tell you that.

Hawaii Surgeon Ha. Real good.

Hawaii Surgeon All right, I've got nothing else, Hawaii Surgeon out.

Cooper Okay.

Hawaii Cap Com This is Hawaii Cap Com. For your experiment 423A, there is a small cloud deck that extends from 700 up to 1100 it's west to southwest, about 2 miles east of the site.

Cooper Roger, we're ready.

Gemini Control Houston here. That concludes the Hawaii Pass. We've got the beginning of the State side tape wrapped up for you, and we will play it for you now.

Houston Cap Com Gemini V, Gemini V. Houston here.

Cooper Go ahead Houston. Gemini V here.

Houston Cap Com Roger. The cloud deck over the site now is solid, it goes to broken about 5 miles to the southwest of the sight and it goes clear about 2 miles to the east of the sight.

Cooper Roger. We can see the cloud deck.

Houston Cap Com Okay, very good. And they are go there.

Cooper Roger. We are in position and waiting.

Houston Cap Com Roger.

Conrad Boy, I wish we could get on it this Questar lens is fantastic.

Houston Cap Com Roger!!

Cooper If we don't get this this time, will you stand outside and wave so we can get your picture as we go by?

Houston Cap Com Say again. Oh Rog.

Cooper If we don't get this you can stand outside and wave and we will get your picture as we go by.

Houston Cap Com Okay, I'll be out there.

Houston Cap Com 10, 1, MARK. There we go. It's on it's way.

Conrad I see it there! See it Gordo. See it through that holes in the cloud. There he goes, bigger then heck.

Conrad See him, there he is over the water Jim.

Houston Cap Com Second stage.

Conrad. Okay, we can see him real good.

Houston Cap Com Very good, very good.

Conrad We can still see his climb very, very clearly down there. Even against the cloud background.

Houston Cap Com Okay.

Conrad Houston call when you want the computer on.

Houston Cap Com Yeah, tell us when you get through there and we'll ..

Cooper We're through.

Houston Cap Com You're all done? Okay, we'll go back to this other stuff now.

Cooper I can see him going above us.

Houston Cap Com You say he is going above you, right?

Cooper Right, we saw him way out going high to the right.

Houston Cap Com Okay, roger. The computer power up time is 03 16 45 00 and you can power it before then by a couple of minutes if you'd like.

Cooper Okay, we were hoping to find something down here for the D-6.

Houston Cap Com Just a second and I'll run outside.

Cooper Okay.

This is Gemini Control Houston, 75 hours 3 minutes into the mission, with a little bit of additional information on that Minuteman launch. Apparently the best estimate now is the point of closest approach was about 115 statute miles. The spacecraft and the missile would have -- the missile would have arced up and over, of course, it was slightly to the north of the spacecraft. How many miles to the north, we can't get an exact fix on, it would probably be on the order of 100 miles. The -- at last report, the Minuteman was observed rising and well above the spacecraft, which at that point it would have been, oh, 135 to 140 statute miles in altitude coming into a perigee, or just about perigee which was actually 124, I believe. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control, 75 hours, 32 minutes into the flight. We're on the 48th revolution, the spacecraft coming up on a Canarvon acquisition. First of all, we have some information on the second stage of the Gemini 5 launch vehicle. According to our sources, the second stage impacted somewhere in the Indian Ocean within the past hour. It was observed at the start of its re-entry by an observer in Pretoria, South Africa, at 10:36 Central Standard Time. He observed the start of the break up. He estimated the altitude at about 110 kilometers. The report was that the second stage broke into 4 or 5 pieces, and they were presumed to have impacted somewhere in the mid to east Indian Ocean, about 10 to 15 minutes later. Just how much it impacted, we don't know. We got no reports on, if in fact any pieces got through the re-entry heat. Some additional information on the minute-man launch--the flight was completely successful, it was a 27-minute duration flight, it impacted at a point in the west Pacific, more than 5 thousand miles, nautical miles, from Vandenburg Air Force Base, it reached a maximum altitude of slightly more than 500 nautical miles. The minute-man was flying a path of 155 statute miles north of the path of the spacecraft. The point of closest approach between the two was 201 statute miles and that time of closest approach was 10:38:06 CST. The missile was launched at 1037:28 CST. The spacecraft was four minutes away from perigee at the time of the closest approach which would have put its altitude during the time of the sighting and the acquisition and the picture taking at an altitude of 125 statute miles. At this time we have a brief conversation between the spacecraft and the station at Ascension Island during its recent swing across the Atlantic and we'll play that tape for you now:

CapCom Gemini V, Gemini V, Houston here, over.

Cooper Go ahead Houston, Gemini V

CapCom Roger, we're taking a quick look at the fuel here and it looks like you're a little bit below the programmed flight plan fuel level for this particular time in the flight so we're gonna have to take it easy for a while.

Cooper Roger

CapCom We're getting some more information on the SAD 13 pass across Larado, right now the weather is clear with a few little puffy clouds around, less than a tenth. You're gonna have a smoke pod on the northwest corner again, the smoke is drifting slowly out to the northwest. You should be a little bit to the south and the sun should be almost overhead. So it will be a lot better, the conditions will be a lot better than they were this morning.

Cooper Okey, fine.

CapCom Gemini V, Gemini V, Houston

Cooper Go ahead

CapCom Can you give us an onboard readout on what your propellant quantity is, please?

Cooper The proepllant quantity is reading 31 per cent, over.

Cap Com Roger, under 3 1 percent

Cooper 113 down on my recording chart

CapCom Okey, very good.

END OF TAPE

This is Gemini Control, 75 hours, 48 minutes into the mission. The Department of Defense experimenters concerned with the Minuteman launch from Vandenberg are extremely pleased here in the Control Center. They advised that the bird was launched on the second called for. They are very complimentary to the SAC crew that handled that launching. The spacecraft is on its swing up across the Pacific. We should be in touch from the Hawaii station in about five minutes. Meanwhile we have some tape conversations gathered from the Carnarvon pass ended about five minutes ago. We'll play it for you now.

Conrad Carnarvon, Gemini V, standing by for the updates.

Carnarvon Cap Com Roger. Is the PLA update?

Conrad Roger.

Carnarvon Cap Com Area 50-4 2053 56, 12 + 12, 18 + 17, Area 51-3 -
32, 12 40, 14 + 05, 19 + 13, Area 52-3 - 23 47,
51, 12 + 57, 18 + 18, Area 53-3 - 25, 22, 39,
12 + 10, 18 + 00, Area 54 Delta - 26, 17, 24,
19 + 56, 24 + 41. Did you copy?

Conrad Yeah, I understand the times on the last two,
is that 25, 26. Will you read the times on
53-3 and 54-0?

Carnarvon Cap Com Roger, DODRC, 53-1 is 25 hours, 22 minutes.

Conrad O. K. good show.

Carnarvon Cap Com Standby, there seems to be a question on this thing..... You have to tell me what it is.

Houston Flight Carnarvon, those times should be 01, 22, 39, 02, 17, 24 and the day on them is 04.

Carnarvon Cap Com Roger.

Conrad O. K. What were the last two 53-3,.....
01 hours?

Carnarvon Cap Com 22, 39 and 54-Delta is02, 17 + 24.

Conrad Copy.

Carnarvon Cap Com The weather's good in all areas.

Houston Flight Carnarvon, can you give us an onboard computer summary?

Carnarvon Cap Com Roger.

Conrad O. K. Would you advise Flight that we got everything done except the Venus photographs on the platform 02 test.

Houston Flight We copied.

Carnarvon Cap Com Roger.

Houston Flight We'd like to a contingency B summary please.

Carnarvon Cap Com Roger, Flight. Get set.

Houston Flight Carnarvon, Houston Flight.

Carnarvon Cap Com Flight, Carnarvon.

Houston Flight Would you care an LOS computer summary
 please?

Carnarvon Cap Com Roger.

Houston Flight Carnarvon, did you understand that we wanted
 a second and contingency B. summary?

Carnarvon Cap Com No. We'll get another one out.

END OF TAPE

This is Gemini Control Houston, 76 hours 2 minutes into the mission. Within the last minute the spacecraft has come in contact with the Hawaii ground station and the crew is going through a medical data pass. Let's see, I believe its being performed on Gordon Cooper. Let's tune in there live and see what's happening.

CapCom Ah, we have a good pressure, standing
by for your water report

Cooper Roger, I had 17 pounds 4 ounces of water
and still finishing up meal 3 Alpha.

Hawaii CapCom Say again please

Cooper Roger, I'm still eating up the remnants
of meal 3 Alpha before I have a new meal here
shortly.

Hawaii Cap Com Roger. We have nothing else, thank you, Gemini 5.
Hawaii Surgeon out.

Cooper Roger, thank you.

Back to Gemini Control here. Cooper's reference there, meal 3 Alpha, includes cocoa; salmon salad, something called a P-bar, toasted bread cubes, and ginger bread. This is a total calorie intake of 914 calories. After the exchange of medical data, we have had no further conversation on the line. We'll stand by and monitor it. We really don't expect any additional information to come up, but we'll come back live if it does. During the pass across the States, the crew once more will attempt to sight those eye charts north of Laredo. Let's go back to the spacecraft. Well, apparently they are talked out after that last pass, which was a very talkative one. Again across the States, we will try the vision test north of Laredo, and shortly after that we will purge both the

oxygen and the hydrogen side of the fuel cells, both sections. The computer will be up, the platform will be up, the rate gyros will be off. This is Gemini Control, Houston, out at 76 hours, 5 minutes into the mission.

END OF TAPE

This is Gemini Control Houston, 76 hours, 32 minutes into the mission. In the last pass across the states the crew was successful in picking up that eye target over north of Laredo. Pete Conrad read out markings in what he called the second row, the squares are aligned in three rows, four boxes to the square, 2,000 feet on a side. In the second row, he said the second and third squares were in a position number two, position number two is a slant from left to right, in other words, a slant that starts at about 45 degrees off the top of your scale and slanting into the left corner. He said they acquired the target a little bit late and he couldn't see any more than that but he definitely could see those two squares in the second row. Farther on in the pass there was discussion of the operation of the primary scanner onboard. The crew reports that it is apparently off about 15 degrees in pitch, discussed noting this early in earlier revolutions. They are apparently allowing for it, their secondary scanner seems to be right on the money. There was also some discussion of the computer and how it's operating. No information on just what, if we have a problem there, or if we do have a problem what it is. It is giving the crew some strange readouts and it's causing some questions to be asked here on the ground. There's no major concern here over the computer, we know it's operative and

we're just trying to figure out exactly what the status of it is. We have a tape across the states for you, it's rather long and we'll play it for you now.

Houston Flight Gemini 5, Gemini 5, Houston.

Cooper Go ahead Houston, Gemini 5.

Houston Flight I want to give you a little information on your SAD 13 that might help you acquire the target. Are you ready?

Cooper Roger go ahead.

Houston Flight. O. K. The smoke pod is still at the northwest corner of the area. It's about 1,000 feet from the nearest cleared square. The smoke is going just about due north and it's about five or 10 degrees wide in the, or the smoke column goes out about like that. There's some scattered cu (cumulus) about 50 miles to the east and there's some very small cu about 10 miles to the west. It's clear right over the target area. To the south, southeast there's a light cirrus stack and it's well to the south southeast, quite a ways out of the way.

Cooper Roger.

Houston Flight Gemini 5, Houston again. Be advised that you're going to be passing just about 75 miles ground range south of the area where the targets are.

Cooper Roger.

Houston Flight Texas go remote, California go local.

ConradGemini 5, we have the smoke in sight at this time we're still quite a distance out.

Houston Flight O. K. Now the smoke is supposedly blowing due north from the northwest of the site.

Conrad Rog, do our best.

Houston Flight O. K.

Cooper The target is in sight.

Houston Flight Roger

Conrad O. K. We saw the targets and we think we logged about two of them and that's about it.

Houston Flight O. K. Can you tell me what they were?

Conrad Well, let me think about what direction we are first.

Houston Flight O. K. It wasn't the big E huh?

Conrad No. I think the third one in the second row was a two. We think that the second one was a two and the third was a two. That's about it. We were past it before we picked it up good.

Houston Flight O. K. So you think the second and third one in the second row were both twos?

Conrad That's right.

Houston Flight Very good. We have some other information here for you when you're ready to go.

Conrad Go ahead.

Houston Flight We would like to have you start your purge now, and purge both sections. When you complete your purge, we'd like you have you then power down.

Conrad O. K. I think we'll..... it tonight.

Houston Flight Roger.

Conrad We have a piece of information for you. We're pretty sure our primary scanner is off. It works all right except it measures a large platform with the nose about 15 degrees down.

Houston Flight O. K. Do you think the primary scanner is off about 15 degrees in pitch. Is that right?

Conrad Yeah. The secondary scanner works fine.

Houston Flight O. K. Listen would you start the purge because we don't have any telemetry out of Antigua and we'd like to watch this purge.

Conrad hydrogen off.....down.

Houston Flight O. K.

Conrad Hydrogen complete on number one.

Houston Flight O. K.

Conrad Number two hydrogen's complete. Starting number one oxygen.

Houston Flight Roger. While you're doing the purge here I'd like to ask Gordo a couple of questions about the needles during the lift-off in the powered portion of the flight. The question is which one of the tank needles went full scale during powered flight and what times did this occur?

Cooper Roger, it was before staging and it was the emps fuel needle, second stage.

Houston Flight Roger, second stage, emps fuel needle not the oxidizer.

Cooper Then it came back in after staging and then went off shortly thereafter.

Houston Flight Shortly after staging?

Conrad Affirmative.

Houston Flight O. K. Very good.

Cooper told you about the POGO?

Houston Flight Roger.

Conrad Station one oxygen purge complete. Mark.

Houston Flight Roger, thank you.

Conrad Starting 62 purge at this time.

Houston Flight Gemini 5, Houston again. When did you first notice that the primary scanner was giving this 15 degrees pitch down?

Cooper It was yesterday when it was being really erratic. Clouds werequite easily and at every sun set and sun rise it would go off.....(garbled)..... signals.(garbled) It was doing better yesterday. Today we tried the primary just to compare it and it is very weak and is holding the attitude slightly nose down.

Houston Flight O. K.

Cooper (garble).... it has quite a..... to it's attitude hold.

Houston Flight O. K. How about in the platform align. Does it align the platform properly?

Cooper Well, fairly well. It's still
 a little bit off, I think over a long
 it would be aligned all right but
 secondary does real.

Houston Flight O. K. Gemini 5, would you go to catch up
 and hit the start com button? On your com-
 puter please?

Conrad Roger,(garble) getting com
 start now. Section two purge complete.

Houston Flight All right, your section two purge is com-
 plete.

Conrad Holler when you want us to power down.

Houston Flight O. K. We're checking a few things on the
 computer. If we loose voice contact before
 we get this done we want you to power down
 and go and start your rest cycle. We're
 going to start the rest cycle about half an
 hour late today so we want you to regulate your
 sleeping by shifting everything a half hour
 backwards. We'd also like to have you put
 your cyrogenic guaging switch to the off
 position now.

Conrad The computer's in the catch-up now and we hit the strike comp (computation) and four amp IVI's are cycling through from zero to 999.

Houston Flight O. K. We'll look into that for you.

Conrad We had this problem at the start of the REP. But I thought it was me and I got it to stop the first day but it slipped my mind now.....

Houston Flight O. K. Understand it's still going back and forth.

Conrad Yeah, it's going from 0 to 99. (garble)...

Houston Flight O. K. It's coming up all the time is that correct?

Conrad Up all the time.

Houston Flight O. K.

Conrad Now it's stopped at 794 and.....

Houston Flight O. K.

Cooper 794½, 250

END OF TAPE

This is Gemini Control, Houston; 77 hours, 10 minutes into the mission. We're on the 49th revolution around the earth, out over the Indian Ocean, on a long, quiet swing up across the East Indies, and we should be in contact with from our Hawaii station, although it will be a peripheral contact, in perhaps 20 to 25 minutes. One of the more optimistic signs having to do with this mission has just flashed up on the board. I refer to the start of the ground elapse time to retro command for an end-of-mission period. Our clock has been activated and has the setting in it. It reads, right now, 114 hours and 54 minutes and 15 seconds to retro command--that would be for a full 8-day mission. The clock just above it is set and is counting backwards for a retro command that would bring us down into the 62 - 1 area, which is our present point of commitment. This is Gemini Control.

END OF TAPE

This is Gemini Control, 77 hours 32 minutes into the flight. The spacecraft out over the Mid-Pacific at a long quiet period here and one of relative inactivity, we presume aboard. Pete Conrad should be taking a nap and the Command Pilot, according to the Flight Plan should be eating another meal at this time. We expect acquisition within a very few minutes at our Hawaii station, then we will know a little bit more about what is going on at that point. This is Gemini Control out.

END OF TAPE

Gemini Control here; 77 hours, 44 minutes into the mission. We have an ever-so-brief conversation with the Hawaii station, Gordo's rogering that everything's quiet, slow onboard, and sounding just a wee bit tired after the day's activities. We have the tape ready for you, and we'll play it now.

Hawaii Cap Com Gemini, 5. Hawaii Cap Com. All your systems look good. We've nothing for you at this time. We're standing by.

Cooper Roger. Everything's quiet and slow up here.

Hawaii Cap Com Roger.

END OF TAPE

This is Gemini Control, 78 hours 2 minutes into the flight. Just a very few minutes ago, at precisely 1:58:39 central standard time, we began the 50th revolution as we crossed the 80th parallel. During the spacecraft swing down the West Coast of North America, we had a long conversation, largely between Jim McDivitt and Gordon Cooper. McDivitt passed along a long series of flight plan updates and there was considerable discussion of the Laredo eye chart experiment. The crew was questioned for any suggestions they might have in placement of the smoke pods that are -- that have been lighted out there to assist the crew in finding those charts, and among other items, the Gemini V crew was told to look on the 51st revolution for an active volcano to provide background for one of their infrared experiments. The volcano is in Hawaii. It's called Kilauea. I'll spell it, K-i-l-a-u-e-a. It's at 19 degrees 24 minutes north, 155 degrees 17 minutes west. We also want to acknowledge receipt of a telegram from a scouting group in convention at Albuquerque. The message to Gordon Cooper reads as follows: "326 Scouting Executives from the Southwest states of Oklahoma, Texas, and New Mexico, in conference at Albuquerque send greetings and best wishes for a successful flight to their friend and former scout, Gordon Cooper of Shawnee, Oklahoma. The message will be held for Gordon at the conclusion of the flight. We have now the tape wrapped up from the last pass across the West Coast of North America and we will play it for you now.

Houston Cap Com Gemini V, Gemini V, this is Houston, over.

Cooper Go ahead Houston, Gemini V.

Houston Cap Com Roger. I have a couple of questions and -- in fact a lot of questions, and a flight plan update. Are you ready?

Houston Cap Com First, a question. Did you see any accelerometer malfunction lights on your IMU during that last radar test over the Cape?

Cooper No.

Houston Cap Com No mal lights. Okay. I've got a flight plan update for you. Are you ready to copy it. It's quite long?

Cooper Yeah, go ahead.

Houston Cap Com Okay. S-7, time is 03 21 20 08, sequence number is 03, remarks, pitch down 90 degrees. Apollo land mark time 03 21 38 02, sequence 213, remarks, pitchdown 30 degrees, yaw right 6 degrees. D-4, 7, time 03 22 48 17, sequence numbers 425 alpha, and 416. Remarks, pitchdown 30 degrees, yaw right 30 degrees, volcanos. HF test, time 03 22 55 00, sequence number is 01, end time is 04 00 25 00. S-8, D-13, time 04 02 30 00 sequence number 01 and 02, under remarks, Pilot. S-7, time 04 03 20 25, sequence number is 01, remarks pitch down 90 degrees.

Cooper Okay.

Houston Cap Com S-8, D-13, time 04 03 30 00, sequence numbers 01, 02, remarks, Command Pilot. HF test time 04 04 00 00 sequence number is 02, remarks, end time is 04 05 30 00, and that is the end of the flight plan update. Are there any questions?

Houston Cap Com Gemini V, Houston, did you get the flight plan?

Cooper Gemini V.

Houston Cap Com Gemini V, this is Houston here.

Cooper Roger, you just started on the HF test, you faded.

Houston Cap Com Okay, I'll repeat the HF test. The time is 04 04 00 02. I say again, that was a mistake. The time is 04 04 00 00. The sequence number is 02, remarks, end time is 04 05 30 00. Gemini V, that's a completion of your flight plan update. Are there any questions?

Cooper I didn't get the remarks on that last HF test.

Houston Cap Com Roger, under remarks, the end time for the test is 04 05 30 00.

Cooper Okay, I got that.

Houston Cap Com Okay, fine. We've got some questions on the SAD 13 Gordo?

Cooper Okay.

Houston Cap Com These come from the experimenter and they say that they had the smoke generator and the chevron were both situated at the northwest corner, and their question

is, was there any problem in locating the pattern at the end of the smoke columns, and if so, do you have any suggestions for improving the position of the smoke column?

Cooper

I remember we just had trouble locating the patterns as we got in close in there. There -- I guess we were just coming in from such a different angle then we had seen it before.

Houston Cap Com

Okay, but you think the smoke column was placed at a reasonably good position though, is that correct?

Cooper

The smoke column really points out maybe 100 miles, maybe 100 and, oh probably, at a slant range of 200 to 250 miles easily.

Houston Cap Com

Okay, fine. They have another question here. Did you see any marks in, or did you see marks in every square or just in the two that read off to me?

Cooper

I could see marks in several of the squares. I didn't see them in every square, but I just didn't have a time when we were coming at such an angle, just the one that's all that just about that registered. And apparently that's about all that registered with Pete, was one particular square Pete saw clearly. I say we didn't get it located until we had already passed it.

Houston Cap Com

Roger. I have a comment here that says that the four largest targets were in the northern row. I guess they just want to point out that to you again

that they keep the largest targets in the northern most line.

Cooper Yeah, well the one that I could see the clearest, that registered on me, was the first target in the second row, which was the nearest to us when we went over.

Houston Cap Com Oh.

Cooper Real close to the targets like we did the first pass when I saw them earlier.

Houston Cap Com Okay, so you say that the one you saw the best was the first one in the second row?

Cooper Roger. But I think again this is where the problem is, like we had discovered in flying up there over them I'd say it was the light angle on the target itself.

Houston Cap Com Okay, now was the light angle better on the second pass today, or the first pass, as far as you were concerned?

Cooper I think it was better this second pass.

Houston Cap Com Okay. According to our calculations, the sun was pretty much over it for the second pass, but you have to look into the sun for your first pass. We assume that the light was better on the second one.

Cooper We both thought it was the second.

END OF TAPE

This is Gemini Control. We are at 78 hours and 34 minutes into our mission. The flight of spacecraft Gemini V, which at the present time is in it's 50 revolution over the earth and is just passing over the Tananarive tracking station on it's way into the Indian Ocean area. At the present time here in the Mission Control Center, we are in the midst of the shift change, the second shift of flight controllers or the flight team, replacing the first shift red team and very shortly our number 1 Flight Director, Christopher C. Kraft, and a few of his flight controllers will be at the NASA News Room for their regular noon time or shortly after noon time press briefing. As soon as this press briefing is completed, here at the Mission Control Center, we expect to have a flight and network status report ready for you. This is Gemini Control at 78 hours and 35 minutes into the mission.

END OF TAPE

This is Gemini Control at 79 hours and 2 minutes into the flight of Gemini spacecraft number 5. Our spacecraft at the present time is on its 50th revolution over the earth. It is passing over the Pacific Ocean and has just left voice range with the Coastal Sentry Quebec, our tracking ship located in the Pacific Ocean. At this time we will give you the taped voice transmission of the Spacecraft Gemini 5 flight crew as they passed over the Coastal Sentry Quebec, and we now give you this voice transmission.

CSQ Cap Com Gemini 5, Gemini 5, CSQ.

Conrad Roger, go ahead, CSQ.

CSQ Cap Com Roger, we would like to know what setting you have on your suit coolant control.

Conrad Roger. It's all the way closed.

CSQ Cap Com Understand. It all the way closed.

Conrad Roger.

CSQ Cap Com OK. We have you go on the ground, and if you have an experiment status report ready this rev - we'll copy. If not, we'll copy it next rev. - Over.

Conrad OK. We'll catch you next rev on it.

CSQ Cap Com Very good. We have nothing further and are standing by.

Conrad Stand by, thank you.

END OF TAPE

This is Gemini Control at 79 hours and 32 minutes into the flight of Spacecraft Gemini 5, which is now on its 50th revolution and is approaching the west coast of Africa, and will within a very few moments be starting its 51st revolution over the earth. A while back as the spacecraft passed over the Coastal Sentry Quebec, we played back to you a voice tape taken over that tracking ship. This tape, however, did not include a late comment from the Coastal Sentry Quebec spacecraft communicator. In talking to command pilot Gordon Cooper he did say, "Gordo, we saw on this last pass." And Gordo's reply was, "Great! Did it look very bright in the sunlight?" And the answer was, "Affirmative. It was bright." After that, the spacecraft passed over the Hawaiian tracking station and we had another voice communication with command pilot Gordon Cooper, and at this time we will play you that taped voice communication between the Hawaiian tracking station and Gemini 5.

Hawaii Cap Com Gemini 5, Hawaii Cap Com. . All systems are green.
We're copying your dump. We have an onboard map
up-date for you.

Cooper Roger. Go ahead.

Hawaii Cap Com Roger. The title is map 221502, longitude 71 east,
rev 51. The star is the same time under remarks,
011012.

Cooper OK, fine. Thank you.

Hawaii Cap Com Roger.

Cooper Hawaii, Gemini 5. Could you give us the g.m.t.
time hack, please?

Hawaii Cap Com Roger. I'll give you a hack at 211400.

This is Gemini Control at 80 hours and 2 minutes into the flight of spacecraft Gemini V which is now on its 51st revolution over the earth and is approaching the southern tip of the African Continent. At this time in the Mission Control Center, we still do not have our updated status report. Flight Director Eugene Kranz is in the process of accumulating all the up to date data that he will need in order to give the crew an updated report on how the flight looks from the ground. On the next pass over the Rose Knot Victor, our tracking ship off the West Coast of Peru, we will have also from the astronauts a report on experiments that they have accomplished during the last 24 hours, and at that time we will give you a rundown on this experiment report. This is Gemini Control at 80 hours and 3 minutes into the flight mission.

END OF TAPE

This is Gemini Control, at 80 hours and 32 minutes into the flight of spacecraft Gemini V which is now on its 51st revolution over the earth and is passing over the Coastal Sentry Quebec, our tracking ship located in the Pacific south of the Japanese Islands. We have a report from our Flight Surgeon, Dr. Dwayne Catterson, he said that, thus far, the crew sounds fine and appears to be in very good physical condition, and that is from the data being received here on the ground. The Command Pilot has had an average of 5 hours of sleep a day for the first 3 days, the Pilot, Pete Conrad, $6\frac{1}{2}$ hours average. The water intake of both men is very closely following the national average, which is 6 pounds of water per man per day. We have not, as yet, had an opportunity to update the spacecraft from the ground which is the usual procedure and we are waiting a good pass over one of the tracking stations and at that time our Flight Director, Eugene Kranz, will give them an update on all the spacecraft systems as they look from the ground. This is Gemini Control at 80 hours and 33 minutes into the flight.

END OF TAPE

Conrad The islands look real clear today. We can see Honolulu
real well. Can see Kilo down here on Hawaii.

Hawaii Cap Com You sound like a tourist.

Conrad Boy, it's really a nice day down there isn't it?

Hawaii Cap Com I wouldn't know. I never get a chance to get out.

Conrad Me neither.

Hawaii Cap Com Touche.

END OF TAPE

This is Gemini Control at 81 hours and 32 minutes into the flight of Spacecraft Gemini 5, which is now on its fifty-second revolution over the earth and is just approaching the southern tip of Africa. About ten minutes ago, as the spacecraft passed over the Rose Knot Victor, our tracking ship off the west coast of Peru, Pilot Pete Conrad, on instructions on a time mark from the Rose Knot Victor's spacecraft communicator, purged his fuel cells; and this was successfully completed. He was advised that there will be a medical data pass by the pilot over Hawaii which will be coming up shortly, and he also reported that Command Pilot Gordon Cooper is asleep at this time. This is Gemini Control.

END OF TAPE

This is Gemini Control at 82 hours and 2 minutes into the mission of spacecraft Gemini V which is now on its 52nd revolution over the earth and is coming up over the Coastal Sentry Quebec, our tracking ship located in the Pacific Ocean, somewhat south of Japan. This has been a very quiet flight since 2:00 p.m. when the white shift team of controllers came aboard. We have upcoming a medical data pass from the pilot Pete Conrad who is awake and this will take place over the Hawaiian tracking station about 10 minutes from now. At this time also command pilot Gordon Cooper is asleep. Here in the Mission Control Center we were just visited by our flight director no. 1, Christopher Columbus Kraft, who came in and spent a few minutes talking to his relief flight director, Gene Kranz, now on duty in control of this flight. From the mannerisms and actions of Chris as he chatted with Kranz, obviously he is very pleased at the way this flight is going. This is Gemini Control.

END OF TAPE

This is Gemini Control at 82 hours and 32 minutes into our flight of the Gemini 5 spacecraft which is now on its 52nd revolution over the earth and is passing over the mid-Pacific on its way toward the Rose Knot Victor tracking ship located off the west coast of South America. We are told by our flight director, Gene Kranz, that approximately 40 pounds of oams fuel is required to complete the remainder of the 8 day flight plan based on present calculations. Flight director Kranz states there is sufficient fuel aboard to accomplish all the planned experiments and complete the mission. We also have a report from our recovery run that the U. S. S. McKenzie, a destroyer assigned to the recovery forces in the west Pacific landing area, reports sighting the Gemini 5 spacecraft for approximately 15 minutes during the 49th revolution. The time of sighting was from 1935 hours to 1950 hours Greenwich Mean Time. The ship reported that the Gemini 5 spacecraft was traveling in a northeasterly direction at a fast speed and it had the magnitude of a planet. Here in Mission Control Center our flight controllers are taking their evening coffee breaks, and some of them are getting ready for their evening meals. We will now play back for you the taped voice conversation between Gemini spacecraft 5 and our Hawaiian tracking station made just a few minutes ago. This is Gemini Control.

Hawaii Cap Com The people back in Houston would like a little information on your sleep and on Gordo's sleep. Did he go to sleep right after our last Hawaii pass?

Conrad He's sort of been cat-napping. He had a good long - really he had about an hour's long sleep period very deep on this last orbit.

Hawaii Cap Com Is he asleep right now?

Conrad Yep.

Hawaii Cap Com Allright. And how long was your nap?

Conrad I slept about an hour and a half.

Hawaii Cap Com One and a half hour's pretty good sleep?

Conrad Yeah, I don't remember anything.

Hawaii Cap Com Okay. Fine. Hawaii station out.

Conrad Okay, Hawaii surgeon. Let me give you a status on these meals. We finally got them straightened out. I just ate meal 3B at 220000.

Hawaii Cap Com That's 3B at 220000.

Conrad Now we've used up all the 3 day meals; we've used up all the 2 day meals; and we ate the 2 packages that were in the footwell. And we have all the first day's meals plus all the food in the left stowage box to go.

Hawaii Cap Com Okay. Now I copy that you used up all the 3 day meals, all of 2 day meals, 2 packages in the footwell, and you still have to go all the first day's meal and all the food in the left stowage box. That right?

Conrad That's right.

END OF TAPE

This is Gemini Control at 83 hours and 2 minutes into our mission. Spacecraft Gemini 5 is now passing over the south Atlantic coming up on the east coast of Africa. This is Gemini Control voice testing 1 2 3 4 5 - 5 4 3 2 1 Gemini Control testing. This is Gemini Control. We are now 83 hours and 5 minutes into the flight of spacecraft Gemini 5 which has just recently started its 53rd revolution over the earth and at the present time is approaching the east coast of Africa. About 10 minutes ago while the spacecraft was over the Rose Knot Victor, our tracking ship located off the west coast of Peru, pilot Pete Conrad was engaged in a series of experiments measuring radiation and making photographs of various objects in space and on the ground. Command pilot Gordon Cooper is still in his sleep period. After completing the experiments, Pete Conrad is scheduled to eat another meal. Everything in our flight appears to be normal and we expect that we will have an updated medical report during our next voice broadcast. This is Gemini Control.

END OF TAPE

This is Gemini Control at 84 hours and 4 minutes into the flight of spacecraft Gemini V, which is now on its 53rd revolution over the earth and has just passed over the Canton Island tracking station. In voice conversation with the Canton Island station, the voice of our spacecraft communicator Buzz Aldrin here in Mission Control Center was remoted. Pilot Pete Conrad discussed several of the experiments that have been carried on during the past 6 hours. He gave a food report which has our surgeons quite elated. It was a good food report. We will get some additional details on that later. He was also asked how his beard feels after 4 days in space without shaving and his comment was very short. He said, "Oh, not so bad." At the present time the spacecraft is moving southward and shortly will pass just south of the Rose Knot Victor, our tracking ship located off the west of Peru, and we are not sure at this time whether they will get within voice range of that station. This is Gemini Control at 84 minutes -- 84 hours and 5 minutes into the flight.

END OF TAPE

This is Gemini Control. We are now 84 hours and 32 minutes into the flight mission of spacecraft Gemini V which is now on its 54th revolution over the earth, having started that revolution a few minutes ago. At the present time the spacecraft has moved off the east coast of Africa in the south Atlantic and is -- the east coast of South America in the south Atlantic and is moving toward the African continent. Everything aboard the spacecraft appears to be a go condition at this time. The pilots have reported that -- pilot Pete Conrad has reported that they have no discomforts aboard. Our flight surgeon says everything on this flight appears to be first-rate at this time. We are in a very slack period of flight. There is very little activity. We do have a medical pass coming up over the Coastal Sentry Quebec in approximately 40 minutes and we have some very routine tests, division tests, that are also scheduled to be handled shortly. At this time the spacecraft is apparently going to be updated. We will have a briefing of the spacecraft crew. We have not yet come to that briefing period, and when we do we will be able to give you a good status report on the flight at that moment. This is Gemini Control at 84 hours and 33 minutes into the mission of Gemini V.

END OF TAPE

This is Gemini Control at 84 hours and 45 minutes into the mission of spacecraft Gemini V, which is now on its 54th revolution and has just approached the east coast of Africa. We have a food, water, and sleep report from our flight surgeon, Dr. Duane Catterson. He said the astronauts have been eating their meals regularly and are not at all behind on the food intake. He said their water intake is adequate and very close to the predicted levels made before this flight. He said the sleep was adequate. He reported that both astronauts are in good physical shape and are in condition to keep up with this mission. The medical equipment onboard, he said, is all in good working order and the pilots have reported that they are comfortable. Astronaut Gordon Cooper with 84 hours and 46 minutes of space flight on this trip has now rolled up more hours in space than any other human being. He had accumulated 34 hours and 20 minutes during his flight in the Faith 7 Mercury spacecraft in 1963. His total now is about 119 hours and 7 minutes. This is Gemini Control.

END OF TAPE

This is Gemini Control at 84 hours and 45 minutes into the flight of spacecraft Gemini V, which is now on its 54th revolution over the earth and is approaching the east coast of Africa. We have a medical report at this time from our flight surgeon, Dr. Duane Catterson. He reports that the astronauts' food intake is very good. They have been eating meals regularly and are not at all behind on food intake. He reports their water consumption is adequate and close to predicted levels. He said, also, sleep is adequate. He concluded by saying they are in good physical shape and are in condition to keep up this mission. The medical equipment aboard is all in good working order and the pilots report they are comfortable. Astronaut Gordon Cooper, with 84 hours and 46 minutes of space flight on this trip has now rolled up more hours in space than any other human being. He had accumulated 34 hours and 20 minutes during his flight in the Faith 7 Mercury spacecraft in 1963. His total now, spaceflight hours, is more than 119 hours and 7 minutes. This is Gemini Control

END OF TAPE

This is Gemini Control. We are at 85 hours and 2 minutes into the flight of spacecraft Gemini V, which is now passing over the continent of Asia. At this time command pilot Gordon Cooper will have a rather busy period while his partner, pilot Pete Conrad, will soon have a sleep period. Scheduled upcoming over the Coastal Sentry Quebec, our tracking ship located off the coast of the ocean south of Japan, actually off the Asian coast south of Japan, we will have a medical data pass and then command pilot Cooper will perform a purge of the fuel cells and he then will engage in some vision tests designated as 8. This is the ability to detect and recognize ground objects. Pilot Pete Conrad, as we said, is due to start his sleep period. In addition, command pilot Gordon Cooper is due to have another meal. There are several other tests that will be slated and we will give you the details on them as they are performed. This is Gemini Control at 85 hours and 3 minutes into the mission. All seems to be going well and our flight controllers are beginning to awaken a little bit from their coffee and lunch breaks here in the Control Center, and with these tests slated aboard the spacecraft, activity here is picking up a little. This is Gemini Control.

END OF TAPE

This is Gemini Control at 85 hours and 32 minutes into the flight of spacecraft Gemini V, which is now on its 54th revolution over the earth, passing over the Canton Island tracking station in the mid-Pacific. At the present time our spacecraft communicator here in Mission Control Center, Buzz Aldrin, remoting his voice through the Canton Island tracking station, is updating the flight plan for the benefit of command pilot Gordon Cooper. We should have a report on that updated plan with our next transmission. About 10 minutes ago, as the spacecraft passed over the Coastal Sentry Quebec, that station, or that tracking ship, passed on to the spacecraft V flight crew a Go from the ground station. At that time also, they took a medical pass type 1 on the command pilot. That consists of a temperature, a blood pressure, a 30-minute exercise period by the pilot, followed by a second blood pressure reading. Cooper gave a report on his water consumption since the start of this flight and said he has had 20 pounds and 8 ounces of water. He also passed on to Coastal Sentry Quebec some of the results of vision tests that he had made. At that time the Coastal Sentry Quebec also updated the spacecraft star map and Cooper ended the conversation reporting that everything is fine in spacecraft Gemini V. This is Gemini Control.

END OF TAPE

This is Gemini Control. We are at 86 hours and 2 minutes into the flight of spacecraft Gemini V which has just about a few minutes ago started its 55th revolution over the earth. At the present time it is passing over central South America. During a voice conversation with the Rose Knot Victor, our tracking ship located off the west coast of Peru, some instructions were passed to the spacecraft crew relating to maneuvers to be performed in the next coming revolutions. One of these maneuvers will be a pitch-up maneuver which is somewhat reminiscent of the old Immelmann maneuver performed by aircraft. The purpose of this maneuver is for terminal maneuvers during reentry that will be coming in the Gemini program and it enables the pilot to position their spacecraft with a pitch-up maneuver to keep the various stars in view which will orient them on their reentry attempt. This is Gemini Control. Here in the control room we are getting some visitors. Happen to be the blue team of flight controllers who are filtering in and we are about ready for another shift change here, and we are estimating a press briefing at approximately 11:30 p.m. in the Gemini News Center with flight director Gene Kranz, Dr. Duane Catterson, Henry Stephenson, our Guidance and Navigation Control Officer, and Buzz Aldrin, astronaut Buzz Aldrin, our spacecraft communicator. This is Gemini Control at 86 hours and 3 minutes into the flight of Gemini V.

END OF TAPE

This is Gemini Control at 86 hours and 32 minutes into the flight of spacecraft Gemini V which is now on its 55th revolution over the earth and is now passing over the continent of Asia. According to our flight plan we will soon make contact with the Coastal Sentry Quebec, our tracking ship located in the Pacific Ocean and at that time our command pilot Gordon Cooper will conduct a cabin lighting survey. This is a measurement of light that filters into the spacecraft in -- he will check the lighting -- the lighting that filters into the spacecraft in various portions of the spacecraft. He will use a photometer to do this lighting survey. At this time our pilot, Pete Conrad, is asleep. Here in Mission Control in Houston, the NASA Mission Control Center, our flight controllers are concluding the briefing of the blue team of flight controllers which will take over direction of this flight at 11:00 p.m., central standard time. At this time the spacecraft, its pilots, and Mission Control are all going well. This is Gemini Control.

END OF TAPE

This is Gemini Control, 87 hours and 2 minutes after lift-off. Gemini V, now at the start of its -- running toward the end, I should say, of its 55th revolution, is now over the south-central Pacific, and nearing acquisition by the tracking ship Rose Knot, which will occur some 23 minutes from now. Here in Mission Control, the blue team of flight controllers led by flight director John Hodge, is settling down for the early morning owl shift, usually a rather quiet uneventful period when station contacts are infrequent and there is little air-to-ground transmission. This is Gemini Control.

END OF TAPE

This is Gemini Control, 88 hours 32 minutes after lift-off. Gemini V, now midway through its 50th revolution, is crossing over the northeast coast of Australia in the southwest Pacific, and will be acquired by the tracking ship Rose Knot in 27 minutes. There are no special flight plan activities or medical data checks to be run during the pass over the Rose Knot. Pilot Conrad presumably is still asleep at this time. This is Gemini Control.

END OF TAPE

This is Gemini Control, 89 hours and 2 minutes after lift-off. Gemini V is now in acquisition by the tracking ship Rose Knot off the coast of Peru. In 19 minutes the Canary Island tracking station should acquire the spacecraft. This is the first station contact since the Canary Island pass early in this, the 56th revolution. Gemini V was Go on the ground at Canary station. This is Gemini Control.

END OF TAPE

This is Gemini Control, 89 hours 32 minutes after lift-off. Gemini V is now over the Mediterranean shore, North Africa, one-fourth of the way into the 57th revolution. The spacecraft looked good on telemetry readouts aboard the tracking ship Rose Knot toward the end of the 56th revolution. Since this was the last pass by Gemini V over the Rose Knot for several revolutions, flight director John Hodge released the flight controllers aboard the ship for the night after the spacecraft communicator reported loss of signal. During the recent pass over the Canary Island station, command pilot Cooper passed down to the Canary spacecraft communicator the onboard readouts of the fuel cell reactant supply system, namely, oxygen 90 percent, quantity remaining at 110 pounds per square inch, and hydrogen 70 percent, quantity remaining at 770 pounds per square inch. A delayed-time telemetry tape was also played back by Cooper to the Canary station. The next station to contact Gemini V will be the Carnarvon station 27 minutes from now. This is Gemini Control.

END OF TAPE

This is Gemini Control 90 hours and 2 minutes after lift-off. Gemini V is now crossing the northwest coast of Australia midway through the 57th revolution. The Carnarvon station and the low-elevation angle on the spacecraft during this pass, something like 1.8 degrees, and the pass lasted only 2 minutes and 6 seconds. However, no attempt was made by the Carnarvon station to contact Gemini V spacecraft. This is Gemini Control.

END OF TAPE

This is Gemini Control, 90 hours 32 minutes after lift-off. Gemini V, now nearing the end of the 57th revolution, is now crossing the equator just west of Guayaquil, Ecuador. There has been no contact with Gemini V since the Canary Islands pass earlier in this revolution. Here in Mission Control it is rather quiet since at this stage in the mission, actually every 24 hours the orbits tend to shift away from the belt of tracking stations around the world, so that there are only one or two stations in each revolution. Coming up on the next Canary Islands pass the crew will be given updates for planned landing areas for revolutions 60 through 64. This is Gemini Control.

END OF TAPE

This is Gemini Control 91 hours and 2 minutes after liftoff. Gemini 5 is now passing to the eastward of the Canary Island tracking station. Pilot Conrad is scheduled to be awakened and briefed by Cooper when they come to the Carnarvon station in Australia. The pilot will then eat and command pilot will take a cap nap about the time Gemini reaches Carnarvon. Canary spacecraft communicator Keith Kundel passed up to Gemini 5 updates for planned landing areas in the 60th through the 64th revolution. Canary's report said Gemini 5 is go on the ground. This is Gemini Control.

END OF TAPE

This is Gemini Control 91 hours 32 minutes after liftoff. Gemini 5 spacecraft any moment now will be acquired by tracking station at Carnarvon, Australia. Carnarvon is scheduled according to the flight plan here on the projection screen in Mission Control to update Gemini 5 flight plan items for the day following. That is, for the rest of today. Command pilot Cooper is scheduled to take a nap. Pilot Conrad is scheduled to have one of the - I guess - probably meal B, for day 3, following this pass. This is Gemini Control.

END OF TAPE

This is Gemini Control, 92 hours and 2 minutes after lift-off. Gemini V spacecraft presently is over the central Pacific coming up across Mexico in the next few minutes. We have now the listing of some of the experiments that were updated to the spacecraft from the Carnarvon station. I'll run through these as briefly as possible. There are approximately 4 runs of the surface photography experiment in which 4 photos will be made of each object. The first one is at 5:55 central time, the next is 6:08 central time, the next at 6:24, the next at 9:04 central time, and the last one at 10:51 central time. The visual acuity experiment will be run over Laredo at 7:23 this morning. The radiometric measurement -- infrared measurements, that is, will be run at 7:15 with a reading taken of the star Sigma Sagittarius, otherwise called At 7:56 a radiometric measurement will be made of a sled run at the Holloman Test Range near White Sands, New Mexico. Cloud top spectrometer measurements will be made of thunder storms over southern Florida at 10:37 a.m., central standard time. Following this group of experiments, along with other operational checks that are included in the flight plan update, the spacecraft will be powered down at approximately 11:00 a.m., central standard time. We have now a tape of the air-to-ground transmissions between the Carnarvon station and Gemini V spacecraft. Let's hear that tape now.

Carnarvon Cap Com Gemini V, Carnarvon Cap Com.

Conrad Go ahead Carnarvon.

Carnarvon Cap Com Roger. We got a long flight plan update for you.

Conrad Ready to copy you.

Carnarvon Cap Com platform. By the way, all of these are to put update. 11 00 00. Remarks, power up. Item 2, platform, 11 25 00. Remarks, aline SEF. Next item, power up 11 40 00. Remarks, rate gyros and computer on. Next item, bio-med recorders 11 51 00. Remarks, number 2 on number 1 off. Next item, D-6, delta 6, 11 55 55, sequence number 134, mode number 08. Remarks, pitch down 30, yaw 0, speed 60. Next item, D-6, delta 6, 12 08 13, sequence number 067, mode number 08. Remarks, pitch down 30, yaw . . 11, speed 125. How we going so far?

Conrad Got it.

Carnarvon Cap Com OK. Next, delta 6, 12 24 02, sequence 091 mode number 08. Pitch down 30, yaw right 2, speed 60. Next item, platform 13 00 00. Remarks, aline SEF. Next item, S-8, D-13, 13 23 39, sequence no. 03. Remarks, pitch down 30, yaw right 22. Next item; D-6, delta 6,

13 58 50, sequence no. 089, mode no. 19, pitch down 30, yaw right 1, speed 1000. S-4, S dot 4. How's it going?

Conrad

Got it.

Carnarvon Cap Com

OK, next item. D-4 D-7, 14 15 00, sequence no. 410 Charlie. Next item, platform 14 30 00.

Remarks, aline SEF. Next item D-4 D-7, 14 56 50, sequence no. 4 24 alpha, mode no. 08, pitch down 30, yaw left 10, speed 60, test time 14 57 31.

Next item, D-6, delta 6, 15 04 40, sequence no. 134, mode no. 08. Remarks, pitch down 30 yaw 0, speed 125. Next item D-4 D-7, 15 19 00, sequence no. 419. You got everything up to this point?

Conrad

Yeap.

Carnarvon Cap Com

OK, we'll

and make it about one more in.

Platform 15 40 00, Remarks, aline SEF. Next item, D-4 D-7, 16 28 04, sequence 423 Baker, mode no. 08. Remarks, pitch down 29, yaw left 34, speed 60. Do you copy?

Conrad

. have it all.

Carnarvon Cap Com

OK, there's 2 -- 3 more items. I'll give you this one, S-7, 16 37 00, pitch down 90, thunder storms over southern Florida. You copy?

This is Gemini Control 92 hours 32 minutes after liftoff. Gemini 5 is now in acquisition by the Canary Island tracking station during the state side pass just completed over the eastern test range stations. Pilot Conrad reported that the fuel cell hydrogen supply was at 68 percent quantity, and the pressure was holding at 770, 770, pounds per square inch. These are onboard readings. He reported also that his comfort was fine, that the temperature in the cabin was very fine. We have a tape of this state side pass which we'll roll right now.

Houston Cap Com Gemini 5, Gemini 5, Houston Cap Com. Over.

Conrad Hello, Houston, Gemini 5 here.

Houston Cap Com Roger. You look pretty good here on the ground. Are you ready to finish copying the flight plan updates?

Conrad Would you wait just one second. Be right with you.

Houston Cap Com Okay.

Conrad Houston, ready to copy.

Houston Cap Com Roger, I'll pick up where Carnarvon left off, but I may repeat part of the last one. It was S7 at 163700, pitch 90 down, thunderstorms over southern Florida. D6 165125, sequence number 065, mode number 08, pitch 30 down, yaw 32 right, speed 60, power down 170000; rate gyros, computer, and platform off. Did you copy?

Conrad Roger.

Houston Cap Com Okay, did you have a chance to try the second rendezvous illumination test, or did you cancel those out altogether tonight?

Conrad

Let me explain a little bit what our problem was.

After we left the states yesterday we had quite a bit of housekeeping to do, and by the time we got done restowing things, why it was getting pretty late.

Then we got into the HF check and that kept Gordo awake. And then we got into a bunch of things

like that and the next thing we knew neither one of us got any sleep to speak of so we ran out of gas there and we just knocked off everything trying to get some rest.

Cap Com

Ok. That's fine. No problems. I just wondered if you'd tried the second one. We may reschedule but we may not. It depends on the fuel. And do you have any particular questions on the procedures or would you like to look it over for a little longer?

Conrad

Well, later on today why don't you run - well, you can run it by - why don't you run it by me right now and I'll make sure I got it all right.

Cap Com

Ok. We got some other things we'd rather talk to you right now about, particularly since we've still got 24 at least until we try this one again, so we'll update you a little later on that particular test. Ok?

Conrad

Very good.

Cap Com

Did you get a chance when you put the REP out to take any pictures of it?

Conrad

Yeah, I should have it on 16mm and we should have it on

the Hasselblad, and when we put it out we had both the REP and the blanket right together.

Cap Com Ok. Understand. Thank you. Ok, I have a map update for you if you're ready to copy.

Conrad Ok.

Cap Com Ok. The map at the time of 4 days, 11 hours, 38 minutes, 57 seconds, will be 134.6 degrees west.

Conrad Rog. Would you give me the rev and the time again please.

Cap Com Rog. Rev is 59, and the time is the fourth day, 11 38 57.

Conrad Very good. Got it.

Cap Com Ok. And your fuel usage is getting sort-of close. We figure we need about 44 pounds to finish all of the experiments and we have about 45 pounds. So be conservative on that. Ok?

Conrad Yeah. We've been drifting most of the time here in the evening.

Cap Com Ok. That's fine. We find that even during the slow passes when you're not doing anything that you use about two pounds or so. So we'd like to keep it down as much as possible.

Conrad Ok.

Cap Com Ok. Elliott has a discussion on your radar yesterday for you.

Conrad Ok.

See Could you give me a fuel cell hydrogen quantity reading first, Pete?

Conrad Ok, it's 68 percent and 770.

See Roger. They did a considerable computer analysis work yesterday, and I'd like to ask you a couple of questions and then I'll tell you what we're going to do.

 Did you get any analog range indication when you were trying the last radar test.

Conrad Yeah. Gordo said he had range rate and I guess the range scale was packed.

See Roger. And did you try when you were having the problem of reading the range out, did you try going to standby and then back to on.

Conrad No.

See Ok. You probably didn't think about that 'cause you had a lock on light. Ok. The MDIU appears to be ok by ground analysis. They've checked out the various readings and it appears that it's working all right.

 For your information, your first 69 readout any time will be the last previous readout in the rendezvous mode so it Ok. The range readout problem, we think may be due to noise interference from either Jacksonville radar or SPADETS. We plan to have them off the next time we try this. We would like to have - to do another radar test - not today but tomorrow - it'll probably be similar to the one you did yesterday. We'll have to forward information on that to you. We will also include - we'd like you to include taking Questar pictures of the Cape. Now do you feel you can do this both at the

same time. I have indication that you did something like that yesterday, anyway.

Conrad That's correct. We got some pictures of the Cape yesterday. With the Questar during the trend.

See Ok. Well, we would like you to do that again when we do the test and the pictures will be taken when you're directly on boresight and I was concerned about whether you could operate the MDIU and the Questar at the same time.

Conrad Yep.

See Ok. Do you have any other questions about the radar test?

Conrad Nope

See Okeydoke.

Conrad We would like to request that we keep everything to a minimum in the evenings. We, for some reason, are having trouble in sleeping. One guy bothers the other when he's doing anything, is what it amounts to.

See Ok. This would be - this test would be done during the day so I don't think there will be any problem that way.

Conrad We're not concerned about that. We just want to emphasize that it's so darned quiet in the cabin and when one guy is trying to sleep, the other guy does anything, why, it makes quite a bit of noise.

See Roger.

Cap Com Pete, how about if we plan these last, say, five or six

hours before you got the Carnarvan updates as a quiet period? Would that work out for you pretty good?

Conrad Yeah. That's awful late and that's what finally happened. We both fell asleep last night, I guess. or I know I did.

Cap Com Ok. We'll keep it down then. Can you give us a status - on your temperature up there, or your comfort?

Conrad Our comfort's fine and the temperature is fine. I think my M-1 experiement's quit running for good now. I don't know whether it ran out of air, or what. The problem that I had with it before is not the same thing. The valves not making any noise any more. So I think it either ran out of air or just gave up the ghost and quit running.

Cap Com Ok. Fine, Understand.

See You guys are sounding better all the time, Pete. You must like it up there.

Conrad Say again.

See I said you guys are sounding better all the time - you must like it up there.

Conrad Well, we're getting used to it.

See Ok

Flight Gemini 5, this is Houston Flight. Good morning.

Conrad Morning. How are you?

Flight Great. Looks like we're getting ready for another day here. We'll be giving you a Go pretty soon.

Conrad Ok. We're standing by to power up.

Flight Roger. We'll see you.

END OF TAPE

This is Gemini Control 92 hours and 2 minutes after liftoff. We have some fairly late data on the orbital measurements of Gemini 5 flight from some fairly recent tracking data over the eastern test range stations and Canary Islands. The orbit as it now it has a 123.7 statute mile perigee, 189.5 statute mile apogee, and from the time of the tracking measurements it will have a life-time of 14.8 days. The next tracking station to acquire Gemini 5 will be the Carnarvon station in approximately 3 minutes.

This is Gemini Control.

END OF TAPE

Carnarvon Cap Com That's roger. He reported platform powered up at
11 00 00.

Houston Flight Very good.

~~Houston Cap Com~~ Had a delay, Carnarvon Cap Com, wait on this call.

Carnarvon Cap Com We have acquisition.

Carnarvon Cap Com We've got a minute to LOS.

Conrad Gemini V, Roger.

Carnarvon Cap Com Flight, the fuel cell O₂ temperature heat exchanger
has risen 14 degrees AOS.

Houston Flight Roger. The heat exchanger outer temperature, that
shouldn't go up with pressure, that should go down.
Okay, you mean the coolant loop is getting hotter.
Yeah, okay.

Carnarvon Cap Com We've got LOS.

Houston Flight Roger Carnarvon. How did everything look?

Carnarvon Cap Com Looks real good.

Houston Cap Com Carnarvon, AFD.

Carnarvon Cap Com AFD, Carnarvon.

Houston Cap Com Okay, would you recap the first part of your pass. The
voice was down and we couldn't hear you when you were
on air to ground, Chuck.

Carnarvon Cap Com Okay, the first part of the pass was the medical pass
of the Pilot. He -- we got good blood pressures,
water report was 19 pounds 6 ounces. He reports
sleeping 4 hours last night, and I gave him a G.m.t.
time hack and he reported that he powered up the

platform as per the flight plan update, and that's
about it.

Houston Cap Com Roger.

END OF TAPE

This is Gemini Control, 94 hours, 2 minutes after lift-off. Gemini 5 spacecraft presently is in the mid-Atlantic and will be acquired by the Canary Island tracking station in approximately 3 minutes. We have a brief tape of the last, just completed, State-side pass over the Eastern Test Range stations and the Guaymas, Mexico station. Let's hear that tape now.

Houston Cap Com Gemini 5, Houston Cap Com.

Conrad Go ahead, Houston, Gemini 5.

Houston Cap Com Roger. Would you place your OAMS heater circuit breaker to open for ten seconds, please, and then close.

Conrad It's working. We can see the amps on the gauge.

Houston Cap Com Oh, OK. We wanted to check it down here, too. How about your quantity read to ECS O₂ please.

Conrad Say again.

Houston Cap Com Your quantity read to ECS O₂.

Conrad We noticed that the OAMS was reading awful cold.

Houston Cap Com Roger. Did you have any luck with the M-1 when you re-cycled the valve?

Conrad That's negative. I'm afraid it's just flat quit running. Nothing's making any noise anymore.

Houston Cap Com OK, fine. Good try anyway. Could we have a food report from the pilot, please?

Conrad Roger. My last meal was 1-A at 040000.

Houston Cap Com Roger. Understand. Could we have it for the last 24 hours, please? We didn't get it at Canarvon.

Conrad

3-D at 03220000.

Houston Cap Com

Roger. You can turn the ECS O₂ quantity read back, and I have some information on the carrier for your D-6. It will be heading 255 degrees, there will be one destroyer one mile astern.

END OF TAPE

This is Gemini Control, 94 hours 32 minutes after lift-off. Gemini V is presently in the 60th revolution, just passed the Tananarive voice remoting station off the Coast of Africa. The next station which will be in acquisition of Gemini V will be the Carnarvon, Australia tracking station in approximately 8 minutes. This is Gemini Control.

END OF TAPE

Good morning, this is Gemini Control; 95 hours, 2 minutes into the mission. In a recent pass, the command pilot gave us the following medical information: He told us that he had completed meal 3 Charlie, and this was on day 3, yesterday. He had completed meal 3 Charlie, 3 Alpha, and 3 Bravo. He reported for day 4 he had completed meal 1 Alpha. He said his total water intake up to his current revolution had been 20 pounds, 3 ounces. He also reported he just finished 7 good hours of sleep. Capsule communicator Jim McDivitt will attempt to raise Gemini 5 in the next minute or so via the Canton Island station. He plans to tell him to cancel out the Laredo eye chart experiment for this pass across the United States, the reason--bad weather in the Laredo area. The weather this morning from the U. S. Weather Bureau's space flight meteorology group says that weather conditions remain very good for continuing the orbital operations of Gemini 5 for another 2 days, and probably longer. In the west Atlantic landing area, between Florida and Bermuda, skies are partly cloudy with ceilings unlimited most of the time. Winds are less than 10 knots, and waves are not more than 3 feet. Conditions will not change significantly during the next 24 hours. In the east Atlantic area, about 300 miles west of the Canary Islands, skies will be partly cloudy with ceilings around 2000 feet at times. Normal trade winds of about 15 knots and waves of 4 to 5 feet are forecast for early Thursday. In the mid-Pacific area about 500 miles north of Honolulu, skies will be partly cloudy with ceilings of 1500 to 2000 feet and widely scattered showers. Winds will average a little over 15 knots and waves, about 5 feet. In the west Pacific area, about 500 miles southwest of Tokyo, weather conditions

will deteriorate a little as a cold front moves near the north part of the recovery area, so that ceilings will lower to about 1000 feet at times, while rain restricts visibility to about 6 miles, but the south half of that area will continue to have fine weather. Winds through out that area will be only 10 knots and waves 2 to 3 feet. Tropical storm Doreen has taken a turn toward the northwest. It is now centered about 1200 miles southwest of San Diego, and an equal distance east of Hawaii. With continued northwest movement, it should weaken as do most these Pacific storms when they move over cooler water. Hurricane Anna in the central Atlantic is probably out of visual range of the Gemini astronauts. No unusual conditions are noted elsewhere around the world. We have the Canarvon tape ready to play for you, and we'll do so at this time.

Canarvon Cap Com Gemini 5, Canarvon. We have a valid oral temp on the command pilot. Request the pilot to start fuel cell purge. Stand by for Surgeon.

Canarvon Surgeon Gemini 5, Canarvon Surgeon. Standing by for your first blood pressure.

Conrad Roger.

Cooper Commencing hydrogen purge

Conrad On my mark.

Cooper Mark. Purge complete.

Conrad Starting now cell 2 hydrogen purge.

Cooper We just broke another oral ring on the blood pressure...

Canarvon Sugeon Roger. Let's go ahead with the exercise.

Conrad Roger.

Cooper O₂ purge on no. 1 started.

Canarvon Surgeon Roger.

Conrad Exercise started.

Cooper Give me a mark and one minute of purge.

Canarvon Surgeon Roger.

Conrad Exercise complete.

Canarvon Surgeon Roger. We'd like a food report now for the past
24 hours.

Conrad Roger.

Canarvon Surgeon We've had a.... O₂.

Conrad OK.

Cooper OK, food report--say you want all day 3, huh? On
day 3 on command pilot I have 3 Charlie, 3 Abel,
and 3 Bravo.

Canarvon Surgeon Understand. 3 Charlie, 3 Abel, and 3 Bravo.

Cooper That's right. On day 4, here I had one Alpha.

Canarvon Surgeon Roger. Water report?

Cooper Water report, at present I have drunk 20 pounds
and 3 ounces of water.

Canarvon Surgeon Roger. Sleep report?

Cooper Sleep report, I have just finished about 7 hours
of sleep.

Canarvon Surgeon Understand, 7 hours.

Cooper Affirmative.

Canarvon Cap Com Mark. Two minutes on O₂ purge.

Conrad Roger. Second one come in.

Houston Cap Com Canarvon Cap Com, Houston flight.

Canarvon Cap Com Flight, Canarvon.

Houston Cap Com Would query the crew as their need for the platform in doing the D-6 experiments?

Canarvon Cap Com OK. You want to know if they really need the platform for D-6.

Houston Cap Com How they feel about it, yes.

Canarvon Cap Com OK. Gemini 5, Canarvon and flight. We'd like to know if you feel you need the platform for the D-6 experiment.

Conrad I think so. I think it would made it a lot better if we could use it.

Canarvon Cap Com Roger. Say again flight.

Houston Cap Com That's all right. His answer was the one we wanted.

Cooper Hydrogen and O₂ purge complete on sections 1 and 2. Cross over off.

Canarvon Cap Com Roger. Surgeon would like to know about how long you had the oral temp pump in your mouth.

Cooper I guess for a couple of minutes.

Canarvon Cap Com Roger. Could you give us a read out of your ... quantity, pressure, and temp?

Cooper OK, the fuel gauge reads 26 percent, temperature is 61, and the pressure is 13 50.

Canarvon Cap Com Roger. Would you give us a quantity read on fuel cell O₂?

Cooper Want the onboard readings too?

Canarvon Cap Com Roger, fuel cell O₂ and H₂.

Cooper Roger. Fuel cell O₂ 90 percent, 120 psi. Hydrogen, 67 percent, 77.

Canarvon Cap Com Roger. We have nothing else. Standing by.

Cooper Everything's fine.

Canarvon Cap Com Flight, Canarvon. We got all this.

Houston Cap Com Roger.

Gemini Control here again, and while we get this brief Canton tape ready for you, we are happy to report that a bunch of bright-eyed Red Team flight controllers are on their stations, eager for a busy day. Now let's listen to this brief Canton Island pass.

Houston Cap Com Gemini 4, Gemini 4, Houston, over.

Canton Cap Com Gemini 4, Houston is calling you, Gemini 5.

Houston Cap Com Gemini 5, Gemini 5, this is Houston. Gemini 5, Gemini 5, Houston, over.

Cooper Go ahead, Houston. Gemini 5, here.

Houston Cap Com Gemini 5, Houston. Be advised that the weather for your SAD 13 is too bad, and we will have to scrub your SAD 13. We would like to replace it with a D-6.

Cooper Roger. We'll replace the SAD 13 with a D-6.

Houston Cap Com I have some D-6 information here for you, Gemini 5, for a selected target. Are you ready to copy?

Cooper OK. Ready.

Conrad Go ahead, Houston.

Houston Cap Com Roger, Gemini 5, Houston. Be advised that time will be 04132530, sequence 025, mode 19, remarks, pitch down 30, yaw left 8, speed 1 over 1000, F-stop is 4. Your weather is 2 to 3 tenths. Over.

Conrad Roger. 04132530, and 025, a one niner, pitch down 30, yaw left 8, 1 over 1000, and 4.

Houston Cap Com Roger. Good morning to you.

Conrad How are you this morning?

Houston Cap Com Just fine.

Conrad

Houston Cap Com Good.

Cooper Since you switched down, I have every piece of gear in the spacecraft out in my lap.

Houston Cap Com Very, very good. Sounds like old home week.

Cooper Well, it's like any other household chore.

Houston Cap Com Say again.

Cooper Well, it's like any other household chore.

Houston Cap Com Roger.

Gemini Control, here. That bright-eyed capsule communicator, of course, was Jim McDivitt, who slipped back into an earlier flight by calling for Gemini 4. However, he did recover and get the right call sign up there. This is Gemini Control out.

END OF TAPE

This is Gemini Control here, 95 hours 24 minutes. Within the last minute, the Gemini V crew has been passed a go for 77-1, I repeat, they have been given a go for 77-1. Earlier they were told to scrub the Laredo eye chart test this pass and they were given a substitute experiment, a D-6 photographic experiment. The site that they will be shooting on this experiment is England Air Force Base, England Air Force Base at Alexandria, Louisiana, over which they should be right now. This is Gemini Control.

END OF TAPE

This is Gemini Control Houston, 95 hours and 32 minutes. In this pass across the States, Jim McDivitt plays a message that went like this, "Trudy sends her congratulation," Trudy Cooper, of course, his wife on taking the longest time in space record for the United States, also that his two daughters, Cam and Jan, send their best. Gordo came back with a slow, but warm, "Thank you, and please thank them." Later he suggested, he said he had a message for Wally, and he suggested that he throw away the reticle, apparently he is not too happy with it's operation. The window reticle to assist in acquiring various targets on the ground. He suggests that a fine line grease pencil would be much better. At that point, Chris Kraft observed that Gordo sounds like his old self today. A comment based on the fact that he sounds pretty perky and Gordo did confirm that he sounds like his old self because of the basis of his 7 hours of sleep that he had had last night. The crew also received 3 second updates on several D-4, D-7 experiment which is to be performed over Carnarvon next time. They will take another IR sighting on the star, Munki, and they will also perform a high resolution photographic experiment, a D-6 experiment in the area of Tananarive, on the Island of Madagascar. We've got the State side tape ready for you and we will play it for you now.

Guaymas Cap Com Gemini V, Guaymas Cap Com. Turn your TM control switch to the real time at ac-aid position.

Houston Flight Okay, thank you.

Houston Flight TM solid, Guaymas.

Guaymas Cap Com How are you doing up there?

Conrad Fine.

Guaymas Cap Com Okay, you're looking real good on the ground. We'll stand by if you need anything.

Conrad Roger, thank you.

Guaymas Cap Com Intermittent telemetry.

Guaymas Cap Com Very poor telemetry, unable to keep lock on at Guaymas.

Guaymas Cap Com Flight, Guaymas.

Houston Flight Go ahead Guaymas.

Guaymas Cap Com How about if we go back to Command. You are just about to get acquisition at Texas and let you command us on and see what happens.

Houston Flight Okay.

Guaymas Cap Com Gemini V, Guaymas Cap Com.

Conrad Go ahead Guaymas, Gemini V.

Guaymas Cap Com Put your TM control switch back to the command position.

Conrad Okay.

Guaymas Cap Com Flight, Guaymas. We now have good TM again.

Houston Flight Roger.

Houston Cap Com Gemini V, Houston. We have some information for you. I know you are preparing for the D-6, and I'll just read it off to you. You have a go for 77-1 and you will receive some DCS updates during this pass across the States for 62-1, so you'll see your DCS light coming on and going off.

Cooper Okay, fine.

Conrad We're go up here. Do you want the onboard readouts.

Houston Cap Com Yeah, when you get around to it. I think you are getting ready for that D-6.

Conrad Okay, I'll give them to you right now. IA is $8\frac{1}{2}$, 1B is 8.0, 1C is 9.5, 2A is 7, 2B is 6.9, 2C is $8\frac{1}{2}$, and the main bus voltage is 26.0.

Houston Cap Com Roger.

Conrad RCS A is 72 ... RCS B is 68 290, secondary O₂, 54, on the left, 5300 on the right.

Houston Cap Com Roger.

Conrad Say, are you sure this O25 is not under the clouds?

Houston Cap Com Well, there was supposed to be two to three tenths cloud coverage there. Cloud coverage.

Conrad Yeah, maybe in a hole.

Houston Cap Com Yeah, might be.

Conrad It's under the clouds. We'll see if we can find something else going across here.

Houston Cap Com Okay, very good. Listen, I've got some other information for you here. First of all, Gordo, you there? Where else, huh? Gordo, this is Houston, I have a message for you.

Cooper Okay. Go ahead.

Houston Cap Com Trudy says she would like to send her congratulations to you for now having the most time in space. She says that Cam and Jan are fine and that they are all proud of the progress that you and Pete are making, and I'd sort of like to add my congratulations to it also. I'm sure that the Flight Director would too.

Cooper Thank you, tell them all hello.

Houston Cap Com All righty.

Houston Cap Com I have some updates for you on some of your forth coming experiments, the times have changed slightly. If you are ready to copy -- when you are ready to copy, give me a holler here.

Conrad We're moving across the coastline. We are going to try to get one right in here some place.

Houston Cap Com Roger, I'll just stand by and you give me a holler when you are ready.

Cooper I'd like to add right now that I recommend to Wally that he throw this reticle away.

Houston Cap Com Okay, roger.

Cooper The reflecting mirror completely blinds you when you are working in any kind of sunlight.

Houston Cap Com Roger. I'll send him your message.

Cooper Right, I'd use grease pencil on the window.

Houston Cap Com That's a fine line grease pencil isn't it?

Cooper Right. If I had one with me, that's what I'd be using.

Houston Cap Com Okay.

Houston Cap Com Gordo, Chris says you sounds like your old self this morning.

Cooper Yeah, I finally got a good night's sleep.

Houston Cap Com Yeah, I got that, 7 hours. That's cheating.

Cooper Yeah, it sure is. I've sort of been saving up.

Houston Cap Com Rog.

Conrad Okay, I'm ready for the updates.

Houston Cap Com All righty. We have a -- you have an experiment at
14 56 50. This is a D-4, D-7 and the time now has
been changed to 14 56 53. Three seconds later.
Under the -- did you find that one Pete?

Conrad Yeah.

Houston Cap Com Okay. Under the remarks for that particular thing,
the test time has been changed from 14 57 ~~31~~ to
14 57 33.

Conrad Roger.

Houston Cap Com Okay, you have another D-4, D-7 and this one is at
16 28 04. The time on that has been changed to
16 28 07.

Conrad Roger.

Houston Cap Com Okay, now right after that particular experiment, there
is an S-7 and right after that is a D-6. You are really
going to be pressed for time in between the D-4 and the
D-6 with that S-7. So, try to work it through the
left-hand Pilot's window, so that you don't have to
dismantle all of your equipment. We realize that it's
a very time critical there.

Conrad Roger.

Houston Cap Com Gemini V, Houston here again. Did you get the O-ring
fixed in the blood pressure bottle.

Cooper Roger, we got the two new O-rings in.

Houston Cap Com Okay, very good. Have you used any of your blue bags
yet.

Cooper Have we what?

Houston Cap Com What's the blue bag status?

Cooper There is still just one.

Houston Cap Com Very good.

Conrad Just great.

Houston Cap Com Rog.

Houston Cap Com Gemini V, Houston again. We'd like to have you give us a go for your D-4, D-7 at 14 56 53 over Carnarvon if it's possible?

Conrad Roger Houston. Will do.

Houston Cap Com Okay.

Houston Cap Com Just think, you only have 96 hours 23 minutes and 54 seconds until retrofire time.

Conrad Listen, there was a momentous milestone to shift biomed recorders.

Houston Cap Com Roger. You're halfway there.

Conrad You're right.

Houston Cap Com Hey, is your beard getting itchy yet?

Cooper Yeah.

Houston Cap Com Did you take any curlers along to curl it?

Cooper No, but we should have.

Houston Cap Com You can always braid it and tie your mike up with it.

Cooper Right.

Cooper All the sensors are itching a lot worse than the beards.

Houston Cap Com Roger.

Houston Surgeon Gemini V, Gordo, this is the MCC Surgeon. Do you have any other skin reaction around the rest of the skin since we did this cleansing bit?

Cooper

Pete's cuffs, M-1 cuffs are itching him an awful lot.

Houston Surgeon

Okay, we'll talk some later, next rev, about those cuffs. Congrat's, you guys are doing great.

END OF TAPE

Gemini Control, Houston, here; 96 hours 28 minutes into the mission. Due to an apparent mechanical or personnel break down in the commercial television pool facilities, we are not able to play for you right now the Canary, Kano, or Tananarive passes. We are in discussions with the pool on why these passes were missed, and we do not have an explanation for you right now. We do have the Canarvon tape, however, and we'll play that. I want to emphasize, we'll rectify this situation as soon as possible, and we apologize because we cannot give you those earlier passes. We do have the Canarvon tape, and let's play it now.

Conrad Canarvon, Gemini 5.

Canarvon Cap Com Gemini 5, Canarvon.

Conrad Roger. We have a computer to keep the ... light out while we are tracking up here, and.....

Canarvon Cap Com That's all right, leave it there. Are you go for 77 - 1?

Conrad Roger, and we'll be go for D-4, D-7, 424 Alpha.

Canarvon Cap Com Roger.

Conrad We'll give you a call when we're tracking.

Canarvon Cap Com Roger. You're go on the ground for 77 - 1, I'll up-date your TR.

Conrad Thank you. Canarvon, Gemini 5.

Canarvon Cap Com Go ahead.

Conrad Are we just about over ahead of you now?

Canarvon Cap Com In about 30 seconds.

Conrad Roger. Got a good look at Perth.

Canarvon Cap Com Roger.

Conrad And we'll give you a call just the second tracking

starts.

Canarvon Cap Com Roger.

Houston Cap Com That's where he is--just about over the top of
Perth, not over Canarvon. You found that is
correct at MCC, Houston.

Canarvon Cap Com Roger, flight. That time I gave you is the
..... approach, you're south of us.

Conrad. Roger.

END OF TAPE

Gemini Control Houston here, 96 hours 51 minutes. In the last minute the spacecraft has been raised through the California station and we are going to bring you the State side pass. And in the pass, it will include a sled run at Holloman Air Force Base. The pilot's will have their IR sensors on it and they will try to track it across the ground. A little information developing here on the -- which may be of interest on the environmental control system oxygen. We're showing 81.7 percent as a quantity reading. The pressure is 1000 psi, and venting slightly. That system vents at approximately 1000 pounds. Fuel cell oxygen, we show a quantity of 89.5 percent, pressure 140. Fuel cell hydrogen, we have a quantity of 65.6 percent, pressure reading is 353 and venting slightly. That system vents at 350. Let's stand by now as we begin this pass across the States, the spacecraft just -- almost to the coast of Baja, California. Let's cut in live on it.

Cooper ... and he's making the coffee now.

Houston Cap Com Very good, were those scrambled or over?

Cooper Oh, over easy.

Houston Cap Com Okay. How is he as a cook?

Conrad He's a pretty good cook.

Houston Cap Com Is he, how's he as an eater?

Conrad But good! But good!

Houston Cap Com Roger.

Conrad Hey, we got Catalina and Sacramento out there, but it looks like San Diego and Los Angeles are covered in.

Houston Cap Com Roger. How's the weather out West? Is it pretty good?

Conrad Yeah, all across the country it is. The cloud deck is

right up, you know, from the Pacific right up to the Coast.

Houston Cap Com Right. How about in the Southeastern U.S. Is it pretty clear over there, or is it clouded over?

Cooper It's fairly cloudy over there. It looks like probably it will break up, it's not heavy clouds.

Houston Cap Com Okay, I've got some information for your D-6 on the carriers, as soon as you complete D-4, D-7.

Cooper Okay.

Cooper We're coming right in over the Gulf of California now.

Houston Cap Com Roger, our plotboard agrees with you.

Cooper Very good.

Conrad Okay, we've got White Sands in sight from here.

Houston Cap Com Okay, very good. I was just going to ask you to give me a call when you had it.

Conrad Yeah.

Houston Cap Com We're still going right along with the test on the ground.

Cooper Very good.

Houston Cap Com We're still go on the ground.

Cooper We're tracking now.

Houston Cap Com Okay, very good. We got about 23 seconds.

Houston Cap Com 15.

Cooper Roger, right on it.

Houston Cap Com Very good.

Houston Cap Com 2, 1, go.

Houston Cap Com Ignition.

Conrad sighted on the track.

Cooper There it goes. We see it.

Houston Cap Com Very good, very good. Burnout now.

Cooper We're tracking right on it.

Houston Cap Com Very good.

Houston Cap Com Are there any comments on that particular one?

Cooper Roger, we could see it very good and we were right on the money I think tracking that so.

Houston Cap Com Okay, how about the water breaking?

Cooper We could see something. I don't know whether it was water or smoke. It probably was water down at the end.

Houston Cap Com Okay, fine. Are you ready for this short briefing on your D-6.

Cooper Roger, go ahead.

Houston Cap Com Okay, the weather in the area is two-tenths to three-tenths cloud coverage and it is getting better and it's completely clear right over the carrier.

Cooper Roger, very good.

Houston Cap Com The carrier will be going in a very large circle with the DD about 1500 yards behind right in the wake, trying to make the wake so you can see it.

Conrad I hope we can find them this time. We've been looking for them enough times.

Houston Cap Com I thought an old Navy guy like you could find a carrier.

Conrad I had the wake yesterday, but then we lost it so that we couldn't track.

Houston Cap Com Roger.

Cooper The weather hasn't been too good over the water there.

Houston Cap Com I gather that from your comments yesterday. Today it looks like it should be pretty good there.

Cooper I hope so.

Conrad sun angle. (broken)

Houston Cap Com Okay.

Conrad Hey, could you get a reading for me for how many pictures they have on this 3401 film.

Houston Cap Com That's 3401?

Conrad That's right, I've taken quite a few pictures now and I'm afraid I might run out.

Houston Cap Com Okay.

Cooper Passing north of Lake Charles. New Orleans. We have the Cape in sight.

Houston Cap Com Very good. You got 70 frames, 7 zero frames on that 3401.

Conrad Okay. We've got plenty left.

Houston Cap Com Okay.

Gemini Control here. The count on the OSO at the Cape is T-16 minutes and counting. The spacecraft will not attempt to track it. It will pass over it ahead of the planned launch time. Let's stand by for any additional conservation.

HoustonCCap Com Gemini V, Houston. Do you have your primary scanners on now?

Cooper Negative. We are on secondary.

Houston Cap Com Could you switch over to primary for a couple of minutes here. We'd like to get some data on them.

Cooper Pete, go to primary.

Cooper That's a good idea.

Houston Cap Com Say again please?

Cooper Say, that's a good idea. We've been wanting somebody to check that one.

Houston Cap Com Okay.

Cooper We have a few cloud problems.

Houston Cap Com Okay.

Cooper We'll give her a go here.

Houston Cap Com Say again.

Cooper I say, we'll give it a go.

Houston Cap Com Okay.

Conrad Dead ahead, 12 o'clock. I can see her returning bigger than heck.

Conrad We got her in sight this time.

Houston Cap Com Roger, I knew an old carrier pilot could find the Carrier.

Cooper Very good.

Conrad Okay, we got it this time.

Houston Cap Com Okay, well according to my figures here, you must

have just about over him when you saw it, was that right?

Conrad Let's see, I say we were about 50 degree pitch.

Cooper We got him a fair ways out.

Houston Cap Com Well, very good. Okay, you did get some pictures of him that time then?

Conrad Correct, 6 of them.

Houston Cap Com Very good.

Cooper This 35-mm camera is still jamming, incidentally. Pete's.. had about 4 jams now over the last couple of days on it, and I did too.

Houston Cap Com Okay, have you been able to clear the jam each time without any trouble?

Cooper] Well we manage to get it clear, but it still isn't all right.

Houston Cap Com Okay.

Houston Cap Com Gemini V, Houston here. If you are through with that experiment, it would be nice if you could come up to around 000 attitude or either BEF or SEF so that we could get some data off your scanner.

Cooper Okay, swinging it around to -- I'll be in SEF momentarily.

Houston Cap Com Okay.

Houston Cap Com Gemini V, Houston. Could you read what was on the Carrier?

Conrad I didn't -- I could see the carrier, but not that well. It took up, about, maybe, a tenth of the picture frame.

Houston Cap Com Okay, I think we are getting LOS.

Gemini Control here. We apparently either have had, or are about to have loss of signal out there. The count on the OSO at the Cape is T-8 minutes and counting. The reference to the carrier you heard Jim McDivitt commend Pete Conrad for the ability of an old carrier pilot to acquire, or find the ship. Here comes one more bit of conversation. Let's go back to it.

Conrad Go ahead Houston.

Houston Cap Com I just wondered if we still had voice contact with you. Did you ever get SEF or any level attitude?

Conrad We're coming there very slowly right now. We're just staying in Pulse, we don't want to use too much fuel.

Houston Cap Com Rog. Okay, if we don't get this in over this pass, when you are over one of the stations that has TM, it might be a good idea to sort of fly across it at 00 attitude, just so the horizon scanners are locked on so we can get about a minutes worth of data.

Conrad Okay, will do.

Cooper You should have gotten some data as we crossed the Coast of Florida, we were still 000 there.

Houston Cap Com Okay, very good.

Cooper Okay, we're approaching 000 now.

Houston Cap Com Okay, very good.

Gemini Control.here. That seems to have wrapped up the transmissions from the spacecraft. They are unusually clear today. The spacecraft is out almost to the 40th parallel and it was still in very sharp communication. back here with our Mission Control Center in Houston. You heard a reference to -- you heard Jim McDivitt commend Pete Conrad on his ability as an old carrier pilot to find the ship. By coincidence, the first time Pete Conrad saw that particular ship, the Lake Champlain, was back in June of 1955. Pete made his first carrier landing, his very first carrier landing, on the Lake Champlain, in June of 1955. About 4 days from now, I'm sure he will hope to make a very close approach to that same ship. We have the Hawaii tape which preceeded the State side pass wrapped up for you and we will play it for you now.

Hawaii Cap Com Gemini V, Hawaii Cap Com.

Cooper Go ahead Hawaii, Gemini V.

Hawaii Cap Com Roger, we've got you green. We'd like you to do a UHF type 6 over the States, we'd also like a 424 alpha go from you.

Cooper Roger, Gemini. 424 alpha go and I understand we are to do an UHF 6 over the States.

Hawaii Cap Com Roger.

Cooper Roger.

Houston Flight 424 alpha is also on scheduled and counting.

Hawaii Cap Com Roger. 424 alpha is on schedule and counting.

Cooper Roger, very good.

Cooper We're on schedule too.

Hawaii Cap Com Roger.

Cooper And counting.

END OF TAPE

Gemini Control, Houston here; 97 hours, 15 minutes, and the count on the Thor-Delta vehicle at the Cape to launch OSO is 2 minutes, 2 minutes and counting. T-90 seconds on OSO. Spacecraft now coming up over the coast of Africa. It'll just miss the shoulder of Africa and swing down across the ocean. T-30 seconds and counting on OSO. 20 seconds. 5 seconds, 2, 1, 0, ignition. We've got a lift-off, and it looks nice at the Cape. Roll program's in, the pitch program is in. They tell us from that Cape that the roll looks very good and the burn entirely normal. I've got an unofficial lift-off time of 17 minutes after the hour. On OSO they are trying for a roughly 350 mile circular orbit, 600 pound satellite. Seventeen minutes after the hour was the beginning of the OSO window which extended to 3 minutes after the next hour, from 10:17 Cape time to 11:03 Eastern Standard Time. They'll try to get an azimuth on the OSO. Stand by one, please. We have second stage ignition on that Thor-Delta vehicle. We are advised the azimuth they are flying is 108 degrees, which would carry them just to the south, the south and above the Gemini spacecraft. Correction on the launch azimuth, 100 degrees, instead of 108. The Gemini vehicle, you recall, was launched in an azimuth of 72 degrees. Cape says it's entirely happy with the Delta performance. We are standing by for a word on the burn out. The Gemini crew, meanwhile, is running small end forward, and they are going through a series of platform alignment checks that are on board, guidance system. Their flight plan is free otherwise between now and Hawaii, when we have a medical data pass. Stand by. They have second stage burn out on the OSO, and now a short burn on the solid

third stage. T plus 5 minutes, 40 seconds into the mission, and everything looks fine on OSO. The second stage burn was entirely nominal, the Cape reports. We won't know until Canarvon whether the crew could observe OSO. It's entirely possible that they could have yawed around 180 degrees and tried to look for it. Gemini Control, here again. The Cape advises the Thor-Delta rocket boosting OSO is now in its long coast period between second stage burn out and third stage ignition. They're estimating third stage burn should occur shortly after ten minutes of elapsed time, and burn out very close to 10 minutes, 31 seconds elapsed time. We'll come back to you when we get confirmation on that burn out. This is Gemini Control out at 97 hours, 26 minutes into the Gemini 5 mission.

END OF TAPE

Gemini Control, here; 97 hours, 29 minutes into the mission. The Cape confirms that the third stage did spin up properly, did burn properly, and has cut off. They are considering OSO in orbit. We do not have any orbital numbers for you, but we should have them in a very few minutes.

This is Gemini Control.

END OF TAPE

Gemini Control Houston; 98 hours, 12 minutes. We have a brief Gemini-Canarvon conversation for you. Over the Canarvon station we had some operational communications difficulties. The conversation was very weak at the start, and then it dropped off to nothing. The voice control people are investigating, and I think have it fixed up. Our straight communications with the Canarvon station remain good, but something happened to the remoting arrangement through the Canarvon station where we lost power, and the voice signal was not completely audible, which requires to have the Canarvon station replay their tape on the ground back to us here in Houston. A period of relative quiet and relaxation after that busy State-side pass has gone on here now for the last 30 minutes. A number of flight controllers enjoying their 77 - 1 cigars which the flight directors passed out, and we're coming up on another State-side pass here very shortly. Hawaii should acquire within two to three minutes. We've got the Canarvon tape now, as brief as it is, and we'll play it for you now.

Canarvon Cap Com Gemini 5, Canarvon Cap Com.

Cooper, Gemini 5.

Canarvon Cap Com Roger. Be advised you have a medical pass on the pilot at Hawaii, their acquisition time is 16 hours, 15 minutes.

Cooper Roger. 16 15.

Canarvon Cap Com Roger and are you go for sequence 423 Baker?

Cooper Roger.....

Canarvon Cap Com

Cooper Station control said that I lined everything up
OO very carefully, set the primary scanner on, and

it pitched us down to about 30 to 35 degrees,.... the light came on, but it.....Every time that I applied, took it off the line...and started a slow rate upwards through the horizon, put the scanner back on, and it would stop the upward rate but would slowly start pitching us back down.to almost vertical.

That was the extent of the Canarvon situation. We have not yet acquired Hawaii; we'll come back to you when we do. You heard Gordon Cooper reference that primary scanner, apparently it's still a little bit out of phase, as we reported yesterday. On the eastern edge of this State-side pass, the crew will perform an S-7 experiment. This involves a spectrograph reading of the cloud tops, getting an infrared signature of the cloud tops, and also some associated photography. The experiment is one from the weather bureau, the principal experimenter is Doctor Faud Saidey. Doctor Saidey is a Syrian national, and he is working with our weather bureau on this experiment. This is Gemini Control.

END OF TAPE

This is Gemini Control Houston, 98 hours 27 minutes. The -- our orbital elements today are 123.5 statute miles perigee, our apogee, 189.2 miles, statute miles. The period of our revolution is 95.5 miles. During the recent Hawaii pass, Pete Conrad, reported he drank a total of 20 pounds 12 ounces of water. He reported he completed eating meal 1 Bravo and he said he had 6 hours of sleep last night. Spacecraft is coming up on the Coast of California at this time. And out at Vandenburg Air Force Base we have just had ignition at 28 minutes 16 seconds approximately out. Pete Conrad says they have got it in sight, a Minuteman lifting off from Vandenburg. Pete came back within a second or two of ignition and said, "We've got it now." Reports from the ground say it's looking good. They are tracking it right on course. We've had no comment from the spacecraft in the past minute, 50 seconds into the flight of the Minuteman. It's still going good. Second stage has ignited on time. Pete Conrad reported just before ignition that he could see an airplane in the area. Our Air Force observer reports that the missile is on time and on the line. T+180 seconds. Correction, T+120 seconds. Cooper reported very briefly that he was having a little trouble operating the spacecraft in the Pulse Mode, that is, keeping a precise track on it. Texas station has acquired the spacecraft. Jim McDivitt has just congratulated the crew on setting a new American record for time in flight. Very appropriate that Jim should do it. It broke his record. Let's cut in on that conversation live.

Houston Cap Com Gulp is one ounce?

Cooper That's right. We calibrated our gulps and our gulps are approximately 25 cc's, or approximately 1 ounce.

Houston Cap Com Okay, fine. And you are assuming that the amount of water you put in the food is what's called for on the bag, is that correct?

Cooper That's right.

Houston Cap Com Okay, well we need this pretty accurately because we are using it to check on the fuel cell outputs.

Cooper Okay.

Houston Cap Com Are these gulps any larger than what you are using on the ground, Gordo?

Conrad I think we are probably being underestimating slightly.

Houston Cap Com You think you are drinking a little more than you are estimating. Is that right?

Conrad I sort of think so.

Cooper I kind of think so. I think the gulps may be a little larger then they are on the ground.

Houston Cap Com Okay, because of the high pressure?

Cooper Affirmed.

Houston Cap Com Okay, we suspected that might be it. We just wanted to make sure.

Houston Cap Com When you do this S-7, we'd like to know in which direction you did it, and where abouts the particular clouds were with respect to Florida so we can get the airplane to take pictures of the same clouds?

Conrad Okay. We'll do it going in the orbital plane, I think it's the best, and we'll pitch down 90.

Houston Cap Com Okay, after you have taken the pictures, let us know

where it was and we will dispatch the aircraft to that particular spot.

Conrad

Okay.

Houston Cap Com

I'd also like to remind you that we want to purge both fuel cells before you power down and when you do power down, we'd like to have you turn your horizon scanners off also. We'd like to get in a pretty low power configuration.

Conrad

Okay.

Houston Cap Com

The weather for your next D-6 still looks pretty good.

Conrad

Okay.

Houston Cap Com

I might add here that you had some pretty good explanations on why your IVI's were driving in the windows yesterday, so I wouldn't worry about that any longer. I could give you the explanation if you are interested.

Cooper

Okay, we'll get it from you later.

Houston Cap Com

Okay.

Conrad

We're passing right over the top of you right now.

Houston Cap Com

Just a second and I'll run out.

Houston Cap Com

You know, we ought to put a glass ceiling in here so we could look up and see you.

Conrad

Yeah.

Houston Cap Com

How's the weather down here today?

Conrad

I see some thunderstorms back there.

Houston Cap Com

Roger.

Conrad There is a big one down there by Lake Charles.

This is Gemini Control here. There is a break in the conversation. Apparently the crew could see the Minuteman quite visibly. The lift-off time was 28 minutes and 7 seconds after the hour, but they have also apparently had some difficulty in actually tracking it and following it with their IR sensor. That is at least a quick surface indication. We may have some more discussion on that. The spacecraft right now is down over Florida.

Conrad Hey, Jim, the only thunderstorm in Florida are right at the very tip and we are just about to pass over them now. They are all the way down by Key West.

Houston Cap Com Okay, very good.

Houston Cap Com Gemini V, Houston.

Conrad Go ahead.

Houston Cap Com I was talking to Jane this morning Pete, and she said to tell you that everything is going along fine. She is having a nice time on the ground, and hopes you are having a nice time in the air.

Conrad Thank you very much.

Houston Cap Com Gemini V, Houston. We have another 3 or 4 minutes, we'll just stand by in case you've got anything.

Conrad Okay, we've got the thunderstorm pictures and we've just taken some more photographs of Cuba.

Houston Cap Com Okay.

Cooper Just scenic shots.

Houston Cap Com Gemini V, Houston. What is the thunderstorm situation across the Southern United States?

Conrad Well, there was some -- I didn't see them in the Western part because we were recovering from, we were turned around BEF and followed the California tracking, but just as we came over Galveston there, I saw one just north of Houston and then one about Lake Charles, and then it gets better. There were none in Florida until you got all the way down to Key West.

Houston Cap Com Roger. How are they out over the ocean. Are there any at all out there?

Conrad There's quite a few out here today.

Houston Cap Com Okay.

Houston Surgeon Gemini V, this is Houston Surgeon. Pete can you tell me something about this interference with sleep that you were reporting last night. Is this due to the fact that Gordo's activities are requiring him to move around in the spacecraft. Is it just the movement of the other guy?

Conrad The HF check where you're transmitting every five minutes for an hour and a half doesn't help you when you are sleeping.

Houston Surgeon Okay, you're hearing everything he says. Are you wearing the ear muffs?

Cooper ... helmet, but actually during the fuel cell purging where both guys have to participate during one or the others sleep periods.

Houston Surgeon Okay, so it's still scheduling as well as ...

Cooper I can't purge the fuel cells on my side, so I have to wake Pete up to purge the fuel cell because I can't reach the switches there. And I can't put out the platform without crawling all over him with the swizzle stick, and lighting the light on his side and things like that that just cause a lot of interference.

Houston Surgeon Okay, fine Gordo. We'll try and do some talking down here with Jerry and see if we can't wiggle this flight plan around some.

Houston Cap Com Gemini V, Houston.

Cooper Go ahead Houston, Gemini V.

Houston Cap Com What do you think about the HF check from the ground to the spacecraft. Do you think that would bother you. I don't imagine it would, would it.

Cooper No, that wouldn't bother.

Houston Cap Com Okay. I'll try to go over some of these things with the flight planners before I leave today Gordo.

Cooper. Okay, I think they are just kind of loading down some of those night periods with things that are really preventing sleep pretty much.

Houston Cap Com Okay, I think I know what you mean about the swizzle stick and getting the IGS power on and those kind of things.

Cooper Rog.

Conrad Yeah, that old platform business last night kept us both going for a while.

Houston Cap Com What did you have to platform up for last night?

Conrad We never did get it up. We decided it against it, but talking to Houston about it last night, what they wanted us to do, we had 4 communications and one thing or another and that took up about an hour or so.

Houston Cap Com Oh, rog. I know what you are talking about. Okay.

Houston Flight We'll get that straightened out Pete.

Houston Cap Com We're working on that now Pete.

Conrad Okay.

Gemini Control here, during this lull we should explain the reference to the swizzle stick as Gordon Cooper called it. The -- this is a stick about 2 feet long. It's usable from either side of the spacecraft and has a little crook on the end of it, a little L shaped affair and it's used for flicking on and off the switches that are slightly out of reach. Let's stand by for any additional conversation. We're way down on the edge of the Antigua zone right now. The flight plan on down across the Atlantic calls for the crew to do another D-6 experiment over in the Ascension area. Let's stand by. I think we are out of range, but we'll make a check.

END OF TAPE

Gemini Control, here again. We're out of the acquisition range now. We do have the Hawaii tape which preceeded the State-side pass, and then we'll come back with the beginning of the State-side pass, which includes the McDivitt message to the crew. Let's roll the Hawaii tape now.

Hawaii Cap Com Gemini 5, Hawaii Cap Com. We copy your oral temp, you can start your blood pressure.

Conrad OK.

Hawaii Surgeon Gemini 5, this is Hawaii Surgeon. Is your cuff at full scale? Now we have a good blood pressure, give me a mark when you are going to begin your exercise.

Conrad Roger. Mark.

Hawaii Cap Com Systems are go, flight.

Houston Cap Com Roger, Hawaii.

Hawaii Surgeon Stand by, 5, Hawaii Surgeon. Full scaling you. Now we have good blood pressure. Standing by for your water and sleep report.

Conrad Roger, and I have drunk 20 pounds, 12 ounces; last meal was 1 Bravo and 04100000; and I got about 6 hours of sleep last night.

Hawaii Surgeon You had 6 hours of sleep last night?

Conrad Yes.

Hawaii Surgeon Roger. OK, fine, thank you, Gemini 5. Hawaii Surgeon out.

Hawaii Cap Com Gemini 5, Hawaii Cap Com.

Conrad Go ahead, Hawaii Cap Com.

Hawaii Cap Com Roger. We'd like to know your status for 423 Bravo.
Conrad We're go on 423 Bravo.
Hawaii Cap Com Roger. We'll continue the count, however there's
high, cirrus clouds that may move into the area.
Conrad OK. Now would you place your OAMS heater switch
to off.
Conrad Roger. OAMS heater switch is off.
Houston Cap Com Circuit breaker.
Hawaii Cap Com We're still counting on time.
Conrad OK.
Hawaii Cap Com Now we are copying FM FM plate.
Houston Cap Com Roger.

That concludes the Hawaii portion, and now we want to play for you the
tape of the minute-man launch sequence. At the end of it is the
McDivitt congratulatory message on beating his record, the total
time in a Gemini spacecraft. Let's roll the west coast portion of
that State-side pass now, please.

Houston Cap Com Gemini 5, Gemini 5, Houston. Over.
Conrad Go ahead, Houston, Gemini 5.
Houston Cap Com Roger. We're still going along fine on 423 Bravo.
I'll give you a little weather report here. There's
a low deck of scattered clouds at about 500 feet
that extends down to the southwest, and its probably
the stuff blowing in off the water. There's a
high deck of broken Cirrus at about 35,000 feet,

but both of these decks are clearing off, though, so there's at least a 50 percent chance of it being clear.

Conrad Roger. We're in position, ready to go.

Houston Cap Com OK. We're still on schedule, though, Gemini 5.

Conrad Roger. I can see an airplane to the south of us down there contrailing just bigger than heck.

Houston Cap Com Roger. One minute.

Conrad Roger. Weather's going to be good, right?

Houston Cap Com Understand the weather's going to be good.

Conrad Right. Breaking up for a nice one.

Houston Cap Com OK. We've got about 4 seconds.

Conrad Roger.

Houston Cap Com Ignition. It's on its way.

Conrad We have him in sight!

Houston Cap Com Very good. He's tracking right on our course.

Second stage.

Conrad Say again.

Houston Cap Com Second stage.

Conrad You can't do this in pulse mode.

Houston Cap Com You can't do this in pulse, is that right?

Conrad That's right.

Houston Cap Com Have you completed your tracking yet?

Conrad No, we never did get on him, we never caught up with him once we saw him.

Houston Cap Com

OK. You now have flown for 98 hours and 31 minutes and 30 seconds, and let me be the first to congratulate you on setting a new American record for manned spacecraft.

Conrad

Thank you.

END OF TAPE

.....it's the Antigua discussion. Just after Ascension, the crew is to perform a section 1 and section 2 hydrogen and oxygen purge. Following that they were to power the spacecraft down, turn off their rate gyros, turn off their computer, as well as their platform. Darkness will begin on this rev at approximately the Tananarive station, which they should meet in about 2 to 3 minutes. At Canarvon they will receive some planned up-dates for the 65-4 area and other planned landing areas, should they be needed between the 65-4, and on through the 70th revolution. Following that, Gordon Cooper is to have some lunch between Canarvon and the States. There'll be a medical data pass over Hawaii, and just after the Canarvon pass, the Pilot Pete Conrad is to catch a nap. This is Gemini Control in Houston.

END OF TAPE

Gemini Control, Houston; 99 hours, 32 minutes. We have the Canarvon tape, the station we just left about a minute ago, ready to play for you at this time.

Canarvon Cap Com Gemini 5, Canarvon Cap Com.

Conrad Roger, Canarvon. Gemini 5 reading you loud and clear. Over.

Canarvon Cap Com Roger. I have a flight plan up-date when you are ready to copy.

Conrad Roger. Wait one. OK. Ready to copy.

Canarvon Cap Com Title, HF 180000, sequence number 04, remarks, end thrust at 192500. This is HF test starting right after Hawaii's LOS. Next item, is S-7, CL-7, 1 niner, 44, 02; sequence number 03, pitch down niner 0. Next item is the OAMS 7210 niner 50; sequence number 03; pitch down, 90. Storm, Doreen. Did you copy?

Conrad Roger. We got those three.

Canarvon Cap Com OK. That's all the flight plan up-date. There will be a medical pass on the command pilot over Hawaii. The AOS time is 1751.

Conrad OK.

Canarvon Cap Com OK, and next we've got a PLA up-date, when you are ready to copy.

Conrad Stand by. Ready to copy.

Houston Cap Com Roger. Area 65 - 4, 204518; 12 plus 10; 18 plus 06;
 area 66 - 3, 220246; 14 plus 21; 1 niner plus
 31; area 67 - 3, 23 plus 38 plus 00; 13 plus 09;
 18 plus 41; area 68 - 3, this is at this date, 01,
 12, 44; 12 plus 16; 18 plus 00; area 6 niner delta,
 02 05 5 niner; 20 plus 14; 25 plus 03; area 70
 delta, 03 38 43; 1 niner plus 31; 24 plus 13;
 weather is good in all areas except 66-3 and 67-3,
 weather is marginal. Do you copy?

Conrad Had a ball.

Houston Cap Com Very good.

END OF TAPE

Gemini Control here. Within the last minute the Hawaii station has raised the Gemini V spacecraft. Command Pilot, Gordon Cooper, is going through a blood pressure check and the other -- the oral temperature, and the other things associated with the Medical Data pass. We should have some conversation with the spacecraft and the ground. Let's cut in now and find out what is going on.

Cooper ..fine now.

Houston Flight Hawaii, send the C-band off command at 55.

Hawaii Cap Com Roger, Flight.

Houston Flight As planned. And you can ask him if he turned it off.

Hawaii Cap Com Roger.

Cooper Ending exercise now.

Hawaii Surgeon Roger.

Hawaii Surgeon Gemini V, Hawaii Surgeon, your cuff is full scale.

Houston Flight Hawaii. How do you know the beacon is not on?

Hawaii Cap Com Okay, they are reporting they are losing track, and they lost it, and they regained it again, that's happened twice through the pass.

Houston Flight Oh, so the beacon is okay. They tracked from the Wheeling. We got the data.

Hawaii Surgeon We have a good blood pressure, standing by for your water and sleep report.

Hawaii Cap Com I've commanded C-band off Flight.

Houston Flight Rog.

Hawaii Surgeon ... sleep report.

Cooper No sleep since last night when I reported on that.
The water report, I have drunk 21 pounds and 13 ounces
of water. I'm just in the process of eating now, which
I have added to that.

Hawaii Surgeon Are you in the process of eating now. What meal would
that be?

Cooper Just a second here. It's 1 bravo.

Hawaii Surgeon I understand. 21 pounds 13 ounces, no sleep since
last night, and eating 1 bravo.

Cooper Roger.

Hawaii Surgeon Thank you, Hawaii Surgeon out.

Hawaii Cap Com Gemini V, Hawaii Cap Com. On this HF test, we're
going to stop it for about 10 minutes over the States
and will resume at 18 14 00.

Cooper Roger.

Hawaii Cap Com Hawaii has LOS.

Houston Flight Roger.

In that pass you heard Cooper confirm that he had had no additional
sleep since last night. His water intake indicated he drank approximately
1 pound from about 2 revolutions ago at the Canarys when he had a report
of slightly over 20 pounds, now reporting 21 pounds 13 ounces. I believe
he said he was eating meal 1 bravo on day 4. That meal includes beef and
vegetables, potato salad, cheese sandwiches, strawberry cubes and an orange
drink for a total calorie intake of 931 calories. This is Gemini Control
Houston at 99 hours 57 minutes into the mission.

END OF TAPE

Gemini Control in Houston here, 100 hours even, 100 hours even in the mission. The California station should acquire momentarily and as we swing down across Mexico on this pass, the crew will perform a number of HF tests. They will orient the spacecraft around in various positions and test their various antenna using the HF bandwidth instead of the usual UHF mode. Of some interest may be the fact that during the earlier State side activity in the two previous passes with much of the equipment powered up, we were pulling an amperage load of 41, 41 amps. We are now powered back down. We are pulling a load now of about 18.6 amps, and the spacecraft will probably remain in this configuration. We are standing by here, we should have contact by either our California or Guaymas station momentarily and when we do we will play it for you immediately. There is the telemetry solid signal from the Guaymas communicator.

Guaymas Cap Com How are you doing?

Cooper Roger, doing fine.

Guaymas Cap Com Okay, you're looking good here on the ground. I'd like a readout of your OAMS propellant quantity, pressure, and temperature please.

Cooper Roger, OAMS propellant quantity is 20 percent, temperature is 75 degrees, and pressure is 1350.

Guaymas Cap Com Say again the pressure.

Cooper 1350.

Guaymas Cap Com Roger. I copied. I thank you. Standing by if you need anything else.

Cooper Okay, fine. Thank you.

Guaymas Cap Com Flight, Guaymas. Did you copy.

Conrad For your information we read Hawaii on HF all the way to your call.

Guaymas Cap Com Very good.

Guaymas Cap Com Flight, Guaymas.

Houston Flight Go ahead.

Guaymas Cap Com On the ground readout on that temperature, there is a correction on our part. That was 76 degrees instead of 68.

Houston Flight Roger.

Houston Cap Com Gemini V, Gemini V, Houston.

Cooper Roger Houston, Gemini V. Go ahead.

Houston Cap Com Roger, I have some information here for you. that I would like to read up to you. One is a map and star updates. Ready to copy?

Cooper Wait one second here. We will be.

Houston Cap Com Okay. While you are getting ready, I've got some questions. Can you tell me if the Command Pilot is doing the M-9 with the left or right eyepiece.

Cooper With the right eyepiece.

Houston Cap Com Okay, I'd also like to know if each pilot is getting 5 readings when you do the M-9 experiment?

Cooper Negative. We've just been taking 1 reading.

Houston Cap Com Okay.

Cooper They have always been the same.

Houston Cap Com Okay, have you been able to get successive S-6 pictures on successive passes over the same particular piece of weather?

Cooper Two or three times when we have.

Houston Cap Com Very good. Can you give us a film and voice tape report of what you have taken and what you have left?

Cooper We've got lots of voice tapes here. We haven't used much of any of them. We are on our fifth voice cartridge now on tape.

Houston Cap Com You say you have 10 left?

Cooper We have 18 left.

Houston Cap Com 18 left, roger.

Cooper We have used two full 70-mm film magazines plus $\frac{1}{2}$ or about one-third of another one.

Conrad On the D-6 pictures on the 3401 we probably have taken 50 or 60 pictures now, I'll have to add it up. But that is the only one that we would be low on. The 8443, we've got plenty left, probably 55 pictures left, and on the 3401, I think we have probably 50 pictures left.

Houston Cap Com Okay. And you have taken 2 full 70 mm film packs plus one-third of another one.

Cooper That's correct. On experiment S-1 we are still on our first 16-mm camera package. We've got three of those left.

Houston Cap Com Okay, you've got three 16-mm packs left?

Cooper We've got a question for you.

Houston Cap Com Okay.

Cooper We're in the middle of this HF test now. Now the write up of this HF test calls to be stabilized in Horizon Scan.

Houston Cap Com Roger.

Cooper Is it desirable to use our last horizon scanner for an HF test like this?

Houston Cap Com No you can go ahead and just hold your attitude using the pulse mode, Gordo. And just make sure that you stay near the zero roll and zero pitch attitude.

Cooper Okay.

Houston Cap Com Gemini V, we'd also like to have you keep your power level down so that we don't use up too much of the reactants.

Cooper Roger. We're completely powered down now.

Houston Cap Com Okay, very good.

Conrad We're ready for the map update.

Houston Cap Com Okay, if you're ready for the map update, here it comes. Time for both the map and star update is 06 17 36 22. The map update is 134.0 degrees east, for rev 63. Star update is 0 16 41.

Conrad on the star update.

Houston Cap Com Okay, Dr. Berry would like to talk to you for a couple of minutes.

Houston Surgeon Gordo and Pete, you've had 100 hours, 11 minutes, and 35 seconds now, and we'd just like to tell you that all the data that we are seeing down here looks really excellent. All the rates and pressures are still well within normal ranges, no abnormal changes at all. We think you are doing beautifully as far as water intake is concerned. We're delighted with this. The food seems to be going okay too. And we do feel that you still need to keep pushing on that sleep and I guess you feel the same way and we are going to try and help with that. Are you still comfortable as far as the spacecraft is concerned. Are you having any more times when you feel cool?

Cooper Every time we power down at night it gets pretty cool in here, but we'll overcome some night.

Houston Surgeon Very good. Pete, we have checked on this cuff business and we feel that the - that you have just run out of gas, so what we'd like for you to do is to turn that switch off and then if you desire, at your option depending on how much bother you are having with the cuffs, you may try and remove those

cuffs if you think you can do it. It's up to you.

Conrad

Okay, I'm going to try and take them off because when the heat load is up, I sweat around the legs and that makes them itch right there very badly and as long as it's not running, it's not doing me any good.

Houston Surgeon

That's right Pete, and I think you ought to, if you can, feel free to cut through the cuffs if you want. Just be careful when you are using the scissors there.

Conrad

Okay. Well, I've been out of the harness once already and back in again, so I can get them off, all right, I'm not worried about that.

Houston Surgeon

Okay, fine. Let's try that. I think you ought to get them off. It will be a lot more comfortable. It's still going to give good data Pete, because we feel that with the , it's still going to give us comparison with the 4 days that we had.

Conrad

Sorry it's run out of air. We heard it running two or three times back at -- during test time and we told them about it, but nobody seemed to pay much attention to it, so I guess it's been leaking down.

Houston Surgeon

Oh, boy. We need a new gas supply. You might breathe on it a while.

Cooper Are you still there Chuck?

Houston Surgeon Yes sir.

Cooper One of the problems on the sleep cycle is that some of our sleep cycles have been falling during the normal East Coast daytime cycle.

Houston Surgeon Rog. Okay.

Cooper ... to be sleepy then, we are a little bit, you know, you just don't go to sleep very easy then, whereas during the Cape night cycle, we always seem to get sleepy.

Houston Surgeon Okay, are you doing better with these nap times now Gordo as the days go on. Is it easier to go to sleep during the nap periods or not?

Cooper Oh, I don't think we've really had trouble with the nap periods. We each power down for those periods for 30 or 40 minutes several times during the day and get a little naps. But for the long sleep period, we really had trouble getting these lengthy sleeps.

Houston Surgeon Okay, we'll check these times out pretty carefully with Jerry, both Jim and I want to do that after the shift today and we'll try and get something worked out on this flight plan and on the sleep times with him.

Cooper That's the big thing on the longest sleep period. There is too many interferences where you just

couldn't settle down and sleep there.

Houston Surgeon I think we've got that squared away now Gordo.

Cooper Okay, real fine.

Houston Surgeon Good trip.

Conrad Yeah, we've felt real good up here. No problems.

Houston Surgeon Very good. We are going to keep it that way for the rest of the time then.

Cooper We've felt lots better since we've got our suits off, but ..

Houston Surgeon Which suits??????????

Houston Surgeon You want to check my pulse rate?

Houston Cap Com Gordo, tell Pete about Enith.

Cooper Yeah.

This is Gemini Control here. I think that wraps up the -- that particular pass. Gordon Cooper's remark, of course, about they feel a lot more comfortable with out their suits brought Dr. Berry right up out of his chair. We are sure it was in jest, but it elevated his pulse rate. This is Gemini Control Houston at 100 hours 18 minutes into the mission.

END OF TAPE

This is Gemini Control Houston here, 100 hours, 32 minutes into the mission. We've had no contact since our last report. Things here in the control center generally are just like the spacecraft, in a rather powered down configuration. Flight director's been out for the last 15 to 20 minutes on a lunch break. Other controllers comparing notes with their counterparts in the back rooms, generally a period of relative inactivity. Flight plan calls for Pete Conrad to be taking a nap and Gordon Cooper should have completed a meal by now. He is between Ascension and Tanarieve. Tanarieve, the night side on this pass beginning some ten minutes prior to Tanarieve. This is Gemini Control Houston.

END OF TAPE

Gemini Control at 101 hours and 2 minutes into the mission. Word from the Cape on the OSO launch is that a premature burn of the third stage was the cause of trouble and that satellite never became a satellite. It fell into the south Atlantic Ocean. Johannesburg station advised that they never acquired So presumably OSO did not achieve orbit. The two numbers on the Minuteman launch this past revolution, the time of the Minuteman liftoff was 28 minutes seven seconds after the hour, that would be 10:28, 07 Houston time. The time of closest approach of the Minuteman and the Gemini 5 spacecraft was 10:28 46 Central Standard Time. The closest approach, from a slant range point of view, was 182 statute miles, that would have been with the missile slightly above the spacecraft and just about abreast of each other on a longitudinal basis. The spacecraft was flying a ground track that carried it 139 miles south of the Minuteman Silo at Vandenberg.

We've had a long quiet period here with the spacecraft now over the East Indies coming out across the Pacific and no contact since at the states.

This is Gemini Control.

END OF TAPE

Cooper Hawaii, Gemini 5 here.

Hawaii Cap Com Go ahead.

Cooper Roger. We completed all the experiments that were assigned for today, except one portion of 4-10 Charlie, D-4, D-7, 4-10 Charlie.

Hawaii Cap Com Roger.

Cooperthat were deleted by the time we got there for one reason or another, due to weather.

Hawaii Cap Com OK.

Cooper All that were assigned we completed.

Hawaii Cap Com Did you copy, flight?

Houston Cap Com Affirmative.

Hawaii Cap Com OK, we're copying the dump off the one, I got the TX in.

Houston Cap Com Roger.

END OF TAPE

Gemini Control, Houston here; 101 hours, 49 minutes into the mission. Spacecraft is beginning right now its 65th revolution, crossing the 80th parallel on the northwest coast of South America. We have about 3 minutes of conversation, intermittent conversation, with the Guaymas station. The principal point of discussion is Gordo is having to look back at his log to check on the time of a certain experiment, a certain experiment and whether he had done it. The reference is to a D-6 experiment, a picture taken of the Lake Champlain taken earlier today. Here's the tape now.

Guaymas Cap Com Gemini 5, Guaymas Cap Com.

Cooper Go ahead, Guaymas, Gemini 5.

Guaymas Cap Com OK, you're looking good here on the ground. How are you doing?

Cooper Roger. Doing fine. Everything's green here.

Guaymas Cap Com OK. I would like the amount of time left on your D-4, D-7 experiment recorder.

Cooper Stand by just one minute.

Guaymas Cap Com OK. While he's getting that, flight, I'm getting a reading on my delayed time transmitter, but I believe the carrier's still out.

Cooper Roger. Sixteen minute's time last night.

Guaymas Cap Com Did you say sixteen minutes, Gordo?

Cooper That's affirmative.

Guaymas Cap Com OK. Did you complete D-6 134-08? And the timer on that was 04115555.

Cooper What was the time on that again?

Guaymas Cap Com OK. The support date 115555.

Cooper Let me look it up in our D-6 log. I have it here that we did do, but let me double check it.

Guaymas Cap Com OK.

Cooper Negative, we didn't complete that one.

Guaymas Cap Com OK, thanks very much. Flight, did you copy all that?

Houston Cap Com Affirmative.

Guaymas Cap Com OK. OK. We'll stand by here if you need anything else.

Cooper Real fine, we did get 134 though, 150448. Report that.

Guaymas Cap Com Report that. All righty.

Houston Cap Com What did he say there, Ed?

Guaymas Cap Com He said he did 134, and the time on that though was on the fourth day...(interrupted by Cooper)

Cooper ...we got it today.

Guaymas Cap Com Say again.

Cooper We didn't get that from the first time, but we did get it today.

Guaymas Cap Com OK. He said he didn't get it the first time, but he got it today at 04150440, and he completed it.

Houston Cap Com Say that time again, Ed.

Guaymas Cap Com Fourth day, 1504 40.

Houston Cap Com Roger. Thank you.

Guaymas Cap Com OK.

END OF TAPE

Gemini Control Houston, 102 hours 2 minutes into the mission. We have no new status to report on the spacecraft itself, out of contact since the swing down the West Coast of North America. Into the Control Center has come the White Team. They look all rested and ready, and the normal kind of discussion that takes place at every shift change is going on now with the new operators sitting down and comparing notes for at least a half hour before they assume control of the Console. This is Gemini Control Houston.

END OF TAPE

This is Gemini Control. We are now 102 hours and 34 minutes into the flight of spacecraft Gemini 5 which, at the present time, is just coming up over approximately Singapore, and very shortly will pass over the Coastal Sentry Quebec, our tracking ship located in the Pacific Ocean. At the present time here in the Control Center, we are in the midst of a shift change with the White Team of flight controllers ready to take over from Christopher Kraft, our flight director, and his team of Red flight controllers. We have a message to pass to the spacecraft as it comes over the Coastal Sentry Quebec. That message was initiated by the Weather Bureau people who are interested in having our astronauts take some visual observations of a tropical storm named Doreen and located approximately 1500 miles east of Hawaii. We have located this storm on a weather map and are feeding this weather map to you in our news center. The press conference that is normally held at approximately 3:30 each day will be held at about the same time today, and very shortly now Flight Director Chris Kraft and several of his flight controllers will move over to the press center. This is Gemini Control at 102 hours, 36 minutes into the flight of spacecraft Gemini 5.

END OF TAPE

This is Gemini Control at 103 hours 2 minutes into the flight of spacecraft Gemini V which at the present time is on it's 65th revolution over the earth and now passing over the Hawaiian tracking station. A few minutes ago as the spacecraft Gemini V passed over the Coastal Sentry Quebec, our tracking ship located in the Pacific Ocean, the Flight Surgeon, one of the Flight Surgeons aboard the Coastal Sentry Quebec was taking a turn on deck and he reported that he saw Gemini V in the sky passing over that station. He said the visual sighting was superb. He said it was rather thrilling to see the spacecraft come over. They also reported that the Command Pilot, Gordon Cooper's voice was excellent, his pulse and respiration were very regular. We will now play back the voice communication between the Coastal Sentry Quebec tracking ship and spacecraft Gemini V.

CSQ Cap Com Gemini V, CSQ Cap Com.

Cooper Roger CSQ, Gemini V.

CSQ Cap Com Roger. We are go on the ground and have some information on tropical storm that I'd like you to look at, over.

Cooper Okay, we're go here. Just a second. Let me get my pencil I'll copy.

Cooper Okay, I'm ready to copy.

CSQ Cap Com Roger, Weather Bureau estimates tropical storm Doreen 200 nautical miles left of course SEE. Closest approach time 21 09 19. We'd like to know the time and distance to the eye of the storm.

Would you estimate that you are in closest
approach, over.

Cooper Okay, the time and estimated distance to the eye
of the storm. Is that affirmative?

CSQ Cap Com Roger. We'd like the time plus the estimated
distance.

Cooper Okay, fine.

Cooper Okay, I've got this.

CSQ Cap Com CSQ.

END OF TAPE

This is Gemini Control. We are at 103 hours and 32 minutes into the flight of spacecraft Gemini 5 which is now passing over South America on its 66th revolution over the earth. Just a few minutes ago spacecraft Gemini 5 passed over the Rose Knot Victor, our tracking ship off the west coast of Peru, and at that time we were in voice communication with Command Pilot Gordon Cooper, and as they passed over, the RKV (Rose Knot Victor) reported all systems in the spacecraft looked good from that tracking ship. They also told Cooper the weather in the Pacific, where the ship is located, is good, clear, and calm. Command Pilot Cooper gave a report on tropical storm Doreen which he said he could see approximately 250 miles off his flight path. We will now play back that tape of the voice communication between the Rose Knot Victor and Gemini 5.

RKV Cap Com Gemini 5, RKV Cap Com.

Cooper Understand, RKV, Gemini 5.

RKV Cap Com Roger. We'd like to get your estimate of the time of post approach and the distance to the eye of the storm Doreen.

Cooper Roger. ...eye of the storm was 250 nautical miles to the left of our course; at the time of post approach it was 210 niner 30.

RKV Cap Com Roger. I copied.

Cooper And pass on to MCC that I got .7 photographs and Weather Bureau photographs of it. Over.

RKV Cap Com Roger. Understand. Gemini 5, we would like for you to cycle through your quantity read switch. You don't need to give us a spacecraft read out.

Cooper OK.

RKV Cap Com Hold it on this one for a moment.

Cooper All right.

RKV Cap Com OK. Fuel cell hydrogen. Gemini 5, you may turn the switch to the off position. Thank you.

Cooper Roger.

RKV Cap Com All systems look real good here on the ground. We have nothing else for you this pass. We'll be standing by.

Cooper OK, fine. How's your weather been?

RKV Cap Com It looks real good down here. The seas are real calm and clear.

Cooper Good.

RKV Cap Com Houston flight, RKV Cap Com.

Houston Cap Com Go, RKV.

RKV Cap Com All systems look real good here on the ground. The quantity read out percent full scale, ECS O₂, 83.8; fuel cell O₂, 85.8; fuel cell H₂, 5 minor point 8. This is percent full scale.

Houston Cap Com Roger, copy.

END OF TAPE

This is Gemini Control. We are at 104 hours 2 minutes into the flight of Gemini spacecraft 5, which is now passing over the Indian Ocean on it's 66th revolution over the earth. We have had no voice communication with the spacecraft since it passed over the Rose Knot Victor tracking ship about 30 minutes ago. At that time, all the spacecraft systems were looking good and the flight crew was in excellent condition. At this time, Command Pilot Gordon Cooper is scheduled to be in a sleep period. Pilot Pete Conrad, according to the flight plan will shortly be conducting a cabin lighting survey as he approaches the Hawaiian tracking station. This is Gemini Control.

END OF TAPE

This is Gemini Control at 104 hours and 32 minutes into our mission, the flight of spacecraft Gemini V, which at this time is coming up over the Hawaiian Tracking Station in the Pacific Ocean. We have had very little voice communication with the spacecraft for approximately the past 1 hour and we have nothing new to report from the spacecraft cabin. The last time we had a good voice conversation over the Rose Knot Victor on the last revolution, everything was in fine condition. The pilots were in good health and all systems were go. Coming up now over the Hawaiian Tracking Station with Command Pilot Gordon Cooper in a sleep period and Pilot Pete Conrad on the watch. He will probably take another look at tropical storm "Doreen" which is located east of Hawaii and the intention of the flight crew was directed toward the storm by our weather people on our last revolution, so we assume Pete will take another look at that storm. This is Gemini Control at 104 hours and 33 minutes into the flight.

END OF TAPE

This is Gemini Control at 105 hours and 2 minutes into the flight of spacecraft Gemini 5, which is now approaching the West Coast of South America on the 66th revolution. A short while ago, as the spacecraft passed over Hawaii, Pilot Pete Conrad sounded pretty cheerful. He greeted Command Spacecraft Communicator, Bill Garvin, with a cheery "Hello Hawaii." Garvin told Conrad he looked green from the ground. Conrad said, "We're the same up here." Garvin told Conrad that his orbit values were 164.2 nautical miles apogee, and 106.9 nautical miles perigee, and that the spacecraft orbital lifetime was $14\frac{1}{2}$ days. Conrad cracked, "Get serious." We will now play back that first communication between spacecraft Gemini V and the Hawaiian Tracking Station.

Hawaii Cap Com Gemini V, Hawaii Cap Com.

Conrad Hello Hawaii Cap Com, Gemini V. Go.

Hawaii Cap Com Roger. We've got you green on the ground, how are you doing?

Conrad Green up here.

Hawaii Cap Com Would you cycle your quantity read switch to fuel cell O₂?
Fuel cell H₂?

Hawaii Cap Com Flight, do you want him to leave that switch in ECS O₂?
He had it on coming over the hill.

Houston Flight Negative.

Hawaii Cap Com Okay, we'll have him turn it off.

Hawaii Cap Com Okay, you can place the switch to off. Be advised your orbit is 106.9 by 164.2 and your orbit lifetime is $14\frac{1}{2}$ days from now.

Conrad Get serious. Roger, give me the orbit. Was it 164?

Hawaii Cap Com It was 106.9 by 164.2.

Conrad Okay! Thank you!

Hawaii Cap Com It appears that all looks good, Flight.

Houston Flight Roger, Hawaii.

Conrad How's the weather down there today?

Hawaii Cap Com Real nice. The sun is shining.

Conrad We haven't been able to pick up the Islands yet. We're in drifting flight.

Hawaii Cap Com How are you doing with that cabin lighting survey?

Conrad Okay. I'm working on it right now.

Hawaii Cap Com We completed the dump, Flight.

Houston Flight Roger, Hawaii.

Hawaii Cap Com Flight, those quantity readouts on the ground were: ECS O₂, 82, fuel cell O₂ was 88.1..

Houston Flight Stand by, -Bill. Okay. Give them to me again please.

Hawaii Cap Com Okay. 82, 88.1, and 59.

Houston Flight You'll have to try me again Bill. Fuel cell O₂ is 88.1?

Hawaii Cap Com Fuel cell O₂ is 88.1, ECS O₂ was 82, and fuel cell H₂ was 59.

Houston Flight I'm going to talk to E Com down here, Bill. We're not really plotting ECS O₂ anymore, because the curves been flat for so long that I think it's a waste of time to ask the crew to get measurements on it, except for maybe once a day anymore.

Hawaii Cap Com Roger.

Houston Flight I'll advise you. Are those PFS readings or what, Bill?

They look like --.

Hawaii Cap Com Those are meter reading.

Houston Flight Those are your meter readings?

Hawaii Cap Com That's affirmative. Not just any full scale.

Hawaii Cap Com Hawaii has LOS.

Houston Flight Roger, Hawaii.

END OF TAPE

This is Gemini Control at 105 hours and 32 minutes into the flight of spacecraft Gemini 5 which at this time is in its 67th revolution around the earth and just moving out over the Indian Ocean. It will shortly come up over the Coastal Sentry Quebec, our tracking ship located in the Pacific. Our last voice communication was approximately 30 to 40 minutes ago. We do expect to have some communication with the Coastal Sentry Quebec. We have talked a lot about the Coastal Sentry Quebec and we thought at this time it might be a good idea to give you a little description of that tracking ship. The Coastal Sentry Quebec is a converted liberty ship. It is used to support various government projects including tracking and communications tasks for manned and unmanned NASA space programs. There are some 35 technical personnel aboard along with 50 to 60 ship personnel. During man flights the Manned Spacecraft Center of NASA sends a 4-man team aboard. They are Arta J. Roy, Jr., Spacecraft Communicator; Ted A. White, and George W. Conway, Systems Engineer; and Joe R. Perry, who simulates the astronauts during NASA network simulations or test runs. During the actual flight Perry will assist in other tasks. Between manned launches the Coastal Sentry Quebec lends support to other U. S. Government projects. This is Gemini Control at 105 hours and 33 minutes into the flight of spacecraft Gemini 5.

END OF TAPE

This is Gemini Control at 106 hours and 2 minutes into our flight of the Gemini 5 spacecraft. Our flight crew consisting of command pilot Gordon Cooper and pilot Pete Conrad have just passed north of the Coastal Sentry Quebec tracking ship in the Pacific. Command pilot Cooper is still in his sleep period. Pilot Pete Conrad, talking to spacecraft communicator Arta J. Roy on the Coastal Sentry Quebec, said he is getting a very good look at Japan - that this is the best weather so far, and Japan looks very pretty. We are now on our 67th revolution over the earth, and at this time all systems, as reported by the tracking stations and tracking ships on the ground, are in a green and go condition. The flight crew reports they are go. This is Gemini Control.

END OF TAPE

This is Gemini Control at 106 hours and 32 minutes into the flight of spacecraft Gemini 5 which at the present time is coming up over the Rose Knot Victor, our tracking ship located off the West Coast of Peru. We are in the 67th revolution over the earth, and as a matter of fact, we'll - within minutes - start the 68th revolution. At the present time our command pilot Gordon Cooper is still in his sleep period, and pilot Pete Conrad is scheduled to make a medical data pass over the Rose Knot Victor. Like the CSQ, or Coastal Sentry Quebec, the Rose Knot Victor is a converted liberty tracking ship. It is assigned to U. S. government tracking and communications projects including manned and unmanned space probes. During the NASA manned space flights the Manned Spacecraft Center sends a 5-man team aboard the Rose Knot Victor. They are Gary B. Scott and James R. Foucci, Spacecraft Communicators; Herbert A. Harmon and Albert W. Barker, Systems Engineers; and George N. Bliss, who simulates the astronauts during network tests and then has other tasks during the manned launches. We are just within minutes now of picking up that 68th revolution, and for this time this is Gemini Control.

END OF TAPE

This is Gemini Control. We are at 107 hours and 2 minutes into the flight of spacecraft Gemini 5 now on its 68th revolution around the earth, and at the present time passing over Central Africa. Our last voice communication with spacecraft Gemini 5 was about 20 minutes ago as the spacecraft passed over the Rose Knot Victor tracking ship off the west coast of Peru. At that time command pilot Gordon Cooper was still asleep, and pilot Pete Conrad made a medical pass over that station. This consists of temperature, 2 blood pressures, one before and one after an exercise period. He also gave the Rose Knot Victor a report on his water intake which he said was 22 pounds since the flight began. He, in addition, reported that he had taken a full 2 hour nap and that he had just polished off a full meal and plus some other goodies that they had left over from other meals. The spacecraft is in a go condition he reported and the ground said your systems all look good from here. We will now play back that voice tape made over the Rose Knot Victor tracking ship.

RKV Cap Com Gemini 5, this is RKV. We have a valid temperature; standing by for your blood pressure. Gemini 5, this is RKV surgeon. Your copy is full scale. Gemini 5, RKV surgeon. We have a good blood pressure. Give me a mark when you start your exercise please.

Conrad Standby. Mark.

RKV Cap Com Gemini 5, RKV surgeon. Your copy is full scale. Gemini 5, RKV surgeon. We have a good blood pressure. Standing by for your water report.

Conrad Roger. This is the pilot. And I've had 22 pounds of water,

got a full 2 hours nap, and I just polished off meal 1 Charlie
at 04220000 plus some extra goodies we had left lying around.

RKV Cap Com That was meal 1 Charlie?

Conrad That's affirmative.

RKV Cap Com Roger. Thank you. Back to our Cap Com. Gemini 5, this is
RKV Cap Com. All systems are good on the ground.

Conrad Gemini 5 go up here.

RKV Cap Com Roger.

END OF TAPE

This is Gemini Control at 107 hours and 32 minutes into the flight of spacecraft Gemini 5 which is now on its 68th revolution over the earth and has just passed over the Coastal Sentry Quebec, our tracking ship located in the Pacific south of Japan. There was very little voice conversation during this pass. The tracking ship gave Conrad a go from the ground - said his systems looked good up there. They then updated the star map aboard the spacecraft, and Conrad reported that he had purged the fuel cells, and that was the end of our voice conversation. Everything is going in the CC and with our tracking network - the NASA tracking network throughout the world and with the gentlemen aboard the spacecraft. This is Gemini Control at 107 hours and 33 minutes.

END OF TAPE

This is Gemini Control at 108 hours and 6 minutes into the flight of spacecraft Gemini 5. We are at the end of the 68th revolution, and our flight crew is passing over the Rose Knot Victor, our tracking ship located off the west coast of Peru. We will have voice contact between Pete Conrad, pilot of Gemini 5, and Gary Scott, the spacecraft communicator aboard the RKV. Let's listen in now to this live conversation.

RKV Cap Com Gemini 5, RKV Cap Com. How do you read?

Conrad Garbled . . . Gemini 5 here.

RKV Cap Com Roger. All systems are go on the ground, and I have some landing area update for you.

Conrad Okay. Stand by order. Okay, ready to copy.

RKV Cap Com Roger. For these updates, all bank angles will remain the same. That is, roll left 51, roll right 69.

Conrad Then.

RKV Cap Com Seven delta 051556, 17 plus 39, 22 plus 17, 72 - 2, 065239, 15 plus 51, 20 plus 41, 73 - 2, 082811, 14 plus 25, 19 plus 25, 74 - 1, 095111, 15 plus 56, 20 plus 50, 75 - 1, 112635, 14 plus 31, 19 plus 33. Do you copy?

Conrad Roger. Would you give TNTIC on 73, day 2 again please?

RKV Cap Com Roger. 73 - 2, 082811.

Conrad Roger. We copy.

RKV Cap Com Roger. The weather is good in all areas.

Conrad Roger. Very good.

RKV Cap Com Roger. We'd like to remind the command pilot that he has a medical data pass over the CSQ on rev 69. I have a time

for you.

Conrad Roger.

RKV Cap Com 030107.

Conrad Roger. 030107.

RKV Cap Com Roger.

Conrad RKV, Gemini 5.

RKV Cap Com Roger, that's us.

Conrad We just had one of our more spectacular sights of our flight coming into sunset just before you acquired us. Either our cryo-hydrogen or our cryo-oxygen tank vented, and it just all froze when it came out and it looked like we had 7 billion stars passing by the windows which was really quite a sight.

RKV Cap Com Roger. Did you recognize any of the stars?

Conrad I didn't recognize any.

RKV Cap Com Roger. Copy. Gemini 5, RKV, we have just received your tape dump.

Conrad Roger. Very good. Everything looks good here.

RKV Cap Com Roger. We have about one minute before LOS. We'll be standing by.

Conrad Okay. Gemini 5. That's fine. Thank you.

RKV Cap Com You're welcome. Over.

That was live conversation between spacecraft Gemini 5 and our spacecraft communicator aboard the Rose Knot Victor, and I understand we were in error - That was not Gary Scott, our prime communicator, but James R. Foucci who helps out in that capacity. This is Gemini Control.

END OF TAPE

This is Gemini Control at 108 hours 32 minutes into the flight of spacecraft Gemini V. We are now on our 69th revolution over the earth and the flight crew is approaching the west coast of Africa. We have had no voice communication with spacecraft Gemini V since our last voice communication which we carried live over the Rose Knot Victor tracking ship. From our ground stations, all reports are the spacecraft systems are Go. Here in Mission Control we are also Go and this flight is settling down now for the long pull through the night. There is very little activity aboard. Command pilot Gordon Cooper is scheduled to make a medical data pass when the spacecraft approaches the Coastal Sentry Quebec tracking ship in the Pacific and our pilot Pete Conrad is entering a sleep period. This is Gemini Control.

END OF TAPE

This is Gemini Control. We are now at 109 hours and 2 minutes into the flight of spacecraft Gemini 5. At the present time our spacecraft is coming up over the Coastal Sentry Quebec, our tracking ship located in the Pacific Ocean south of Japan. On the ground, or aboard the Coastal Sentry Quebec, it is Thursday noon. Here in Mission Control Center in Houston it is still Wednesday evening. The activities slated for this pass will consist of a medical data pass on the command pilot, Gordon Cooper, while his partner pilot Pete Conrad is in a sleep period. Cooper is also expected to give a food report, and there will be taped telemetry transmission. Data that the spacecraft has been gathering will be passed on to that tracking ship by telemetry. So far the flight is now in a very uneventful phase and the pilot and co-pilot are getting a maximum amount of rest, and we have no further experiments programmed for the immediate next couple of revolutions. This is Gemini Control.

END OF TAPE

This is Gemini Control. We are at 109 hours and 32 minutes into the flight of spacecraft Gemini V. At the present time our spacecraft and flight crew are in the south Pacific, approximately center south Pacific. Coming up, they will be skirting the Rose Knot Victor tracking ship and will pass just within voice range. We have not had a communication with the spacecraft for quite some time and our flight plan indicates that this is a period of inactivity. Pilot Pete Conrad is asleep. Command pilot Gordon Cooper has finished an eat period and he has one experiment coming up. This is a cabin lighting survey which he will perform within the next hour and this is an experiment in which they measure the light in various portions of the spacecraft using a photometer. This is Gemini Control.

END OF TAPE

This is Gemini Control at 110 hours and 2 minutes into the flight of spacecraft Gemini 5 which has just shortly ago begun its 70th revolution around the earth and at the present time is coming up on the west coast of Africa. We have some information here on the apogee and perigee of the REP. The apogee at this time is 141.8 nautical miles and 85.7 nautical miles perigee. The orbital is 85.67 from perigee to perigee. And we figure it has 1.5 day 2 hour and 44 minute life-time as of this moment. In our spacecraft command pilot Gordon Cooper is awake and pilot Pete Conrad is in a sleep period. The command pilot will shortly perform a cabin lighting survey measuring the amount of light that is coming into the spacecraft at various points and using a photometer. At this point we have had very little communication with the spacecraft recently, and we expect that we will have some voice communication over either the Keno, Nigeria site, or the Coastal Sentry Quebec. This is Gemini Control at 110 hours and 3 minutes into the flight.

END OF TAPE

This is Gemini Control at 110 hours 32 minutes into the flight of spacecraft Gemini 5. It is on its 70th revolution over the earth and is coming up very shortly - within the next 5 minutes - on the Coastal Sentry Quebec, our tracking ship located in the Pacific south of Japan. We are in the midst here at the Mission Control Center of a shift change. The blue team of flight controllers have reported for duty and are getting their briefing prior to taking over direction of this flight. At last check with Dr. Duane Catterson, our flight surgeon, he said that all indications that he has at this time from ground data and from data passed from the spacecraft to the ground indicate that the pilot, co-pilot - command pilot and pilot - of spacecraft Gemini 5 are both in excellent condition. At this point pilot Pete Conrad is asleep and command pilot Gordon Cooper is awake. He is slated to perform a few experiments: a cabin lighting survey and some photographic experiments as he comes over Hawaii. This is Gemini Control at 110 hours and 33 minutes.

END OF TAPE

This is Gemini Control, 111 hours and 2 minutes after lift-off. Gemini V presently is over south-central Pacific nearing the end of the 70th revolution. Just now it went into the night side of the orbit. Around the world people seem to have their eyes peeled for Gemini V. Our latest report is from Senor Camile Flamario in Guadalajara, Mexico, who visually sighted Gemini V at 5:49 this morning, 25 August, and he said it was apparently the equivalent magnitude of a third-magnitude star. The next station which will acquire Gemini V will be the tracking ship Rose Knot approximately 13 minutes from now. We have a tape recording of the air-to-ground transmission between Gemini V and the tracking ship Coastal Sentry just north of Okinawa. We'll hear this tape now.

CSQ Cap Com Gemini V, CSQ

Cooper Garbled

CSQ Cap Com We want you to cycle your cryogenic quantity readout switch through the positions please.

About 10 seconds in each position.

And we would also like to get your out.

Cooper Garbled

CSQ Cap Com your power, CSQ.

Cooper 81 percent, 350 psi, fuel cell good

. 130 psi

CSQ Cap Com Copy.

Cooper Fuel cell hydrogen 55 -- shade under 55 percent
780 psi.

CSQ Cap Com CSQ copy. Houston also wants to know if you
purged the fuel cells between the CSQ and the RKV
in the last rev. Over.

Cooper fuel cells were purged at 0100.

CSQ Cap Com Roger, understand. There is one in the flight
plan between CSQ and RKV they thought you might
have picked up without being notified to do.

Cooper Negative.

CSQ Cap Com Roger.

Cooper We did have one short of the CSQ last time.
The . . . over large amount of venting. We
checked the pressures of what appeared to be
the ECS O2 which was up to a very high vent
pressure.

CSQ Cap Com Roger, copy. Houston would also like to know
if the running report over the RKV on the last
rev looked like - correction, that was 062 - if
it looked like a lot of stars -- when it looked
like a lot of stars, was that at sunset or several
hours after the purge?

Cooper That was just at sunset. powered off getting

ready for the purge. It appeared to be that we just hit a very large amount of things going on about there. We assumed they must be ECS 02. They looked like a lot of stars, like several million of them.

CSQ Cap Com

That's the same one you reported previously, then.

Cooper

That's right. We haven't seen them since.

CSQ Cap Com

Roger, copy.

END OF TAPE

This is Gemini Control 111 hours 32 minutes after liftoff. Gemini 5 is just crossing the South American coast into the South Central Atlantic, and will be acquired in 5 minutes by the Canary Islands tracking station. During the pass just completed over the tracking ship Rose Knot off the coast of Peru the systems telemetry readouts onboard the tracking ship all looked nominal according to the spacecraft communicator in his report back to the flight director here in Mission Control. This is Gemini Control.

END OF TAPE

This is Gemini Control, 113 hours and 2 minutes after lift-off. Gemini V is presently crossing the northeastern shore of the continent of South America out over the Atlantic, the beginning of the 72nd revolution. They just recently made a pass over the tracking ship Rose Knot in which a brief contact was made. However, the Cap Com said all looked good on the ground and was standing by for further contact if necessary. This will be the RKV, the Rose Knot's last pass for the night. They will be dismissed until several orbits later. The flight plan activities for the coming day are presently being sent out to the Carnarvon station for updating to the crew. This includes an Apollo landmark tracking task somewhere in east Africa, near the Arabian peninsula. In fact all three of these experiments take place in almost the same part of the world. The Apollo landmark tracking task is at 4:25 central standard time. Follows 2 minutes later one of the synoptic terrain photography experiments of east Africa and the Arabian peninsula at 4:27 central standard time. Synoptic terrain photography experiment is large areas of land masses photographed with a Hasselblad camera using a normal angle lens to include very large areas of land mass, and concurrent with that experiment, also at 4:27, they will be making desert land measurements using the radiometric sensors aboard the spacecraft. At 4:50 they will do a power-up procedure onboard the spacecraft, and align the inertial platform, and at 5:20 central standard time

they have the task of alining the platform with the small end forward for a later task that will be done today - an additional radar test. Further details on this radar test will be forthcoming. This is Gemini Control.

END OF TAPE

This is Gemini Control, 113 hours and 32 minutes after lift-off. Gemini V is approximately one-third of the way through the 72nd revolution. It will be acquired by the Carnarvon station in 46 minutes. Passed over Canary Island station and there was a brief exchange between the Cap Com there and command pilot Cooper. The telemetry readouts on the ground at Canary looked real good. They also made a telemetry delayed-time dump and then the station went on stand-by for further contact and there was none. This is Gemini Control.

END OF TAPE

This is Gemini Control, 114 hours and 2 minutes after lift-off. Gemini V is nearing the end of the 72nd revolution, just crossing north of the tip of the island New Zealand. At this time pilot Conrad is scheduled for sleep, and during the next few minutes command pilot Cooper is scheduled on the flight plan to run a vision test on himself using the onboard vision tester, and then using the same device, he will perform one of the vestibular effects experiments to determine the changes in his vestibular functions and also which will determine his ability to judge the pitch axis of the spacecraft. This is involving the so-called otolith function in the inner ear. When Conrad wakes up at about the time of the pass over the Antigua station he will be briefed by Cooper on the activities during the flight during the period he was asleep. This is Gemini Control.

END OF TAPE

This is Gemini Control, 114 hours and 32 minutes after lift-off. The spacecraft is now almost through the end of the 72nd revolution and will be in contact with the stations in the Eastern Test Range within about 1 minute. There has been no contact with the spacecraft since the Canary Island station almost 80 minutes ago. This is Gemini Control.

END OF TAPE

This is Gemini Control, 115 hours 14 minutes after lift-off. Gemini V is approximately one-third of the way through the 73rd revolution and will be acquired by the Carnarvon, Australia station at 21 minutes past the hour. We have a tape of the Carnarvon -- or the Canary Island tracking station pass at the beginning of this 73rd revolution. Let's hear that tape now.

Canary Cap Com Gemini V, this is Canary Cap Com.

Cooper Go ahead Canary, Gemini V.

Canary Cap Com Roger Gemini V. If the pilot is awake we would like to do a purge.

Cooper All right.

Canary Cap Com OK. We would like to start out with the quantity readings first. We'll need about 15 seconds in each position.

Cooper

Canary Cap Com Roger, would you give me a readout? We would like to get a spacecraft readout on these quantities. Roger, we're reading 80 percent quantity. We're reading 845 psia.

Canary Cap Com Roger.

Cooper Fuel cell O₂ we're reading 88 percent, we're reading 140 psia.

Canary Cap Com OK.

Cooper Fuel cell hydrogen, we're reading 52 percent and we're reading 770 psia.

Canary Cap Com Roger. OK, we're ready for your purge.

Cooper Stand by for hydrogen on cell 1 on my Mark. MARK. Complete. Stand by for hydrogen on cell 2. MARK.

Flight Control Canary, is this Houston.

Cooper . Complete with hydrogen on section 1

Houston Flight We'd like an LOS summary.

Canary Cap Com Right.

Cooper Starting oxygen on section 1. Starting now.

Canary Cap Com OK, while your purging on the oxygen, Flight has advised that they are keeping an eye on the fuel cell water production. They should have a good hack on that within the next day or so. They think its progressing approximately normal.

END OF TAPE

This is Gemini Control 115 hours 32 minutes after lift-off. Gemini 5 spacecraft is now over eastern Australia midway through their 73rd revolution. To give you an idea of what the crew of Gemini 5 has in store for them today, I'll run over the experiments that will be passed up to them later on today. They have several tasks in surface photography, one at 6:05 c.s.t in the Kenya area of east Africa; and associated with that will be an infrared measurement at the same time. Other surface photography assignments are at 7:14 central time in the southwestern United States; 7:21 in the Bermuda area; 7:33 in west Africa; 8:55 the prime recovery vessel, Lake Champlain, in the west Atlantic; and at 10:32 off the coast of Brazil. They will also be making infrared measurements of the star, Sigma Saggiarius, at 8:05; and also the milky way at the same time period. At 8:34 they will take infrared measurements of volcanoes in Hawaii. Terrain photos, so-called synoptic terrain experiment, which is large land mass photography, at 9:19 this morning they have a photographic assignment in east Africa and the Arabian peninsula. At 10:26 they have a cloud top spectrometer experiment in the Key West area of cloud build-ups there. That just about summarizes what the crew has on their schedule today. There is a radar test of the onboard radar and the plans for that are still being formulated here in Mission Control. Details will be forthcoming. This is Gemini Control.

END OF TAPE

This is Gemini Control 116 hours and 2 minutes after lift-off. Gemini 5 is presently approaching the west coast of Mexico toward the end of the 73rd revolution. The next stations which will acquire the spacecraft are the stations in the eastern test range and some of the State-side stations. The first one to acquire will be in 2 minutes. We have a tape of the recent Carnarvon pass just about 20 minutes earlier in this revolution. Why don't we listen to this tape right now?

Carnarvon Cap Com Gemini 5, Carnarvon. We have a valid oral temp. Stand by for surgeon. Gemini 5, this is Carnarvon surgeon, we're standing by for your first blood pressure. . . . Gemini 5, we have a good blood pressure. Would you give a mark when you begin your exercise?

Conrad Mark.

Carnarvon Cap Com We had a good blood pressure, Gemini 5. Would you give us your water and sleep report, please.

Conrad Pilot's water is 24 pounds, last meal was meal 3 bravo, 05 09 00 00, and I slept about 4½ hours I think.

Carnarvon Cap Com Roger. Copied that. Thank you, Gemini 5. Carnarvon station out. Gemini 5, Carnarvon Cap Com. We have flight plan update. Are you prepared to copy?

Conrad Ready to copy.

Carnarvon Cap Com Are you ready to go?

Conrad Ready to copy.

Carnarvon Cap Com Roger. Apollo landmark. All these are on the fifth

day. 10 25 02. Sequence number 208, pitch down 30, yaw left 8 degrees. Next item - S5, Sierra 5 10 27 00. Sequence number 02. Next item - D4, D7 10 27 00. Sequence number 414. Do remarks S5. Next item - platform 10 50 00. Remarks - power up. Next item - radar 11 13 00. Remarks - radar on for warm up. Next item - platform 11 20 00. Remarks - align SEF. Next item - map update 11 27 52. Remarks - rev 74 140.1 degrees west, right Ascension 0 hours 24 minutes. Do you copy?

Conrad

Got it all.

Carnarvon Cap Com

Okay. Next item - radar test 11 43 41. Sequence number 10. Remarks - pitch down 30, yaw right 23. Next item - delta 6, D6 12 05 16. Sequence number 74. Mode number 01. Remarks - pitch down 30, yaw right 19, speed 60. Next item - D4, D7 12 05 16. Sequence number 415. Next item - platform 12 15 00. Remarks - align SEF. Do you copy?

Conrad

Affirmative.

Carnarvon Cap Com

Okay. Next item - radar test 12 34 20. Sequence number 10. Remarks - star photos. Next item - power down 12 50 00. Remarks - radar, platform, rate gyros, and computer off. Do you copy?

Conrad

Affirmative.

Carnarvon Cap Com

Okay. We've got about 20 seconds to LOS. We'll get the rest of this up to you on the next pass.

Conrad Roger.

Carnarvon Cap Com Everything looks good down here, and we're standing by.

Conrad Green up here.

Carnarvon Cap Com Flight, we've had LOS.

Houston Flight Roger, Carnarvon, good pass. How'd that medical data
pass look?

END OF TAPE

This is Gemini Control, 116 hours and 32 minutes after lift-off. Gemini V now over central Africa, is just about one-fourth of the way into the 74th revolution. The next station to acquire Gemini V will be Carnarvon station in 23 minutes. While passing over the Carnarvon station, planned landing area updates will be routinely passed up to the spacecraft for revolution 76 through 80. Also, flight plan updates will be passed up to the crew. At the present time the flight plan calls for the crew to be conducting terrain photography experiments and infrared measurements over east Africa and the Arabian peninsula. This is Gemini Control. We have a brief tape of the last stateside pass over the Eastern Test Range tracking stations, voice remoting stations. Let's hear that tape now.

Houston Cap Com Gemini V, Houston.

Conrad Hello Houston, Gemini V.

Houston Cap Com Hi. You look good on the ground. Got any questions?
We're standing by.

Conrad No. You got anything for us after 125000?

Houston Cap Com Rog. But we thought we'd let you get it at
Carnarvon and get a little rest here.

Conrad You guys are OK.

Houston Flight Goodmorning.

Conrad Goodmorning.

Houston Flight All set for another bright day?

Conrad Oh, yeah.

Houston Flight Good. Looks pretty good down here, Pete. We've been going over this fuel -- how much power you got left out of your fuel cells and we think its coming along pretty well. Its kind of tight, but you got it there.

Conrad OK, we've been keeping track of it here, and of course it has been going down pretty thin, but we expect it to.

Houston Flight That's right.

See Pete, it looks like your tightest constraint is going to be the storage space for the water you produce.

Conrad OK.

See How's that for a surprise?

Conrad Nothing surprises me after lift-off.

See Got any comments about the weather up north?

Conrad We were talking about that. I don't know. We're going to take a look at it today.

See OK, been trying to get this water system settled down to see just what our possibilities might be.

Conrad Houston, have you been -- have the other stations been getting all our telemetry and everything all right? We really build up the rates two and a half to three degrees per minute here when this thing vents.

Houston Cap Com Yeah, as far as I know, they've all been getting good TM.

Conrad OK

Houston Cap Com Gemini, Houston here, we've had a little problem with the dump tape and we think maybe the tape is getting a little dirty but its nothing significant.

Conrad We've been up too long.

Houston Cap Com Rog.

Conrad Yeah, Gordo and I figure we've been up long enough now to need a sim on reentry to get brushed up.

Houston Cap Com We'll see if we can't work one in for you.

Conrad OK.

Cooper Do you mean this is the real thing? I thought we had been in the simulator all along.

Houston Cap Com Just pretend you are in the simulator.

Conrad That's what we've been doing.

See I guess you know you've got about 3 hours to go here before a big event.

Conrad Is that what it is? We didn't know exactly what the time was. Can you give us the GMT?

See I think its about, just about exactly 3 hours from now.

Houston Cap Com We'll get it for you.

Houston Cap Com GMT is 13 06 00. Gemini, Houston. The GMT is
13 06 00.

Conrad Roger. We copy. 13 06 00, thank you.

Houston Cap Com Do a couple rolls and a loop.

Conrad We haven't got the fuel.

Cooper That's all we have been doing all day is rolling
and rolling.

See Very good.

Conrad We passed a big milestone today. We got into the
left-hand food box for the first time and didn't
find any Christmas presents, just food.

Houston Cap Com Have you gone all the way through it yet?

Conrad Say again.

Houston Cap Com Have you gone all the way through it yet?

Cooper No, not yet.

Houston Cap Com You never know.

See Have you been in that pouch under the right panel?

Conrad Yeah, we have, as a matter of fact.

Cooper Yeah, what do you think we've been wearing?

Cooper Say, Houston, do you still read us?

Houston Cap Com Rog.

Cooper] Could you give us the GMT time hack, please?

Houston Cap Com Rog. In about 10 seconds it will be 10 16 00,
10 16 00. Two, one, MARK.

Cooper That's pretty good. I'm two seconds slow.

Houston Cap Com Oh, very good.

Cooper Two seconds fast, I mean.

Houston Cap Com Roger, understand.

END OF TAPE

This is Gemini Control 117 hours and 2 minutes after lift-off. Gemini 5 is midway through the 74th revolution and is presently in contact with the spacecraft communicator at the Carnarvon, Australia tracking station. The spacecraft communicator there is updating the crew on planned landing area numbers, also updates for flight plan activities for the coming day. Here in Mission Control the blue team flight dynamics officer has come up with some numbers for the present orbit of Gemini 5, and figures up to perigee of 123.4 statute miles and apogee of 187.6 statute miles. This is Gemini Control.

END OF TAPE

This is Gemini Control 117 hours 32 minutes after lift-off. Gemini 5 is coming up on the end of the 74th revolution, will be acquired by the Guaymas, Mexico tracking station in about 2 minutes. During the pass over the Carnarvon, Australia tracking station earlier in this revolution they were given a complete go on the ground. The Guaymas - the Carnarvon Cap Com passed up to the crew the flight plan updates but because of the length of time required for all this information to be passed up he was unable to complete the planned landing area updates. Coming up on the Cape Kennedy area during this next revolution there will be a radar test in which the onboard radar will be aimed toward an L-band transponder at the Cape. And through this method they will be able to get some readings of how the onboard radar operates. We have now a tape of the Carnarvon, Australia tracking station pass earlier in this revolution. Let's hear this tape now.

Carnarvon Cap Com Gemini 5, Carnarvon Cap Com.

Conrad Come in Car, Gemini 5.

Carnarvon Cap Com Okay, we've got the rest of your flight plan update when you're ready to copy.

Conrad Fire away.

Carnarvon Cap Com Roger. First item - Delta 6, D6 13 14 23.

Conrad Carnarvon, Gemini 5. We're ready to copy.

Carnarvon Cap Com Roger. First item is Delta 6, D6 13 14 23. Sequence number 20.

Conrad Say it again. Say, you're fading. We're just beginning to get you.

Carnarvon Cap Com Roger. I'll start again with that first item. It's delta 6, D-6, 131423. Sequence number 20, load number 15, remarks, pitch down ..., yaw left 6 degrees, speed

30. Did you get that all down.

Conrad Just fine.

Carnarvon Cap Com Okay, next item. Delta 6 D-6, 13 21 40, sequence number 53, mode number 15, remarks, pitch down 30, yaw left 6 degrees, speed 60. Next item, Delta 6 D-6, 13 33 35, sequence number 66, mode number 15, remarks, pitch down 30, yaw right 7 degrees, speed 60. Next item D-4, D-7, 14 05 08, sequence numbers 4100 and 407. Next item D-4, D-7, 14 34 51, sequence number 425A, pitch down 30, yaw left 03. Next item D-4, D-7, 14 46 46, sequence number 424B. Mode number 01, remarks pitch down 30, yaw left 4 degrees, speed 60.

Conrad Read out the D-4, D-7 14 34 51?

Carnarvon Cap Com Say again?

Conrad Never mind, go ahead.

Carnarvon Cap Com You got it okay?

Conrad Yeah.

Carnarvon Cap Com Okay, on the remarks on the D-4, D-7, 46 46, the test time is 14 47 -- stand by one. Okay, that test time is 14 47 41, duration is 8 seconds. Do you copy?

Conrad Roger.

Carnarvon Cap Com Okay, next item is Delta 6 - D-6. 14 55 40, sequence number 134, mode number 01, remarks, pitch down 30, yaw 0, speed 60. Next item S-5, 15 19 48, sequence number 02. Next item S-8, D-13, 16 22 50, sequence

number 03, remarks, pitch down 30, yaw right 33.
Next item S-7, 16 36 50, negative. That time is
16 26 54. Sequence number 02. Remarks, pitch down
30, Key West area. Next item is Delta 6, 16 33 07,
sequence number 055, mode number 01, pitch down 30,
yaw right 1 degree, speed is 60. D-4, D-7, 16 32 59,
sequence number 416. Do you copy?

Conrad Yeah, in other words, that's just before the D-6
you just gave me?

Carnarvon Cap Com Right, that last one was a D-4, D-7, woops, stand by
I've got add to that. I'll change that last time.
Okay, that last time is the same time as the D-6,
16 33 07. Copy?

Conrad Affirmative, any more?

Carnarvon Cap Com No, we're not going to have time for the PLA update,
we'll get you later.

Conrad Okay.

Carnarvon Cap Com Everything looks good here.

Conrad We are go here.

END OF TAPE

This is Gemini Control, 117 hours and 57 minutes after lift-off. Gemini 5 spacecraft is now in acquisition by the Canary Island tracking station, early in the 75th revolution. During the Stateside pass just completed, Guaymas, Mexico, spacecraft communicator, Ed Pendell, passed up to Gemini 5 the plan landing area updates, which were missed at Carnarvan because of the lack of time with other information being passed up from Carnarvan. During the radar test, over Cape Kennedy, the radar did lock on to the transponder at the Cape but no range readings were given. During the Canary pass, there is scheduled a medical data check on command pilot Gordon Cooper. This is Gemini Control.

END OF TAPE

This is Gemini Control, 118 hours and 2 minutes after lift-off. Gemini 5 presently has just left the acquisition range of Canary Island tracking station, and should be coming up shortly on the range of the Kano, Nigeria voice remoting station. We now have a taped recording of the recent State-side pass. Let's listen to the tape now.

Guaymas Cap Com Gemini 5, Guaymas Cap Com.

Cooper Come in, Guaymas, Gemini 5.

Guaymas Cap Com OK, how are you doing?

Cooper Roger, doing fine, everything's powered up.

Guaymas Cap Com OK. You are looking good here on the ground. I've got a correction to your flight plan up-date, and I've got a PLA, so let me know when you are ready to copy.

Cooper Ready to copy.

Guaymas Cap Com OK, the flight plan up-date and D-4 D-7 sequence 424 Bravo that was at the fifth day 144646, change the time on that to the fifth day 144654.

Cooper Check.

Guaymas Cap Com OK, the D-4 D-7 sequence 415 of the fifth day 120516, add to the remarks column, recorder on for three plus 00 minutes.

Cooper All right.

Guaymas Cap Com OK, I've got your PLA's. Are you ready to copy?

Cooper All set.

Guaymas Cap Com OK. The weather is good in all areas, the bank angle is roll left 51, and roll right 6 niner on all cases.

Area is 76-1, 130153, 13 plus 15, 18 plus 27, 77-1, 143731, 12 plus 0 niner, 17 plus 40, 78-4, 172426, 14 plus 27, 21 plus 13, 7 niner - 4, 185 niner, 4213 plus 11, 16 plus 00, 80-4, 20342 niner, 12 plus 12, 17 plus 43. Over.

Cooper
Guaymas Cap Com Got them all?
Cooper Right.
Guaymas Cap Com OK. That's it. We'll stand by if you need anything.
Cooper OK. Thank you.
Houston Cap Com Very good, Guaymas. How does the roll look?
Guaymas Cap Com Looks real fine, flight. Got the radar on.
Houston Cap Com Roger.
Guaymas Cap Com Getting an infinite radar lock light.
Houston Cap Com Roger.
Guaymas Cap Com Flight, Guaymas.
Houston Cap Com Go ahead.
Guaymas Cap Com TCA 10 head temp is reading 36 degrees, so what position is the OAMS heater switch circuit breaker in?
Houston Cap Com Leave it off.
Guaymas Cap Com Roger.
Cooper Houston, Gemini 5.
Houston Cap Com Gemini, Houston. Go.
Cooper No joy--the radar locked up and the needles pointed, and they pointed right at the Cape, but we never did

get range reading, and I kept breaking lock and putting it back on, breaking lock and putting it back on, but we never got any range reading.

Houston Cap Com Roger. That's what we were afraid of. OK. Try and give the other part of the test a whirl when you get over to it.

Cooper OK.

Houston Cap Com Gemini, Houston.

Cooper Come in, Houston, Gemini 5.

Houston Cap Com Roger. We've got a correction to the correction on your D-4 D-7, all right, 120516, we added recorder on for three minutes to remarks. We would like to delete that statement now. Copy?

Cooper OK.

Houston Cap Com OK, and be advised your Canary's¹ medical data acquisition time is 115534.

Cooper OK.

Houston Cap Com And Gemini 5, Houston, now you can place your TM switch to command, please. Gemini, Houston.

Cooper Roger, we got you.

Houston Cap Com OK, fine, and thank you for the ECS O₂ reading.

Cooper Your welcome.

END OF TAPE

This is Gemini Control, 118 hours and 32 minutes after lift-off. Gemini V is now midway through the 75th revolution is in contact with the Carnarvon Australia Tracking Station. While over the Carnarvon station, they will -- a readout of the environmental control system oxygen also the fuel cell oxygen and hydrogen. We have now a tape recording of the Canary Islands pass earlier in this revolution. Let's hear this tape now.

AFD Canary Cap Com, AFD.

Canary Cap Com AFD, Canary Cap Com.

AFD Okay, you got our special?

Canary Cap Com Right.

AFD Okay, our cap com informed the Command Pilot of your acquisition time. He should be ready with the thermister for the medical data pass.

Canary Cap Com Okay, thank you.

AFD Roger, we're standing by.

Canary Cap Com Okay, we got 4 minutes.

END OF TAPE

This is Gemini Control, 118 hours and 48 minutes after lift-off. Gemini 5 now nearing the end of the 75th revolution is due north of New Zealand in the southwest Pacific. WE have now a tape recording of the recent Carnarvan, Australia, tracking station pass. Let's listen to that tape now.

Cap Com Gemini 5, Carnarvan.

Cooper Carnarva, this is Gemini 5.

Cap Com Roger, we'd like to have you place your quantity reading switch in ECS O₂.

Conrad Roger.

Conrad Carnarvan, you ready to copy a little problem?

Cap Com Go ahead.

Conrad Roger. Our yaw left number 7 OAMS attitude thruster out.

Cap Com Roger, I've got it. Continue with indication here on the ground of the OAMS yaw left thruster.

Conrad Ok. Well, it's not working at all, and we powered the radar down and powered down the gyros, powered down everything but the platform, we're standing by to see what Flight wants us to do.

Cap Com Roger. You didn't do any radar test over Africa, then?

Conrad Nope.

Cap Com Roger. Would you start a - quantity reading to SE O₂?
Flight, did you copy that?

Flight Repeat that, please, Carnarvan.

Conrad Carnarvan, we've got one other thing. The OAMS temperature has been running really cold up here and we noticed this morning that the system was sort of sluggish all over, and so we turned the heater back on at this time, about five minutes ago.

Car Cap Com Roger.

Flight We're going to take a look at it.

Car Cap Com Roger, flight.

Flight Tell him to go . .

Conrad We got a quantity read SC H₂.

Flight We'll take a look at this.

Car Cap Com Be advised Flight copied the problem and they're taking a look at it now. They'll let you know.

Conrad Ok.

Flight Carnarvan, this is Houston Flight.

Car Cap Com Go ahead.

Flight He should have the platform off now.

Car Cap Com Ok. He said he had it up. I'll advise him to turn it off.

Car Cap Com Ok Flight. Stand by.

Car Cap Com Go ahead, Flight.

Flight Tell him we'll take a look at this thing for awhile since he's got the heater on it and see what happens. And keep an eye on what his thruster does when the heater comes up.

Car Cap Com Roger. Flight advises they'll keep an eye on this thruster problem with the OAMS heater on and then see what happens and advise you later.

Conrad Ok. Well, we don't intend to do any more experiments unless they want us to, because we're down to about 12 percent fuel.

Car Cap Com Roger. I stand. Flight, you want to hold off on the experiments?

Flight Roger, we'll get him over Carnarvan this pass.

Car Cap Com Roger.

Flight - Uh, Canton.

Car Cap Com Roger. You all hold up on the experiments; they'll get to you over Canton.

Conrad Ok.

Flight Carnarvan, this is Houston.

Car Cap Com Go ahead.

Flight Did the thruster stick off or on?

Car Cap Com Stand by, I'll check. I had a continuous on indication on it, on the ground.

Flight Roger.

Car Cap Com Gemini, Carnarvan here. Did the thruster stick on or off?

Conrad It stuck off. It would not fire and we've isolated it to the number 7 thruster and it will not operate.

Car Cap Com Roger.

Flight Have they tried the backup electronics?

Car Cap Com Did your indication of the number 7 thruster go off now?

It's on now. It was on the first part of the pass, it went off it came back on about the time you started talking.

Conrad Ok. You say it's back on now?

Car Cap Com It's on now.

Conrad Well, I've got the circuit breaker open now.

Car Cap Com Ok.

Flight Tell him to turn the circuit breaker back on and see if it gets the signal there.

Car Cap Com Turn your circuit breaker back on. Ok. I lost indication.

Conrad It may be that one of the solenoids froze up open.

Car Cap Com Roger.

Flight Ask him if he's tried the backup electronics.

Car Cap Com Have you tried the backup electronics?

Conrad We'll bring you up to date - we tried secondary ACME bus power, and secondary attitude drivers, and secondary ACME logic.

Car Cap Com Roger.

Conrad With no success.

Car Cap Com Understand.

Flight Good deduction that the valve is stuck

Car Cap Com Say again, Flight.

Flight The valve must be stuck.

Car Cap Com Flight agrees the valve must be stuck. Give your quantity read at this time.

Car Cap Com I'm getting OAMS left on again.

Flight Cut the circuit breaker off.

Conrad I just opened up the number 8 circuit breaker. And it checked number 7 again. When you said it went out.

Flight Has he got the platform off?

Car Cap Com Is your platform still on?

Conrad That's affirmative.

Flight Cut it off.

Car Cap Com Ok. Request you power down your platform.

Conrad Ok.

Cooper Ok. We're all powered down, IMU is off, the paltform is
 off and the IMU is off.

Car Cap Com Roger. Hey, Flight, the aux feed temp is 45 degrees, aux
 fuel tamp is 40 and the CCA number 10 is reading 40.

Flight Roger, we copy.

Car Cap Com You want an LOS summary?

Flight Rog.

END OF TAPE

Good morning. Gemini Control here, 119 hours 2 minutes into the mission. The spacecraft is coming up on the West Coast of the United States and during part of this pass we will be looking at a sticky yaw left thruster, an 18 pound thruster. From all indications, either electronically or mechanically is stuck, did stick in an open position. However, we've been able to go around that sticky point and it is not leaking. I emphasize, it is not leaking either fuel or oxidizer. The crew can see it. Across the States, the crew is to receive a go--no-go on 92-1 area, the 92nd revolution, primary landing area. They are to give us a delayed tape playback, they will also receive an update on their 77-1 area and out in the area of the Canary Islands, they are to perform another D-6 photographic picture exercise. This is Gemini Control out at 119 hours 3 minutes into the mission.

END OF TAPE

This is Gemini Control Houston here, 119 hours 15 minutes 37 seconds. At precisely 119 hours and 6 minutes, Chris Kraft looked up at our big ground elapsed time clock and a grin spread from his right ear to his left ear, and he simply said, "ZAP." About a minute later, Capsule Communicator, Jim McDivitt, announced in a loud and clear voice that Gemini V was now one minute into the world record for space flight. On the early portion of this across the United States, we've been running through a series of checks with the Pilots, exercising certain electronic circuits and mechanical circuits looking at that yaw left thruster. We've gotten the data. Let's go into the conversation live.

Houston Cap Com Say again.

Cooper What is it?

Houston Cap Com 92-1 is the orbit you have a go for.

Conrad Yeah, I'm just kidding you.

Houston Cap Com Oh, okay. You were cutting out and I couldn't read you very well.

Conrad Oh, okay.

Houston Cap Com The Flight Director would like to speak to you for a moment.

Conrad Roger.

Houston Flight Good morning Gordo.

Cooper Chris, how are you?

Houston Flight How does it feel for the United States to be a new record holder?

Cooper At last, huh?

Houston Flight Roger. Congratulations.

Cooper We thought maybe you had slept too well last night in other words, you had rested better than we had, so we are going to put you to work this morning.

Houston Flight It seems that John Hodge does that to me every morning.

Conrad Houston, Gemini V.

Houston Cap Com Go ahead.

Conrad Do you want the readouts on our part for the 92-1 go?

Houston Cap Com Roger.

Houston Flight Roger.

Conrad Okay, 1A was 9.1, 1B, 8.6, 1C, 10.0, 2A was 6.9, 2B, 7.0, 2C, 8.2, RCS A 295, temperature 65, RCS B 290, temperature 68, left secondary O₂ 5400, right secondary O₂ 5300, and those readings were taken back when we were powered up.

Houston Cap Com Roger, and would you say what 1B was again, Please?

Conrad Roger, 1B was 8.6.

Houston Cap Com Roger.

Houston Cap Com And I'd like to add my congratulations also.

Conrad Thank you.

Houston Cap Com Have you gone to pitch on your roll jets?

Cooper No, we haven't.

Houston Cap Com You might as well go ahead and do that, and I'm not

we are going to have any great solution on how to get this thing working again.

Cooper Okay.

Cooper I'd like to add one thing in there, just for your information, when we first powered up this morning after having been drifting for quite a while, all the thrusters were exceedingly sluggish, and we saw great globs of liquid coming out of them drifting by us when we were firing them in pulse mode.

Houston Cap Com Roger, roger. That's interesting, isn't it?

Cooper And then I went to direct to see if we could clear them out and it did seem too, and we were getting great globules of liquid going by us, but they cleared out.

Houston Cap Com Okay. We were wondering about dropping fuel here and that might have been where we lost some of it.

Cooper It could be. Well, we had done that last tracking experiment, we were having great difficulty getting it on the radar test there. We had quite a bit of trouble holding our attitude and finally we had to go to direct to get the platform alined and then we were fiddling around trying to find which thruster was giving us the problem.

Houston Cap Com Roger.

Conrad Well another thing was, as we do get these tumbling rates pretty high out of the draining hydrogen, so

when we first started alining the platform, we apparently had intermittent operation on number 7 and we'd attribute it to the fact that we started drifting off to the fact that the hydrogen tank was venting, and then we finally got smart after a while and decided to look at some of it.

Houston Cap Com Roger.

Cooper Yeah, this venting has been giving us 2 to 3 degrees rates, here for the last half day or so.

Houston Cap Com Okay, have you noticed, has it built up since the last half day?

Cooper Yes, it seems to have built up just in the last half day or so.

Houston Cap Com Okay.

Conrad We drifted the first night, if you will remember, and the thing stayed pretty low, and last night is really the first night we drifted again. We had, of course, stayed in horizon scan most of the other United States night cycles and so last night was the first night we really drifted any length of time and it really did build up much higher than it did the first night.

Houston Cap Com Okay, well the venting should start going down now, so we hope that that problem goes away.

Cooper Roger.

Houston Cap Com Gemini 5, Houston.

Cooper Go ahead.

Houston Cap Com We would like to have you turn your cryogenic gauging system off.

Cooper OK, turned to off.

Houston Cap Com Another thing, we've watched your source pressure on your OAMS propellant from Canarvon here to across the States; it's holding nice and steady, so we're not using any fuel there. Looks like most of the fuel that you used up was in that one pass; that could very well have been from the sticking thruster.

Cooper OK.

Houston Cap Com We're going to take a little look at the flight plan again, Gordo, and match up the fuel remaining with the experiments remaining.

Cooper OK.

Houston Cap Com Can you give us one more propellant quantity read out from your onboard gauging system?

Cooper Yes, we're reading about 12 percent remaining on the propellant quantity gauge.

Houston Cap Com OK. Very good.

Gemini Control here. We are definitely out of range now. The spacecraft is probably 1000 miles east of Bermuda, and we'll go off the line at this time.

END OF TAPE

This is Gemini Control here, 119 hours 34 minutes into the flight with the spacecraft just coming over the coast of West Africa. We have the conversation between the crew and the ground from the early portion of the State side pass and we will play it for you now.

Guaymas Cap Com Gemini V, Guaymas Cap Com. If you read, turn your
TM control switch to real-time at acquisition position.

Conrad We're reading you Guaymas.

Guaymas Cap Com All righty. Stand by for Houston.

Conrad Okay.

Guaymas Cap Com TM solid to Guaymas, go ahead Flight.

Houston Flight Gemini V, Houston.

Cooper Howdy Houston. Gemini V here.

Houston Flight Roger, have you got number 7 working yet?

Cooper Negative. We're powered down now and just sitting here
waiting for you to get on the line.

Houston Flight Okay, here's what we'd like to have you do. We'd like
to have you turn off circuit breaker number 7, and go
to Direct and give it a good squirt that way to see if
we can knock it loose with a good surge of power there.

Cooper All right. We've already tried that once, but we'll
try it again.

Houston Flight Okay. Yeah, I imagine you've tried everything, we
want to do a couple of little tests here to see what
we get.

Cooper Okay, that didn't succeed.

Houston Cap Com Okay, we'd like to try and find out whether we -- what the problem is, and we are going to do a little test here to see if maybe the problem is one of the solenoid valves has failed. What we want to do is to look at the common control bus voltage, I've got a procedure here I'll read it out step by step, but I want to brief you first. We'll look at the common control bus voltage and we'll pulse each, both the number 7 and number 8 jets one at a time and have you watch the common control bus voltage. Now if we've locked one of the solenoids on 7, the drop in common control bus voltage will be half what it will be when you pulse number 8. Both of the solenoids are working on 7, and they are both working on 8, we should get the same relative drop in voltage. So, are you ready to go through that -- this thing step by step now?

Cooper Roger, we have number 7 in the open now.

Houston Cap Com Okay, I'll read off the steps. First we want to go to the common control bus on the voltmeter.

Cooper Roger. We're on that.

Houston Okay, just a moment, we're going to actually do the manipulation over Texas, Gordo, but we can make our few steps here and we'll be ready to go when we get there. We'd like to have you turn squib batteries 1 and 2 off.

Cooper Okay, squib batteries 1 and 2 coming off.

Houston Cap Com Okay, we'd like to have you turn OAMS number 7 circuit breaker -- we'll like to have that closed.

Cooper You'd like to have the OAMS circuit breaker number 7 closed.

Houston Cap Com That's right.

Cooper Okay.

Houston Cap Com And we'd like to have number 8 circuit breaker open.

Cooper Okay.

Houston Cap Com And we'd like to have you in the direct control mode.

Cooper Roger.

Houston Cap Com Okay, Gordo. We'll stand by until we get solid TM over Texas and then we'll have you start manipulating and controlling.

Cooper Okay.

Conrad Houston, Gemini V.

Houston Cap Com Go ahead, Gemini V. Houston here.

Conrad I don't see any big problem. We can just go to pitch on the roll logic and that ought to take care of everything as far as getting the platform aligned and so forth.

Houston Cap Com Roger. We just wanted to see if we could -- if this was a heater problem or if we really lost part of the electronics or whether we had a valve stuck.

Conrad Okay.

Houston Cap Com We'll plan on skipping that D-6 over Texas this time, Gemini V.

Conrad Roger. Can you give us a readout on our OAMS fuel, is our gauge correct?

Houston Cap Com Roger Gemini V. Your gauge is correct.

Houston Cap Com Okay, Gemini V. We'd like to have observe the common control bus voltage very carefully and go ahead and move the attitude handle to yaw left.

Cooper Okay, yaw left now.

Houston Cap Com Okay. You just have to -- these can be short pulses here, about a second or so.

Cooper Roger.

Houston Cap Com Was that a four tenths drop?

Cooper About 1 volt, drop.

Houston Cap Com 1 volt, okay, very good.

Houston Cap Com Now we'd like to have you turn off the number 7 circuit breaker and close the number 8 circuit breaker.

Cooper Okay.

Houston Cap Com Now we'd like to have you yaw left again, and observe the drop.

Conrad It was only about half of what number 7 was. Suppose we got a short in there?

Houston Cap Com Oh, we'll think about that for a while. Okay, you can now turn your squib batteries 1 and 2 back on.

Conrad Did you get the same indications on the ground?

Houston Cap Com Stand by one. We're looking at the data now.

Guaymas Cap Com Flight, Guaymas got a 1 volt drop on both of them.

Houston Flight Roger Guaymas.

Houston Cap Com Gemini V, Houston. It looks like on the ground that they both dropped about the same amount.

Cooper Okay.

Houston Cap Com We'd like to have you return the circuit breakers to the condition where number 8 is closed and leave number 7 open and we'd like to have you go to attitude control. We'd also like to have you power up the computer at this time in prelaunch. We want to give you an update.

Cooper Okay. You want us to leave number 7 open, you say?

Houston Cap Com Yeah, why don't you leave 7 open for a while?

Cooper Okay.

Cooper Computer is in prelaunch, power's on.

Houston Cap Com Roger, we'll be sending you an update shortly.

Cooper Wait until we get it warmed up here.

Houston Cap Com Gemini V, you can turn your TM switch back to Command.

Cooper Roger.

END OF TAPE

Cooper Looks like good weather down there.

Houston Cap Com Gemini 5, you have a go to 92-1.

Cooper

Houston Cap Com These numbers are so high, I can't even count that high.

Gemini Control here. For your information, at 119 hours and 6 minutes, the spacecraft was at 20 degrees north and approximately 130 degrees west longitude, 20 degrees north, 130 degrees west longitude. As the spacecraft swung across the Atlantic, they had a brief conversation with the Canary Island station, and that conversation went like this:

Canary Cap Com Gemini 5, this is Canary Cap Com.

Cooper Go ahead, Canary, Gemini 5.

Canary Cap Com Roger. We would like to extend our congratulations to you. We have nothing else for you. We are standing by. Everything looks good from the ground.

Cooper OK. Everything's good here. Thank you very much.

Canary Cap Com Roger.

Gemini Control back here. The weather this morning - conditions are being very favorable for continuation of the Gemini 5 in the next two days, and probably through the remainder of the mission. The west Atlantic recovery area between Florida and Bermuda has unusually fine weather, as it has had through out the mission. Cloudiness is scattered most of the time, with a ceiling near 2000 feet now and then. Winds average a little less than 10 knots, and waves only 2 to 3 feet. Very little change is expected by tomorrow morning. In the east Atlantic

area about 300 miles west of the Canary Islands, cloudiness varies between 3 and 6 tenths coverage. Normal trade winds between 15 and 20 knots will raise seas of about 5 to 6 feet. The mid-Pacific area, about 500 miles north of Honolulu, has a little more than usual cloudiness and ceilings of about 1500 feet most of the time. Winds average around 15 knots, waves about 4 feet. A weak cold front has had little effect upon the west Pacific area, 500 miles south of Tokyo. Cloudiness will be scattered most of the time. Winds will average only about 10 knots, and waves 3 feet. A great part of the western north Pacific is unsettled and seems almost sure to evolve into one or more tropical storms in the next day or two. Tropical depression warnings have been distributed for two areas, one about 1500 miles east of the Philippines, and another in the South China Sea, near Viet Nam. Still other places are being watched for possible development. Tropical storm Doreen which was spotted by the Gemini 5 astronauts yesterday is centered about half way between San Diego and Hawaii, moving north northwest and weakening. Extensive squall weather in the Caribbean has not evolved into any organized disturbance. No significant changes have been observed south of the equator. This is Gemini Control.

END OF TAPE

Gemini Control, Houston here; 120 hours, 2 minutes into the flight. Through out the day we are going to take an extremely conservative approach to the use of fuel; for that reason, several experiments have been scrubbed. Most of the D-6 photographic experiments which require, can require, quite a lot of fuel for precise maneuvers will be eliminated. A sled run test scheduled for this morning at Holloman Air Force Base will not be undertaken. We will continue with several of the deep space, D-4, D-7 experiments, looking at distant stars, and some of the other photographic experiments which don't require precise control, but in general we're going to watch, in view of this sticky thruster, we're going to take a very conservative approach to the use of fuel. We have a brief conversation with the spacecraft and Houston via the Tananarive station. We'll play that for you now.

Houston Cap Com Gemini 5, Gemini 5, this is Houston. Over. Gemini 5, Houston. Do you read? Gemini 5, Gemini 5, Houston. Over.

Cooper Go ahead, Houston. Gemini 5 here..

Houston Cap Com Roger, Gordo. We would like to have you scrub a portion of D-4 D-7. We'd like to have you scrub the 410 Charlie, scrub 410 Charlie. OK? Houston here, transmitting in the blind. I would like to have you scrub 410 Charlie.

Cooper Roger, Houston, we got that, and we will scrub it.

Houston Cap Com Roger.

END OF TAPE

Gemini Control here, 120 hours 29 minutes into the mission. In the last pass across Carnarvon, the pilots were advised to scrub their D-6 picture taking exercise today. [unclear] in number. They were advised, however, to go ahead and attempt and IR reading on Kilauea, an active volcano in the Hawaiian area during a later pass. We have the Carnarvon tape ready and will play it for you now.

Carnarvon Cap Com Gemini V, Carnarvon.

Cooper Go ahead Carnarvon, Gemini V.

Carnarvon Cap Com Okay, we are going to update your TR for 92-1. Are you go?

Cooper Roger, we're go.

Carnarvon Cap Com Roger, we're go on the ground.

Cooper Roger.

Cooper Do you have a readout of these experiments they want us to do?

Carnarvon Cap Com Roger. Stand by one.

Carnarvon Cap Com Gemini V, Carnarvon. Okay, they want to scrub all the D-6 experiments. They want to scrub the D-4, D-7, 424B. But they do want to try to do the D-4, D-7 425A, but they don't want to spend a lot of fuel on it.

Cooper Okay, they want to do the D-4, D-7 425A?

Carnarvon Cap Com Right, that's at 14 34 51.

Cooper Okay, scrub D-6's, scrub the D-4, D-7 424B, but do D-4, D-7 425A, at 14 35 51.

Carnarvon Cap Com Roger, if it doesn't take -- don't spend a lot of fuel
on that 425A.

Carnarvon Cap Com Okay, and I'll attempt to do the SAD-13.

Cooper Okay.

Carnarvon Cap Com Flight, Carnarvon. Did I get that up right?

Houston Flight That's roger.

Carnarvon Cap Com Okay.

Houston Flight I think you read back 425A, but I'm sure he knows it's
424A, I beg your pardon, you read 424 and we wanted
425. It was read back correctly, so forget it.

Carnarvon Cap Com Transmitting your TR.

Cooper Okay, we're getting it.

Carnarvon Cap Com Roger, you're in sync.

Cooper Roger.

Carnarvon Cap Com Okay, be advised that there is a medical pass on the
Pilot at Hawaii. Hawaii's AOS is 14 31.

Cooper Roger. 14 31, medical pass on the Pilot.

Houston Flight Carnarvon, what amperage are you reading?

Carnarvon Cap Com Say again Flight.

Houston Flight What amperage are you reading on the ground?

Carnarvon Cap Com Okay, he came over the hill with the platform on, he
just powered down.

Houston Flight Would you cut another main for us.

Carnarvon Cap Com Roger.

Houston Flight We'd like to know why he had the platform on?

Carnarvon Cap Com Gemini V, Carnarvon. Could you tell us why you had the
platform on?

Gemini Control here; 120 hours, 41 minutes into the mission. In the pass over Hawaii, just completed, we've confirmed that both yaw left thrusters, both number 7 and number 8, are operative. These thrusters fire in a, this assumes a small-end-forward position, they fire in the direction to the left of the spacecraft. One thruster is located at approximately 8 o'clock, the other one at 10 o'clock. We have the Hawaii tape, and we are ready to play it for you now.

Hawaii Cap Com Gemini 5, this is Hawaii Cap Com.

Conrad Roger. Sending the blood pressure down.

Hawaii Surgeon Gemini 5, this is Hawaii Surgeon. Cuffs at full scale. That's was a real good blood pressure. Give me a mark when you start your exercise.

Conrad Mark.

Hawaii Cap Com Houston flight, Hawaii Cap Com.

Houston Cap Com Go ahead.

Hawaii Cap Com We're showing a D-4 D-7 carrier with modulation.

Houston Cap Com Yeah, that's right.

Hawaii Cap Com Roger.

Houston Cap Com That's the 425 Alpha, Hawaii.

Conrad Cuffs at full scale.

Hawaii Cap Com Roger, flight.

Hawaii Surgeon Now we have a good blood pressure; standing by for your food, water, and sleep report. Particularly we are interested in a summary of the last 24 hours, if we can have one.

Conrad Roger. Wait one.

Hawaii Surgeon Right.

Conrad Water is 20,000 lbs. I already gave the last meal I ate which was 3B at 05090000; had about 6 hours sleep over the last 24.

Hawaii Surgeon Roger. Six hours sleep. On the meals that you've eaten, we have estimated from your past reports that it's 1D, 1C, and 3B. Is this correct for the last 24 hours?

Conrad That sounds about right.

Hawaii Surgeon All right.

Cooper How about putting the cap now back on, please?

Hawaii SurgeonHawaii Surgeon out.

Cooper OK.

Hawaii Cap Com Gemini 5, Hawaii Cap Com. We hold you green on the ground.

Cooper Roger. We're green here except for our control system, and we do not have a yaw left thrust. Over.

Hawaii Cap Com Hawaii, understand, yaw left thruster.

Cooper That's right we've tried it in pulse and in direct, and we can see it fire, a very faint fire from our indirect out there, but we're getting no thrust out of it. Right, that's number 8 thruster. Number 7, we have the circuit breaker open on it.

Hawaii Cap Com Roger, I understand.

Cooper And we are in, the roll jets are in the pitch position.

Hawaii Cap Com Roger. Did you copy, flight?
Houston Cap Com Did he say the number 8 had also failed?
Hawaii Cap Com He didn't say it failed; what he said was he could see it thrusting, but he didn't feel it get thrust out of it.
Houston Cap Com Ask him if both no. 7 and no. 8 are now failed.
Hawaii Cap Com Roger. Gemini, has both no. 7 and no. 8 failed now?
Cooper That is correct.
Hawaii Cap Com Roger. Did you copy, flight?
Houston Cap Com Roger.
Hawaii Cap Com Gemini 5, Hawaii standing by.
Cooper OK. Mighty fine, thank you.

END OF TAPE

This is Gemini Control, 122 hours 2 minutes into the flight on the 77th rev, about central Atlantic. Doing the last pass, and here is a switch for you on the weather. We hoped to perform an S-4 or cloud top experiment, and this requires a sustained strip of clouds, but wouldn't you know the weather did not cooperate. The -- most of the United States was reported clear and sunny and open, so we couldn't perform the weather photography experiment. In the eastern portion of the swing, Pete Conrad reported that he could see a carrier and a destroyer entering Jacksonville Harbour. That would have been Mayport. We have the tape of the United States pass and we are ready to play it for you now.

Guaymas Cap Com Gemini V, Guaymas Cap Com. Over.

Cooper Go ahead Guaymas, this is Gemini V.

Guaymas Cap Com Okay, have you tried the other attitude thrusters?

Cooper Yeah, we have pitch up and down, and roll right and left.

Guaymas Cap Com Are they working normally?

Cooper Roger.

Guaymas Cap Com All righty.

Guaymas Cap Com Flight, Guaymas. Did you copy?

Houston Flight Roger.

Guaymas Cap Com Did you try a complete secondary electronics on the thrust to number 8?

Cooper No, we haven't.

Guaymas Cap Com You want to try that Flight

Houston Flight Negative.

Guaymas Cap Com Okay, Flight says leave it alone this time.

Cooper Okay.

Guaymas Cap Com Okay, you're looking good here on the ground, Gemini.

Cooper Okay, very good.

Houston Cap Com Gemini V, this is Houston.

Cooper Go ahead Houston, Gemini V.

Houston Cap Com We'd like to have you purge sections 1 and 2. You can start at any time you'd like now.

Cooper Okay, we'll start purging them in just a minute.

Houston Cap Com I was going to give you some more flight plan stuff. We were going to scrub the S-7 because of the weather, but I guess you don't have to worry about that, do we?

Cooper No, they ought to be somewhere around us.

Houston Cap Com Yeah, say, you want to check your tone box circuit breaker. That powers the tape recorder. I wonder if it had popped off on you?

Cooper I checked that already.

Houston Cap Com Okay.

Cooper Coming up over the Dallas and Fort Worth area. We can see it very clearly.

Houston Cap Com Roger.

Cooper What do the peopledown there think. Did we get a little cold on that OAMS stuff?

Houston Cap Com I don't know. They are still working on it, Gordo.

Cooper Just kidding, I figured they were.

Houston Cap Com Gordo, we think that the mixture ratio was off for some reason. We don't know exactly why yet.

Conrad Yeah, we could see this thruster is actually burning, but we're not getting any thrust out of it. We can see it just, as a matter of fact, it puts out a brighter flame than the normal thruster firing.

Houston Cap Com Yeah, that's a pretty good indication that we've got a bad mixture ratio. Did you see anything like that on the other one, or did it just fail?

Conrad No, it's just not flat burning.

Cooper We didn't see anything at all out of the other one.

Houston Cap Com Okay. Yeah, we're working on it, down here and I guess -- why don't we just hold the experiments until we get something figured out here.

Cooper Okay.

Conrad The only thing that I can think of, Jim, is last night I guess when we were just drifting in this hydrogen setting that it was -- let's see if I remember it right, the left roll and the right yaw.

Cooper Left yaw and right roll.

Conrad Left yaw and right roll, and we spent a lot of time corkscrewing around like that and then it seemed to

keep that side out of the sun anytime we were in it and it was fairly good. It didn't have to be the way we were drifting.

Houston Cap Com Okay, you were getting left yaw and right roll, and you say that that side of the spacecraft was in the darkness quite a bit.

Conrad Yeah.

Houston Cap Com Okay. That sounds like a nifty maneuver.

Conrad That's what the hydrogen purge and I guess maybe something -- hydrogen venting.

Cooper The hydrogen was venting

Houston Cap Com I knew you guys weren't very coordinated, but left yaw and right roll, I don't know?

Cooper That's my fuel cells Jim.

Houston Cap Com Roger.

Conrad Okay, we're starting the hydrogen purge on number 1 right now.

Houston Cap Com Okay.

Conrad Number 2 hydrogen going.

Houston Cap Com Roger.

Conrad Number 1 hydrogen going.

Houston Surgeon Gemini V, this is the MCC Surgeon. How did your sleep go last night?

Cooper Oh, we got about 3 hours each, $3\frac{1}{2}$ hours each I guess.

Houston Surgeon Yeah, I heard the time. Was it easier with the Flight Plan worked out better last night?

Cooper A little bit better.

Houston Surgeon Hey, did Pete get the cuffs off?

Cooper Yeah, we got them off.

Houston Surgeon Okay. How's the skin now with the cuffs off?

Cooper A lot better I think.

Houston Surgeon You having any more trouble around the sensors, Gordo?

Cooper Yeah.

Conrad Hey, I see a carrier and a destroyer steaming right straight into Jacksonville.

Houston Cap Com Very good.

Conrad The weather was really clear across the U.S.

Houston Cap Com Yeah, that was our trouble with the S-7. We didn't have any thunderstorms to take pictures of.

Conrad Commencing number 2 O₂ purge.

Houston Cap Com Roger.

Conrad I think I see either the recovery carrier or another large ship making a big wake down there.

Houston Cap Com You're a real Homing Pigeon for these aircraft carriers, aren't you.

Conrad Yeah. The sun angle is just right today, and the spacecraft moved just right.

Houston Cap Com Okay. How was the weather cut around Laredo. Do you think you have any chance of seeing that SAD-13 target?

Cooper There are quite a few small puffy clouds out there.

Houston Cap Com Okay. Do you think you can control the spacecraft, Gordo, so that you could do the SAI-13?

Cooper Yeah, we want to do it.

Houston Cap Com Say again?

Cooper We want to do the SAD-13.

Houston Cap Com You do want to do it, roger. We'd like to have you do
it too.

Cooper You said can we control the spacecraft today, huh?

Houston Cap Com Yes, can you control it?

Cooper I don't know, we might be able to.

Houston Cap Com Okay, don't expend a lot of fuel doing it. We're
trying to save some fuel here too.

Cooper Okay.

END OF TAPE

Gemini Control, Houston; 121 hours, 48 minutes. With the spacecraft over Australia, we've had a long chat with the Gemini 5 spacecraft. We've advised them on the precise powered-down configuration requested; they've also been advised to suspend the use of onboard fuel until further notice. More than likely, we will stay in this powered-down and drifting flight state for the better part of today. The powered-down configuration is drawing an amp load of 18 amps at 27 volts. We have the tape ready now from the Canarvon pass, and we will play it for you now.

Canarvon Cap Com Gemini 5, Canarvon.

Conrad Go ahead, Canarvon, this is Gemini 5.

Canarvon Cap Com Roger. I have a flight plan up-date for you when you are ready to copy.

Conrad Stand by.

Canarvon Cap Com Also be advised that flight requests that you use no fuel until advised, delete all experiments until advised.

Conrad Ready to copy the flight plan.

Canarvon Cap Com Roger. Item, map 155549, longitude 151.4 east, rev 77. Next item, star 155549, remarks, zero hours, 1 niner minutes. Do you copy?

Conrad Roger.

Canarvon Cap Com Did you copy that about the fuel?

Conrad Roger.

Canarvon Cap Com OK, and they want you in a powered-down configuratio:

and this is a list of the items they wish you to have powered up--a voice control center, one suit fan, two coolant pumps, ac-aid beacon, UHF receiver, a DCS receiver, PCM tape recorder, a bio-med recorder number 2, the DC and DC converter, the OAMS heater, and the RCS heater, the water line heater, and unnecessary cabin lights. Do you copy?

Conrad No, I got all of it but one--voice control, one suit fan, 2 coolant pumps, 1 ac-aid, and what was the next one?

Canarvon Cap Com The next one was UHF receiver, followed by DCS receiver.

Conrad Yeah, a DCS, PCM tape, bio-med recorder no. 2, DC-DC converter, RCS mode, and . . . mode heaters.

Canarvon Cap Com Roger. They are trying to work up some test on this attitude pressure problem, but they haven't got anything as yet.

Conrad OK.

Canarvon Cap Com They have several thoughts, thruster 7 and 8 run on the end of the manifold. There is the possibility of clogging toward the end of the manifold. Or it could be low on fuel or oxidizer, or both. They are working on the problem.

Conrad Roger.

Houston Cap Com We'd also like the scanner heaters left on,

Conrad OK.

Canarvon Cap Com You can turn your primary ACME power off.

Conrad Roger.

Canarvon Cap Com OK. We've cut your telemetry off; we had a look at
it, it looks OK; we've transmitted off.

Conrad OK.

Canarvon Cap Com Now we are standing by.

Conrad Roger.

Gemini Control here. In addition to the items read off that flight
directors requested remain powered up, one other item, the MSC-1
experiment, the electrostatic charge sensor, will be left on. This
draws a very small amount of power, and the crew will be advised of
that when we reach Hawaii some 5 minutes from now. This is Gemini
Control.

END OF TAPE

Gemini Control, 122 hours, 2 minutes. We've had no contact since the Canarvon station. We should be coming up on Hawaii in a very few minutes, and we are in that drifting configuration which is reminiscent of Gordon Cooper's earlier flight in Faith 7. He spent the better part of his flight in a drifting mode. Flight director is in a discussion with Jim McDivitt, Deke Slayton, and several other people around his console. John Hodge has come back, the Blue Team flight director. We generally have a fairly relaxed atmosphere here in the Control Center. This is Gemini Control.

END OF TAPE

This is Gemini Control Houston here, 122 hours 13 minutes into the Flight. Hawaii just lost signal so I started talking. We still have no word on the kinds of rates that the spacecraft is achieving in this drifting flight. We do expect some word on that as soon as it swings across the United States. Here is the Hawaii conversation.

Hawaii Cap Com Gemini V, Hawaii Cap Com.
Cooper Roger, Hawaii Cap Com. Gemini V here.
Hawaii Cap Com Roger. For your power up configuration we'd like you
 to add the horizon scanner heater circuit breaker on.
Cooper Ah, roger. For the power up configuration?
Hawaii Cap Com That's the way you are now.
Cooper Do you want the scanner heater circuit breaker on?
Hawaii Cap Com That's affirmed.
Cooper Roger, we have it on.
Hawaii Cap Com All of your systems are go.
Cooper Roger. Thank you.
Hawaii Cap Com We're standing by.
Cooper Okay, Hawaii Cap Com.

END OF TAPE

This is Gemini Control, Houston, here. We're over the Texas site and let's cut in on the conversation live.

Cooper and I saw Houston quite clearly.

Houston Cap Com Gordo, have you ever been able to see the Domed Stadium?

Cooper No, we didn't see the Domed Stadium the last time either.

Houston Cap Com Rog.

Cooper There are a number of small puffy clouds overhead, ... and then we are drifting at a fairly good rate here too. It doesn't give us a great long look at anything

Houston Cap Com Okay.

Cooper We just now passed Florida, I saw Florida.

Conrad Hey, one thing Jim I'd like you to consider on the last days worth of experiments. Fuel permitting, let's not load us too badly though because we are going to have quite a restowage problem, you know?

Houston Cap Com Right, I understand that. If set aside 3 hours prior to retrofire for our stowage and it took us just that long to do it. As a matter of fact, we were a little rushed at about 1 hour to go, we still had some things out, so I think 3 hours would be a good time to use there.

Conrad That was our feeling, that we needed at least 3 hours.

Houston Cap Com Well, don't worry about that. We won't load you up so that you can't get all the stuff stowed.

Conrad Very good.

Conrad We're right over Key West now and it's a really nice day down there too.

Houston Cap Com Roger.

Conrad I saw the airfields in Key West.

Houston Cap Com Have you ever noticed the Gulf Coast and the Atlantic Coast outlined in those little puffy clouds like we saw?

Cooper Yeah, there it is right now.

Houston Cap Com That's really classical weather, isn't it?

Cooper Yeah, it sure is.

Cooper You can also see a big, sort of a storm right down off the tip of Florida in the Gulf.

Houston Cap Com Rog. Say. Were you ever able to see the eye of "Doc een" or does it just look ...

Cooper Yeah, we took some pictures of it.

Houston Cap Com Does the eye actually look like an open spot, or is it just all clouded over?

Cooper It's like a semi-opened spot and built up very, very heavy, and then right in the immediate eye of it, it was sort of like a sunken in place, like a convex.

Houston Cap Com Very good. All the stuff we passed over was just flat and you could never really pick out any center to them.

Cooper This one had a very well defined eye.

Houston Cap Com Rog.

Cooper It looked like the center of a whirlpool, you know?

Houston Cap Com Roger.

Conrad Say, Jim. Would you give my wife a message.

Houston Cap Com I'd love too.

Conrad Tell her she owes me a dollar.

Houston Cap Com Okay, I'll tell her that. You want to collect it yourself, or do you want me to mail it to you.

Conrad No, I'll collect it. I just want you to tell her, that's all.

Houston Cap Com Okay.

Houston Cap Com Hey, Dr. Berry says that she has already called up and admitted she owed you a dollar.

Conrad Very good.

Conrad I got a good look at the Guantanamo Naval Base down there in Cuba.

Houston Cap Com Very good.

Houston Cap Com Gemini V, Houston again. Have you been able to see anything of Australia yet in the daylight?

Houston Cap Com Gemini V, Houston. Have you been able to see Australia in the daylight yet?

Houston Cap Com Gemini V, Houston.

Cooper Go ahead Houston. Gemini V.

Houston Cap Com Dr. Berry said yesterday at the Press Conference that after the use of your blue bags when you get back, we'll have a real milestone.

Cooper Correct.

Conrad I'm really keeping my eye on Gordo, I'll say that.

Houston Cap Com So would I, Pete. So would I.

Gemini Control here. We apparently are out of the voice contact zone. Just as we tuned in on that live conversation across the United States, we established here on the ground that we were achieving in drifting flight rates in pitch of about 2 to 3 degrees and slightly less than that in roll. So, the spacecraft is drifting along at a very stable sort of position. This will let the crew continue with what kind of photography they can acquire on a when you can basis. We heard quite a discussion of the weather and the conversation also cleared up, phone call that Dr. Berry got from Jane Conrad about an hour ago. And we presume Mrs. Conrad might have more to say on that. This is Gemini Control at 122 hours 35 minutes.

END OF TAPE

Gemini Control, Houston; 123 hours, 2 minutes into the mission. Spacecraft is on its 78th revolution around the earth, and our orbital elements today are 123 statute miles, perigee, 187 statute miles, apogee, period of about $95\frac{1}{2}$ minutes. The next perigee will occur over Guaymas at a point 115, 115 degrees west longitude. The perigee moves back about 22 degrees per rev. Everything's status quo here, no contact since the State-side pass. This is Gemini Control.

END OF TAPE

Gemini Control here; 123 hours, 33 minutes into the flight. We are on the 78th rev in mid-Pacific. Here in the Control Center the flight director has been chatting with Techland Roberts. Tech was our first flight dynamics officer back in the Mercury program. It's been a relatively quiet swing across the Pacific. The spacecraft was acquired by Canarvon, although it was more than a thousand miles from the station. We have that conversation and will play it for you now.

Canarvon Cap Com Gemini 5, Canarvon Cap Com.

Conrad Come in, Canarvon, Gemini 5.

Cooper Our status is green up here.

Canarvon Cap Com Roger. Looks good down here also. We've got about
.....LOS, standing by.

Conrad Roger. Canarvon Cap Com, is the Surgeon listening?

Canarvon Cap Com He's listening.

Conrad Would the Surgeon pass on from the pilot to doctors
Bishop, Wade, and Murray Austin our regards, please?

Canarvon Cap Com Roger. Will do.

Conrad Thank you.

Canarvon Cap Com We'll see you tomorrow.

Conrad OK.

END OF TAPE

Gemini Control here, 123 hours 47 minutes into the mission. We have some tape from Hawaii medical data pass for you in which Cooper reads out his water usages and sleep cycle. Earlier, over Carnarvon, you heard Pete Conrad convey his best wishes to Doctors Bishop Laine and Murry Austin. Those gentlemen are members of the Royal Australian Air Force, but they are working as medical monitors at the Carnarvon station. Pete met them during the GT-3 flight, the Grissom and Young flight. Cooper, the Command Pilot also has had some experience at the Carnarvon Station. He was the Capsule Communicator there during the John Glenn flight. We have the Hawaii pass ready for you and we will play that conversation for you at this time.

Hawaii Surgeon Have a valid temperature, standing by for blood pressure.

Hawaii Surgeon Gemini V, Hawaii Surgeon. Your cuff is full scale.

Hawaii Surgeon Gemini V, we have a valid blood pressure. Give me a mark when you begin your exercise.

Cooper Mark.

Hawaii Surgeon Gemini V, Hawaii Surgeon. Your cuff is full scale.

Hawaii Surgeon Gemini V, Hawaii Surgeon. Your cuff is full scale.

This is Gemini Control. We cut off the tag end of that Hawaii pass because we have a little surprise for the crew. Some music they requested earlier in the day. Jim McDivitt just advised that they are playing. Let's all listen to it. (The music begins to play).

Jim McDivitt May I have this dance please?

Conrad That sounded good.

Houston Cap Com How do you like that GT-V. Gemini V, Houston here. I've got some switching positions that I would like to have you go to. You don't have to acknowledge this. We'd like to have you put your cryogenic gauging switch to ECS O₂.

Houston Cap Com Gemini V, Houston here. We'd like to have you put your cryogenic gauging switch to ECS O₂.

Houston Cap Com Oh, you're up. How did you like the music.

Conrad It was great!

Houston Cap Com Listen, as soon as we get through some of the switching here, we'll give you some more.

Conrad Okay.

Houston Cap Com How are your rates up there now?

Cooper Oh, about 3 degrees, I guess.

Houston Cap Com Okay, your cryogenic gauges to fuel cell O₂. Okay, now we'd like to have you go to fuel cell H₂.

Cooper Okay, we get particles going by fairly frequently, so I think we are still venting.

Houston Cap Com Okay, you say things are going by quite often so you think you are still venting, right?

Cooper Roger.

Houston Cap Com Okay, put your cryogenic gauging switch back to off. Be advised that it may be possible for you to get another fix on the storm "Doreen".

Cooper Okay.

Houston Cap Com On rev 79 at approximately 19 25 00, the center of the storm should be a little bit to the right of your track or possibly directly below the spacecraft, and if you can get a fix, we would like to have the time that you passed over it, and where you thought the center of the storm was with respect to you.

Cooper Okay. We'll try.

Houston Cap Com Gemini V, do you have anything else for Houston.

Cooper No, I don't believe so.

Houston Cap Com Okay, if you don't have anything else, we'll give you the music again, Okay.

Cooper All righty.

Houston Cap Com Here we go. Let's have some music, Contact.

MUSIC BEGINS TO PLAY AGAIN

Gemini Control here. That apparently concludes our space concert for today. The tunes you heard were in this order: Muskrat Ramble, Birth of the Blues, Jada, and most appropriately, When the Saints Go Marching In. There has been consideration here given to playing "Never on a Sunday," was ruled out as inappropriate. The tunes, of course, were very much in keeping with the city that they were flying just to the south of, all New Orleans type music. Both had expressed a preference for Dixie Land before taking off. This is Gemini Control at 124 hours 4 minutes into the mission.

END OF TAPE

Gemini Control here; 124 hours, 32 minutes into the flight, and things have been all quiet in the Control Center since our State-side pass. when Jim McDivitt qualified as the first space disc jockey. We should explain that the music was played up there through Jim's console. He had to squeeze down his push-to-talk button to keep it fed up there, just the reverse of the situation about 3 months ago when Ed White was out on the end of a line and Jim, of course, was keying so that the conversation flowed the other way. For the record, the music was that of Al Hirt. That's it, things are all quiet here in the Control Center. The flight director is on a luncheon break. When he leaves his console, assistant Flight Director Bill Platt takes over. Up in space, the pilot should be taking a nap now, and the command pilot is due for another meal. They are coming up on Tananarive very shortly. At Canarvon the crew will get some up-dates on planned landing areas, 81 through 85, and that's our status at 124 hours and 33 minutes into the flight.

END OF TAPE

Gemini Control, Houston here; 125 hours, 10 minutes into the flight. We're on the 79th rev, coming across the Pacific Ocean. The capsule communicator aboard the Coastal Sentry Quebec is in contact with the spacecraft now. They've just been given a whole long series of updates for various planned landing areas, 81 through 85, as a standard procedure. The, of some interest may be the pressure and quantity readings on our various tanks. The environmental control system breathing oxygen supply, we're showing 76.9 percent of the mass quantity. The pressure is 1,020 and venting slightly. The fuel cell oxygen supply shows 86.7 percent quantity, and we're showing the pressure on that oxygen supply to the fuel cell of 173 pounds per square inch. The fuel cell hydrogen quantity is 40.7 percent and the pressure is 349 pounds per square inch and venting slightly. At last reading we were drawing onboard a total of 14.8 amps and a voltage of 26.8. Earlier, several revolutions earlier, you recall that Pete Conrad said that he thought he saw a carrier and a destroyer entering Jacksonville harbor. Checking back with the authorities at Jacksonville, we believe that carrier and destroyer turned out to be a tug pulling a large barge, which might have been easily interpreted as a carrier and a destroyer to a Navy pilot like Pete Conrad. This is Gemini Control.

*END OF TAPE

Gemini Control here; 125 hours, 23 minutes into the flight. In a recent pass across the CSQ, Gordon Cooper noted a slight increase in his carbon dioxide sensor onboard the spacecraft, and this is accountable because the suit flow rate was slightly down and, as will be shown on the tape, people here were very happy in that the carbon dioxide sensor is delicate enough to pick up this slight change in the carbon dioxide element. We have talked to Doctor Berry, and his comment on the status of the pilot goes like this: They are in excellent shape. He says the EKG's, the heart rates, are as clean as any data he has seen during the flight during these last few passes, particularly over Hawaii. He says the intervals he sees in the EKG's are precisely what they were just prior to lift-off. He is very pleased. Gordon Cooper has reported the spacecraft rates are presently about 6 degrees and tumbling. At this time the spacecraft is approaching the west coast of the United States. During this period the crew will align the platform and will pulse mode fire for about one second each that number 7 and number 8 thruster that was giving us trouble earlier in the day, not use them for pass 5 to 6 hours. They do plan to fire them to see how everything works out. Meanwhile let's have the tape from the earlier CSQ pass.

CSQ Cap Com Gemini 5, CSQ Cap Com

Cooper Roger, CSQ Cap Com. Gemini 5 here. Over.

CSQ Cap Com Roger, Gemini 5. We would like you to place your cam switch to real time ac-aid for this one, please.

Cooper OK.

CSQ Cap Com And CSQ has a mock up-date for you. Let me know when

you are ready to copy. Over.

Cooper Stand by. We're ready.

CSQ Cap Com Roger. 81-3 01 52 20 143719101, 82-3 23273...
13 plus 22; 18 plus 35, 83-3 010252, 12 plus 19,
17 plus 53, 84-Bravo 023841, 11 plus 34, 17 plus 45,
85 Delta 032755, 19 plus 36, 24 plus 40, do you
copy?

Cooper Roger.

CSQ Cap Com OK. Be advised the weather is good in all areas and
at standard neck angles. Over.

Cooper All right, the weather is good at standard neck angles.

CSQ Cap Com And also be advised if your delta P lights on section
2 come on, you should go to the cross over momentarily.
Over.

Cooper Say again.

CSQ Cap Com Roger, if your delta P lights come on on section 2,
you should open a cross over valve momentarily. Over.

Cooper OK, will do. And would you pass back to MCC that
we just had one minor little difficulty, and we think
it's all right, but they might just be aware of it.
Our partial pressure CO₂ gauge started sliding, and
we increased the suit flow and decreased the suit
temperature and suit flow, and the gauge went back
down, and we have run a P CO₂ tape test on it which
shows that it is below four millimeters of mercury,
and the gauge is presently back down to the zero
point, but they might just want this for informational

purposes.

Houston Cap Com We copy.

CSQ Cap Com All right on copy.

Houston Cap Com What did he say the P CO₂ got up to?

CSQ Cap Com He didn't say how far it rose;....

Houston Cap Com Ask him.

CSQ Cap Com it went to 4 millimeters he said, I believe.

Houston Cap Com Ask him, will you please?

CSQ Cap Com Roger. Gemini 5, CSQ here.

Cooper Go ahead, CSQ.

CSQ Cap Com Roger. Flight would like to know how far the CSQ rose.

Cooper When we started it was just above 1 millimeter of mercury, just above one tenth of a millimeter of mercury.

CSQ Cap Com One tenth of a millimeter.

Cooper Right. It's been riding right off the bottom of the peg, so this is quite a change.

CSQ Cap Com Roger. Copy.

Houston Cap Com Sounds pretty normal.

CSQ Cap Com Did you copy, flight?

Houston Cap Com Roger. That sounds normal to us.

CSQ Cap Com Roger.

Gemini Control here again. Coming right behind it we do have the Hawaii discussion. It's racked up, we'll play it for you now.

Hawaii Cap Com Gemini 5, Hawaii Cap Com.

Cooper Go ahead, Hawaii, Gemini 5.

Hawaii Cap Com Roger. We'd like to run a test on thruster 7 and 8. We'd like you to bring up the ACME and the pulse control mode and stabilize with your davenport to the sun without using your yaw twisters.

Cooper OK. ...

Hawaii Cap Com OK, we'd like you to fire the thrusters 7 and 8 in the direct control mode for about 1 second each, and evaluate the performance.

Cooper OK.

Houston Cap Com At Guaymas we'd like him to do that.

Hawaii Cap Com We'd like you to do that at Guaymas.

Cooper You want us to do that at Guaymas?

Hawaii Cap Com That's affirmative.

Cooper OK, fine.

Hawaii Cap Com OK, and as soon as you finish your evaluation, we'd like you to power down again.

Cooper OK.

Hawaii Cap Com All of their systems look good, flight.

Houston Cap Com Roger.

Cooper We still apparently....quite a bit, because our drift rate has gotten up to around 6 degrees per second in that top one.

Hawaii Cap Com Roger.

Gemini Control here. In the course of this swing off the west of Mexico,

we have attempted a latitude control check, and results were negative. We tried in the pulse command mode, we then tried in the rate command mode, that's on thrusters and upper seven, and 8 yaw left thrusters. We got zero thrust out of both. Pete Conrad reports that they did fly directly over the storm Doreen. He identifies the time, and we have that tape ready for you and we'll play it now.

Gemini Control again. I'm sorry, we apparently missed a cue there. They were not quite ready with the tape. When they are--I am advised they are ready now. Let's have the tape.

Cooper Go ahead, Houston. This is Gemini 5.

Houston Cap Com Roger. Have you started to slow down your rate now and to stabilize with the adapter towards the sun?

Cooper No, we're just starting.

Houston Cap Com OK, very good. We'd like to have you turn on your TN at 1926.real time on acquisition right now. We'd like to have you turn it back to command at 1934, if we haven't told you to do by then.

Cooper OK.

Houston Cap Com What do you think of those tumbling rates that you've got now. We'd like your opinion of them.

Cooper Well, they are getting up a little bit high... They aren't too bad yet.

Houston Cap Com OK. What are you thinking you'll live with? About

twice that much, or 50 percent more, or a little bit more, or what?

Cooper Just a second we're damping.

Houston Cap Com OK. How are those other thrusters working, Gordo?

Cooper They seem to be working all right.

Houston Cap Com Very good.

Conrad Do you want these altogether or one at a time?

Houston Cap Com We want them one at a time, and we want you to thrust for about one second on each one, and we want your evaluation fo their performance, but we'll call you and tell you when we get good TM. We'd like to watch that TM also.

Cooper OK.

Houston Cap Com Guaymas, do you have TM.

Guaymas Cap Com That's affirmative, flight.

Houston Cap Com OK, Gemini 5, this is Houston. We'd like to have you go ahead and operate one of the thrusters in direct, and you tell us which one you are doing.

Cooper All right number 7 is on, and I'm thrusting on my mark, 3, 2, 1, 1, no joy.

Houston Cap Com Roger, no joy. We'd like to have you do it on number 8 now please.

Cooper All right, number 8 is on. I'm thrusting now, 3, 2, 1, mark. No joy.

Houston Cap Com Roger, no joy on that one either. We'd like to have you go to rate command and try rate command

now, Gemini 5, in yaw left.

Cooper Roger. Number 8 is on now. Negative in rate command.

Houston Cap Com OK, try 7.

Cooper Number 7 is on now. And there is nothing in number 7.

Houston Cap Com OK, you can go ahead and power back down. We'll think some more here.

Cooper All righty.

Houston Cap Com Don't forget to turn your TM off. Just a second, let's see if we need anymore. OK, leave it on for another couple of minutes and I'll give you a call.

Cooper OK.

Guaymas Cap Com Flight, Guaymas.

Houston Cap Com Go ahead, Guaymas.

Guaymas Cap Com Be advised that acquisition had a steady light, I was getting a reading from the back room on both those thrusters as on. They never did go off, and they stayed on and they are on at this time.

Cooper Houston, Gemini 5.

Houston Cap Com Go ahead.

Conrad We passed Doreen 192445 20 miles north of track.

Houston Cap Com Roger, 192445 29 miles north of your track.

Guaymas, Guaymas would you check that?

Guaymas Cap Com Check it again, flight. Stand by.

Houston Cap Com Gemini 5, Houston. We'd like to verify that the circuit breakers went on, and stayed on when you

placed them up to the on position.

Cooper Yes, they were and they stayed on.

Houston Cap Com OK.

Guaymas Cap Com Flight, Guaymas.

Houston Cap Com Go ahead.

Houston Cap Com They should be on now, but they should have gone off.
when you turned the circuit breakers on.

Guaymas Cap Com That is negative.

Houston Cap Com After the pass, how about playing your tape back.

Guaymas Cap Com Will do, flight.

Houston Cap Com Cut some main A and B summaries for us.

Guaymas Cap Com Roger. Are the circuit breakers closed at this time?

Houston Cap Com Stand by. I think that the circuit breakers are
both off at the present time. Gemini 5, Houston.
Are both your circuit breakers open at this time?

Cooper Roger. Circuit breakers 7 and 8 are open at this time.

Houston Cap Com OK. Very good.

Cooper We are reading 42 percent on fuel cell hydrogen at
the present time.

Houston Cap Com Roger, understand, 42 percent on fuel cell hydrogen.

Cooper Roger. It's gone down 52 42 since we talked to you last.

Houston Cap Com OK.

Guaymas Cap Com Flight, Guaymas.

Houston Cap Com Go ahead.

Guaymas Cap Com They are both on.

Houston Cap Com Roger. Gemini 5, this is Houston. You can put

your TM switch back to command now.

Cooper

OK, I'm back in command.

Guaymas Cap Com

LOS Guaymas .

Houston Cap Com

Roger.

END OF TAPE

Gemini Control Houston, 126 hours 2 minutes. At this time the Eugene Kranz Flight Control Team has come in the Control Center and we are in the usual between shift briefing process at each console. Eugene has been here for about half an hour. He has been in detailed discussions with Chris Kraft on the events of today. Otherwise, we've not had a report from the spacecraft since the Guaymas pass. The Pilot, Pete Conrad, is to have a meal starting in about 10 minutes after Tananarive. Then over Hawaii, they will perform another hydrogen and oxygen fuel cell section 1 and 2 purge. This is Gemini Control.

END OF TAPE

This is Gemini Control after 126 hours and 32 minutes of flight by spacecraft Gemini V. Spacecraft Gemini V is now on its 80th revolution over the Earth and it is moving out over the Pacific and will shortly pass over the Coastal Sentry Quebec, our tracking ship located south of Japan. Here in the Mission Control Center, the White Team of Flight Controllers have moved into the building and will soon be manning the consoles. The Red Team is going off duty. At this point in our flight, Spacecraft Gemini V is in drifting flight. We have been briefed that yaw thrusters 7 and 8 are not functioning and the spacecraft is in drifting flight through the end of its mission from now until it completes its mission. This is Gemini Control at 126 hours 32 minutes.

END OF TAPE

This is Gemini Control at 128 hours and 2 minutes into the flight of Spacecraft Gemini V. The spacecraft is now in it's 81st revolution over the earth and at the present time it's over the country of India and will shortly be moving into the Pacific to make another pass over the Coastal Sentry Quebec, our tracking station located there. Over the Rose Knot Victor, the tracking ship off the West Coast of Peru, Pete Conrad, who is now awoken from his sleep period gave the report on the status of experiments performed recently aboard the spacecraft. At this time, Command Pilot Gordon Cooper is scheduled to sleep. We will now play back the voice tape transmission between the spacecraft Gemini V and the Rose Knot Victor tracking ship.

RKV Cap Com Gemini V, RKV Cap Com.

Cooper Go ahead RKV, Gemini V.

RKV Cap Com Roger. Your systems are all green and go on the ground.

Cooper Okay, we're all green here.

RKV Cap Com Roger. We'd like to confirm that your OAMS heater circuit breaker is closing.

Cooper That's Charlie, it is closing.

RKV Cap Com Good. We'd like an experiment status from you this pass.

Conrad Okay, ready to copy?

RKV Cap Com That's right.

Conrad The experiments that we have done are 05 21 00 00, UHF test number 1, 2, 3, and 6 complete. D-1, sequence 1, 2, and 3 complete. D-2, nothing. D-6, 72 pictures, D-4, D-7 in the following sequence are complete, 405, 408, 409, 410. Still copying?

RKV Cap Com Roger.

Conrad 410A, 410B, 411, 414, 420, 422, 423A, 423B, 424A, 425A. On D-4, D-7 we have 16 minutes of record time left.

RKV Cap Com 16?

Conrad That's affirmative. SAD-13, we have completed to date all onboard flight plan tests.

RKV Cap Com That's good.

Conrad On S-1, it is complete. On S-5/6, we have taken 3 magazines worth, we have over 210 pictures. On S-7, we've taken 23 pictures which includes 8 groups of clouds, one of the calibration card picture. The M-1 experiment, broke. It's zero power plus 00 plus 00, plus 00, give or take a couple of hours.

RKV Cap Com What was the number of that one again?

Conrad Say again?

RKV Cap Com Which experiment was that?

Conrad The M-1.

RKV Cap Com Roger.

Conrad The M-3 exerciser has only been used when appropriate by the Pilot. The Command Pilot has used it as many times as (garbled).

RKV Cap Com Good.

Conrad The MSC-1 has been done once on day 1, once on day 3, once on day 4.

RKV Cap Com Roger.

Conrad On the Apollo landmarks, we've photographed 207, 208, 212, 213.

RKV Cap Com Good.

Conrad Cabin lighting, 4 surveys.

RKV Cap Com Say again?

Conrad On the cabin lighting, we have run 4 surveys.

RKV Cap Com Good.

Conrad On the humidity sensors we have at least one reading per day.

RKV Cap Com Good.

Conrad Millimeter camera, we've taken 1 and a quarter magazines. We have 2 and three-quarter magazines left. With regard to remarks, the P6 are almost out of film. 3401. Do you read?

RKV Cap Com Rog.

Conrad That's it.

RKV Cap Com Okay. What size of film were -- did you give me where you had 2 and three-quarters magazine left?

Conrad 16-mm.

RKV Cap Com Rog. Thank you.

Conrad We've also taken about 50 S-5 and 6 photographs with the extra 35-mm film pack.

RKV Cap Com Roger.

RKV Cap Com Okay, could you give me the scores on your vision test?

Conrad Okay. I'll get you one here. It was only one that
that you haven't got.

RKV Cap Com Okay.

Conrad Okay, last night they are at 05 days, 08 hours, 40 min-
utes. The Command Pilot had ten wrong. And on
test M-9, his scores were 95, 95, 94, 96, 96.

RKV Cap Com Good, good.

Conrad On the Pilot, the SAD-13 were 6 wrong, and 9 scores
were 95, 93, 92, 98, 98.

RKV Cap Com Good.

RKV Cap Com We'd also like to get an evaluation of the --
on this mode of failure on the tape recorder. And
approximately what time it happened?

Conrad We don't have any idea of what time it happened
because we just realized that we had done a lot of
talking on the tape and hadn't gotten a record light.
and it should not blink.

RKV Cap Com Roger, understand.

RKV Cap Com Houston Flight, RKV Cap Com.

Houston Flight Go, RKV, Houston here.

RKV Cap Com Do you have anything else for us, everything looks
real nominal on this pass.

Houston Flight Could we have another alpha summary please?
RKV Cap Com Roger, will do.
RKV Cap Com Gemini V, RKV Cap Com. We have nothing else for you.
 We'll be standing by.
Conrad Thank you.

END OF TAPE

This is Gemini Control at 128 hours and 32 minutes into the flight of spacecraft Gemini 5, which is now on the 81st revolution over the earth and has just passed out of voice range of our Hawaiian tracking station. While over that station, Pilot Pete Conrad carried on a voice conversation with Bill Garvin, the spacecraft communicator aboard, at the Hawaiian tracking station. After giving some read-outs on the fuel system, Bill Garvin, the spacecraft communicator at Hawaii, reported to Mission Control Center at first that all systems looked good from the ground. He then asked Pete Conrad, "How are your rates doing?" Conrad said, "The rates are running about 6 percent per second and on one axes, mostly pitch and a little yaw." Garvin asked him how he felt about these rates, and Conrad said, "They are all right." We had then a report that a delayed time telemetry was completed to the ground, and Conrad asked how much electrical power was indicated, what the indication of use of electrical power was in the spacecraft from the ground readings, and the response was--15 amps. We will now give you the play back of that taped voice conversation.

Conrad Hawaii, Gemini 5, do you read?

Hawaii Cap Com I read you loud and clear.

Conrad The rates are about 6 degrees per second.

Hawaii Cap Com Roger.

Conrad That only on one axis.

Hawaii Cap Com Which one?

Conrad Well, the vehicle is tumbling, and it changes axes, but that's the big rotation.

Hawaii Cap Com OK.

Conrad It's mostly pitch, with a little yaw.

Hawaii Cap Com Roger.

Houston Cap Com Why don't you find out how he feels about those rates,
Bill?

Hawaii Cap Com How do you feel about those rates, Pete?

Conrad Oh, they are all right.

Hawaii Cap Com They don't bother you?

Conrad Nope.

END OF TAPE

This is Gemini Control at 129 hours and 2 minutes into our mission. Spacecraft Gemini 5 at the present time is passing off the east coast of South America and back over toward the African continent. We had a pass over the Rose Knot Victor tracking ship just a few minutes ago. It was a very routine pass. The spacecraft communicator up-dated the flight plan and passed on the comment that all systems looked good. We have talked to Doctor Dwayne Catterson, our flight surgeon here in Mission Control Center, and he said that both crewmen are in excellent physical shape, and that Pete Conrad, at this time, sounds particularly good; of course Command Pilot Gordon Cooper is in a sleep period. In the MCC, Mission Control Center in Houston, we have some of the flight controllers taking advantage of a lull in the flight and are having a coffee break. This is Mission Control, Gemini Control at 129 hours and 3 minutes into the mission.

END OF TAPE

This is Gemini Control at 129 hours and 32 minutes into the flight of spacecraft Gemini V, which at the present time is passing over -- beginning to pass over India. Our next voice communication, we expect, will be made over the Coastal Sentry Quebec, as the spaceship passes that tracking ship in just a few minutes. At that time the spacecraft crew will be advised that there will be a medical data pass upcoming as it passes over the Rose Knot Victor some 30 to 40 minutes from now, and that is the only activity that is scheduled on this revolution. This is Gemini Control at 129 hours and 32 minutes into the flight of spacecraft Gemini V.

END OF TAPE

This is Gemini Control at 130 hours and 2 minutes into the flight of spacecraft Gemini 5. At the present time our spacecraft is passing south of Hawaii on the 82nd revolution around the earth. Over the CSQ which was underneath about 10 to 15 minutes ago pilot Pete Conrad was advised to delete the cabin light survey which was scheduled for that time; and he was also advised that he is scheduled to make a medical data pass to the Rose Knot Victor, our tracking ship off the coast of Peru, which will be coming up in approximately 15 minutes. At this moment we are 130 hours and 2 minutes into the Gemini 5 flight. We have the voice tape now between spacecraft Gemini 5 and the Coastal Sentry Quebec tracking ship located south of Japan.

CSQ Cap Com

This is CSQ Cap Com.

Conrad

Go ahead, CSQ. Gemini 5 here.

CSQ Cap Com

Roger. We have you go on the ground, and we'd like to advise you to delete the cabin light survey that was scheduled - the next scheduled one. We'd like a reading of the number of "heads up" and the number of "heads down" surveys you have taken.

Conrad

Well, so far, they're either heads up or tumbling.

CSQ Cap Com

Roger. Copy. Could you give me the number of each please.

Conrad

There's 2 heads up and 2 drifting.

CSQ Cap Com

Copy. And we'd also like to remind you that you have a medical data pass over RKV on the next rev at time 00 21 32. Over.

Conrad

00 21 32.

CSQ Cap Com That's affirmative.

Conrad . . . flight data - our complete range now is 8 degrees.

CSQ Cap Com Copy. Range is now 8 degrees? Is that affirmative.

Conrad Affirmative.

CSQ Cap Com Roger. We have nothing further. Stand by.

END OF TAPE

This is Gemini Control at 130 hours 32 minutes into the flight of spacecraft Gemini 5 which is now passing over South America on the 83rd revolution around the earth. Just a few minutes ago, as the spacecraft passed over the Rose Knot Victor tracking ship, the pilot Pete Conrad made a medical pass including exercise which the flight surgeon aboard the Rose Knot Victor pronounced as good. The conversation between the Rose Knot Victor and the spacecraft was somewhat garbled on this end, and Pete Conrad was giving a water report - water intake report - we think he said 27 pounds and 6 ounces. We'll have to check this figure. The Rose Knot Victor also updated the spacecraft star map. This is Gemini Control 130 hours and 32 minutes into the mission. At this time command pilot Gordon Cooper is asleep.

END OF TAPE

This is Gemini Control at 131 hours and 2 minutes into the flight of spacecraft Gemini V. At the present time our spacecraft is coming up on the country of India on the 63rd revolution over the earth. We have had no voice communication with spacecraft Gemini V for a little more than 30 minutes, and at that time it was passing over the Rose Knot Victor, our tracking ship located off the west coast of Peru. Here in the Mission Control Center our flight controllers are taking turns at a dinner break. A cafeteria has been set up in an adjoining room. During past flights this cafeteria was operated on a temporary or makeshift basis. Now, with spaceflights increasing in frequency, the cafeteria has been put on a more or less permanent operation. Controllers can get a hot meal complete with all the trimmings. Tonight's menu, stuffed pork chops, blackeyed peas, and a variety of salads. This is Gemini Control at 131 hours and 3 minutes into the mission.

END OF TAPE

This is Gemini Control at 131 hours and 32 minutes into the flight of spacecraft Gemini 5. Our spacecraft at the present time is passing over the Pacific Ocean, approximately over Canton Island on the 83rd revolution around the earth. A few moments ago we had a voice communication with the Coastal Sentry Quebec, our tracking ship located south of Japan. That station gave the spacecraft a go on the ground - from the ground. The pilots in cooperation with the tracking ship made a fuel cell purge and completed in same; and they were given some coordinates for a tropical depression which is in the Pacific; and they should come rather close to it and will try to make a visual observation. The tropical storm depression was west of Japan at 21 degrees north by 157 degrees east. At this time both crew members are awake and both took part in the conversation with the Coastal Sentry Quebec. However, the transmission voice quality was not too good from the spacecraft. This is Gemini Control at 131 minutes - 131 hours and 33 minutes into the flight.

END OF TAPE

This is Gemini Control at 132 hours and 2 minutes into the flight of spacecraft Gemini V. Our spacecraft has just started its 84th revolution over the earth. At the present time has just left the vicinity of the Rose Knot Victor off the west coast of Peru and is now approaching over the southern tip of South America. We had voice communication with the spacecraft on this pass. Spacecraft communicator Jim Fucci on the Rose Knot Victor gave Gordon Cooper some new data for possible landing areas. He added that the weather is good all around. He advised Cooper there will be a medical pass for him on the next revolution as they come over the Coastal Sentry Quebec. He asked Gordon Cooper if he had noted the storm that we had indicated was in the area as we were over the Coastal Sentry Quebec and Cooper added they did see the storm. It had a center eye. It appeared quite large and appeared to be on the buildup and building fast. This is Gemini Control at 132 hours and 3 minutes into the mission.

END OF TAPE

This is Gemini Control at 132 hours and 32 minutes into the flight of spacecraft Gemini 5 which is now passing over Africa on its 84th revolution over the earth. We have had no voice communication with the spacecraft since it passed over the Rose Knot Victor approximately 30 minutes ago. At that time Gordon Cooper reported that he had sighted the tropical depression or tropical storm that had been pointed out by our weather people at 21 degrees north and 157 degrees east. Gordon said that he had seen the eye of this storm - that it was quite large and was on the build-up. At the present time activity aboard the spacecraft is on the low side. We have a medical pass coming up on the command pilot over the Coastal Sentry Quebec which will be in approximately another 20 minutes, and that is all the activity we have slated at this time. This is Gemini Control 132 hours and 33 minutes into the flight.

END OF TAPE

This is Gemini Control at 133 hours and 2 minutes into our flight of spacecraft Gemini V. The spacecraft at this moment is passing over the Pacific Ocean, having just passed over the Coastal Sentry Quebec, our tracking ship located south of Japan. We are on our 84th revolution over the earth. Passing over the Coastal Sentry Quebec, command pilot Cooper passed some medical data to the ground. This consisted of a blood pressure check, temperature, and exercise period, followed by another blood pressure. He also gave a water report to the surgeon aboard the Coastal Sentry Quebec, and received a map update. We will -- at this moment we are 133 hours and 2 minutes into the flight. We have the voice tape now between spacecraft Gemini V and the Coastal Sentry Quebec.

CSQ Cap Com Gemini V, CSQ. Its a Go on the ground, we have a valid temperature, standing by for blood pressure.

Cooper Gemini V, CSQ surgeon, blood pressure cuff is at full scale.

CSQ Surgeon Gemini V, CSQ surgeon, we have a valid blood pressure. Give me a Mark when you begin exercise.

Cooper MARK

CSQ Surgeon Gemini V, CSQ surgeon, your cuff is not at full scale.

CSQ Surgeon Gemini V, CSQ surgeon, it is at full scale now.

CSQ Surgeon Gemini V, CSQ surgeon, we have a valid blood pressure, Standing by for water report.

Cooper Rog. Hear you. We've now had 28 gallons 1 ounce --
28 pounds, 1 ounce. Over.

CSQ Surgeon Roger, 28 pounds, 1 ounce.

.

Cooper At 17 00 00 I had 3 Charlie, meal 3 Charlie.

CSQ Surgeon Understand. Meal 3 Charlie at 17 00 00.

Cooper Rog. Do you want the scores on the SAD 13 and
M-9 for the pilot and myself?

CSQ Surgeon If you'd like we can take those.

Cooper OK. The pilot had 5 wrong on the SAD 13 and on the
M-9 his scores were as follows: 99 97 99 97 98.

CSQ Surgeon Roger. That was all for the pilot, right?

Cooper Rog. On the command pilot, I had 8 wrong.
My numbers on the card 91 91 92 92 92.

CSQ Surgeon Rog, understand, 8 wrong, 91 91 92 92 92.

CSQ Cap Com Continue with the Cap Com now. Gemini V, CSQ
has a map update if you are ready to copy.

Cooper Roger, go.

CSQ Cap Com Roger. Map 05 19 09, longitude 54 degrees west,
rev 86, star 05 19 09. 00 03 20 right section.

Cooper OK, fine

CSQ Cap Com CSQ has nothing further. Standing by.

END OF TAPE

This is Gemini Control at 133 hours 32 minutes into the flight of spacecraft Gemini 5 which at the present time is passing over our tracking ship in the Pacific, west of the coast of Peru, the Rose Knot Victor. We have had no voice communication with spacecraft Gemini 5 since we passed over the Coastal Sentry Quebec approximately 30 minutes ago, and at that time we had a tape playback of the voice conversation. At this time pilot Pete Conrad is asleep, and command pilot Gordon Cooper is in charge and awake. We have over the Rose Knot Victor, according to our flight plan, only a delayed tape telemetry playback for this station. It would be received there. And the flight continues. We are just ending the 84th revolution and will be starting the 85th in a matter of minutes. This is Gemini Control at 133 hours and 33 minutes into the flight.

END OF TAPE

This is Gemini Control at 134 hours and 2 minutes into the flight of spacecraft Gemini 5 which at the present time is on its 85th revolution over the earth and now is passing over North Africa. Flight director Gene Kranz here in the Mission Control Center gave us a status report on the flight just a few minutes ago. He said the hydrogen usage appears to be slightly better than we had expected, and that the status of our actual flight now is essentially unchanged from that reported when the red team left the control room at 3 p.m. this afternoon. He said all spacecraft systems are operating well at this time. Our flight surgeon Dr. Catterson said that the crew is getting more sleep today. They are eating on schedule and drinking enough water and they are in good health and good spirits. This is Gemini Control at 134 hours and 3 minutes into the flight.

END OF TAPE

This is Gemini Control at 134 hours and 32 minutes into the flight of spacecraft Gemini 5. Gemini 5 spacecraft at the present time is passing over the Philippines on the 86th revolution over the earth. Here in the Mission Control Center we are in the midst of changing shifts. The blue team of flight controllers have appeared on scene and are in the process of being briefed by the white team that has been on duty since 2 p.m. this afternoon. Our spacecraft passed within voice range of the Coastal Sentry Quebec a few minutes ago. However, voice communication was kept to a minimum and the CSQ merely passed on a go from the ground. We have one correction - we are in the 85th revolution instead of 86th as we stated. Here in Mission Control our flight director Gene Kranz and 2 of his controllers, Henry Stephenson - Guidance and Navigation, and John Aaron, our Electrical and Communications Controller, plus our Flight Surgeon Dr. Duane Catterson will be reporting for our nightly press briefing at 11:30 p.m. in the NASA news center here at Houston, Texas. This is Gemini Control at 134 hours and 33 minutes into the flight.

END OF TAPE

This is Gemini Control, 135 hours and 2 minutes after lift-off. Gemini V is within 2 minutes of acquisition by the tracking ship Rose Knot off the coast of Peru. The next station which will acquire it after Rose Knot will be the Canary Island station. This occurs at 27 minutes past the hour. Here in Mission Control there is a changing of the guard underway as various members of the blue team flight control come in and talk with the people they are relieving, the white team people, and it is fairly quiet in here other than muffled conversation. This is Gemini Control.

This is Gemini Control, 136 hours 32 minutes after lift-off. Gemini V is now ending the -- into the -- nearing the end of the 86th revolution. It will be acquired by the Rose Knot tracking ship in approximately 8 minutes. During the pass over the Eastern Test Range station Antigua, a delayed-time tape playback of telemetry information will be fed down from the spacecraft. Pilot Conrad is scheduled for sleep at this time, and presumably he is asleep. This is Gemini Control.

END OF TAPE

This is Gemini Control 137 hours and 2 minutes after lift-off, Gemini V has just been contacted by Canary Island tracking station. Canary Cap Com said they were standing by, they had nothing for Gemini V. They have just begun revolution no. 87 and in 35 minutes they will be in contact with the Carnarvon, Australia tracking station. While over Australia the crew will attempt some synoptic terrain photography which means in simple terms large land mass areas being photographed from space altitudes. We have a tape of the pass over the Rose Knot at the end of the 86th revolution which we will hear now.

Cooper Roger, Gemini V here, RKV.

RKV Cap Com Roger, all systems are good on the ground. We have nothing else for you at this time so we'll stand by.

Cooper OK, mighty fine, thank you.

RKV Cap Com Roger.

Houston Flight RKV, this is Houston.

RKV Cap Com Go, Houston.

Houston Flight You might ask him how those rates are going.

RKV Cap Com Roger.

RKV Cap Com Gemini V, RKV Cap Com.

Cooper Go ahead, RKV.

RKV Cap Com How are your rates doing by now?

Cooper Rog, we just damped them again at about 20 minutes ago.

I fired up and redamped, rates came up to about 12 degrees per second, 12 degrees per second.

RKV Cap Com

Roger, how did it feel at 12 degrees?

Cooper

Not too bad. I thought we would get better heating on that center line . . .

RKV Cap Com

Roger, understand. I was just curious how it felt to you at 12..

Cooper

We didn't really feel much specifically except that items that have been flying around were getting slung to the side of the cockpit.

RKV Cap Com

Roger, understand. Thank you.

Houston Flight

Roger RKV, we copy.

Cooper

Tell him we had to power up for about 1 minute there, brought the AC power up, and I damped the rates down and went back off on it.

RKV Cap Com

Roger, thank you.

END OF TAPE

This is Gemini Control 137 hours and 32 minutes after lift-off. Gemini V. is 5 minutes out of Carnarvon tracking station in Australia and is just south of the Republic of Indonesia, nearing the midpoint of the 87th revolution. The communications between the spacecraft and ground stations tonight have been kept to a minimum, primarily to allow the crew more rest. The pilot, at this moment, is still asleep. The last station pass at Canaries, almost a half hour ago, was very brief as far as communications. However, telemetry looked very good on the ground according to the spacecraft communicator at Canaries. This is Gemini Control.

END OF TAPE

This is Gemini Control 138 hours and 2 minutes after lift-off. Gemini V, nearing the end of the 87th revolution is in the mid-south Pacific. Just passed the Carnarvon station a few moments ago. The Carnarvon spacecraft communicator updated the Gemini V flight plan. There are 2 or 3 items to do in the next couple revolutions including infrared measurements in the East Africa Area, of water to land, mountains, desert land measurements in the infrared spectrum. Also, in the East African area and the Arabian peninsula, they have some optic terrain photography tasks provided they can align for these pictures without using fuel. In fact none of the experiments will be done if fuel is required. Other experiments which were updated included additional S-8 and D-13 vision tester checks of the crew. At this moment we are 138 hours and 3 minutes into the Gemini V flight. We have the voice tape now between spacecraft Gemini V and the Carnarvon station.

Carnarvon Cap Com Gemini V, Carnarvon Cap Com. I have a flight plan update. Will you prepare to copy?

Cooper Roger, . . .

Cooper Goodmorning Carnarvon, Gemini V here, Ready to copy.

Carnarvon Cap Com Goodmorning. OK, first item, S-8 D-13, sequence number 01 and 02. Remarks, increase to 3 times daily as time permits. Next item, D-4 D-7, 08 41 16, sequence no. 417 418 and 414. Remarks, experiment recorder on, 3 minutes maximum. Next

item, S-5 CL-5, 08 45 00, sequence no. 02. Next item, S-8 D-13, 09 14 06, sequence no. 04. Remarks, pitch down 30, yaw right 2 degrees. OK, did I tell you to make visual and photo passes, if possible, without using fuel. Do you copy?

Cooper . . . and on the D-4 D-7 will you give me the time again?

Carnarvon Cap Com Roger. Time was 08 hours 41 minutes 16 seconds.

Cooper OK, that's it, huh?

Carnarvon Cap Com That's it. Houston will give you more updates on rev 88.

Cooper Roger

Carnarvon Cap Com Looks like we are going to give you a chance at this visual acuity pattern now it will be your next pass.

Cooper Right.

Carnarvon Cap Com We got a beautiful day down here. I hope you got -- I hope you happen to be in attitude.

END OF TAPE

This is Gemini Control 138 hours and 32 minutes after lift-off. Gemini 5 has just begun its 88th revolution. It is now in contact with the Houston spacecraft communicator through the eastern test range stations and will be acquired in approximately 8 minutes by the Canary Island station. At the present time the spacecraft communicator here in Mission Control is discussing various flight plan updates with the crew and getting onboard read-outs of the systems. This is Gemini Control.

END OF TAPE

This is Gemini Control 139 hours and 2 minutes after lift-off. Gemini 5 is now out over the Indian Ocean, should be acquired by the Carnarvon, Australian tracking station in approximately 8 minutes. During the recent pass over the Canary Islands the telemetry on the ground of the spacecraft systems looked good according to the spacecraft communicator at Canary. We at this moment we are 139 hours and 2 minutes into the Gemini 5 flight. We have the voice tape now between the spacecraft Gemini 5 and the stations of the eastern test range through which the Houston spacecraft communicator talked to Gemini 5.

Conrad Copy.

Houston Cap Com S6 14 50 00. Sequence 06. Remarks: south of track.
S5 15 10 00. Sequence number 02. D6 16 08 09.
Sequence number 05. Pitch 30 down, yaw 15 left. If completed notify ground as soon as possible.

Conrad What's the mode number?

Houston Cap Com Negative mode number. We'll pass up a correction on that when you get to Carnarvon. I don't have the speed number either.

Conrad Is Elliot there?

See Go ahead.

Houston Cap Com Roger. Be advised we're . . .

Conrad There's a story on the 8th too, I've got it going off the bottom of the page at the end of 7 days.

Houston Cap Com Roger. Be advised we're reading suit temperatures up to about 70. You got any comment on that?

Conrad That's the way they are. It's cold in here.

Houston Cap Com Okay. Understand.

Conrad Everything's freezing up.

Houston Cap Com Roger. Negative sweat on the H₂ - It's okay.

See Pete, the usage rate on that will level off as you
go along here.

Conrad Garbled

See Say it again.

Conrad You've been saying that for days and it hasn't.

See You haven't got to the level off point yet.

Conrad Okay.

Houston Cap Com It's 10 percent above the estimate right now. Okay
we've about had LOS. We'll get the rest of it up to
you at Carnarvon.

END OF TAPE

This is Gemini Control 139 hours 32 minutes after lift-off. Gemini V is presently in the central South Pacific, due south of Canton Island station, nearing the end of the 88th revolution. At this moment we are 139 hours and 32 minutes into the GT-5 flight. We now have a voice tape between the Gemini V spacecraft and the Carnarvon, Australia tracking station.

Conrad Visibility was really good down there. Too bad we weren't in the right position.

Carnarvon Cap Com Roger, Pete. Yeah, the winters here are beautiful.

Conrad Is it too cold to swim?

Carnarvon Cap Com They tell the swimming pool. . . today. It's a little too cool yet.

Conrad I keep forgetting its winter.

Carnarvon Cap Com Right. It's beginning to warm up.

Conrad You can tell them that I got some 414 and some 417's for them on -- in Africa instead of around the Cape coming over on this last pass, on the D-4 D-7.

Carnarvon Cap Com Roger.

Houston Flight I got that. You can tell him we'll have another go --

Cooper I can see some smoke . . .

Carnarvon Cap Com Say again.

Cooper I can still see the smoke.

Carnarvon Cap Com OK. The site's about 3 miles east of the third

column of smoke inland.

Conrad We're a good 300 miles from it now, past it,
but we can still see the smoke.

Carnarvon Cap Com Roger.

Houston Flight We'll have another chance tomorrow, Carnarvon.

Conrad We think the 2 purges are complete.

Carnarvon Cap Com Roger. We'll have another try at that site
tomorrow.

Carnarvon Cap Com We got a minute to LOS. Everything looks Go on
the ground. Standing by.

Conrad Thank you. We're Go up here. See you next pass.

Carnarvon Cap Com Roger.

END OF TAPE

This is Gemini Control 140 hours and 2 minutes after lift-off. Gemini 5 has just begun 89th revolution and is now in contact with the Eastern Test Range stations. It was remoted through the - to the Manned Spacecraft Center here to spacecraft communicator. The Canary Island tracking station is the next station to acquire the spacecraft later in this revolution. In a short time we hope to have a tape playback of the State-side pass. This is Gemini Control.

END OF TAPE

This is Gemini Control 140 hours and 32 minutes after lift-off. Gemini 5 is now crossing the east coast of Africa, out over the Indian Ocean on the 89th revolution. During their recent pass over the Canary Islands tracking station the spacecraft communicator said they were on a standby. They had nothing for Gemini 5, but they looked good on telemetry. There was also a reported sighting - visual sighting - of Gemini 5 from the Lake Champlain, prime recovery vessel, at 4 a.m. Central Standard Time approximately 33 minutes ago. At this moment we are 140 hours and 32 minutes into the Gemini 5 flight. We now have the voice tape between the spacecraft and the State-side and voice remoted stations.

Houston Cap Com From your weather observations you've been doing a real good job, and the weather men are really happy with it down here. And one thing they'd like to have on the observations is the precise time. You're way ahead of any other data they have; and they'd like to get the time of these observations; it'll really help them in their predictions. Okay?

Conrad Allright.

Houston Cap Com I have a couple of questions on your thrusters when you were damping your rates during the last few revs. Did any other OAMS thrusters other than 7 and 8 show a degraded performance?

Conrad Well, I really can't tell too well. We've noticed a little cross-coupling. And that indicates to me that some aren't doing as well as others.

Houston Cap Com Roger. Understand. Well, we're trying to figure it

out down here. We haven't got an answer yet. Were the circuit breakers on number 7 and 8 closed while you were trying to damp the rates?

Conrad No, they've been open ever since we were told to leave them open except a couple of times when we took a look at them to see if they'd come back into action because of the heater.

Houston Cap Com That's what we were wondering about. If you had them closed did you make any attempt to fire 7 and 8? And did you get any response?

Conrad No response.

Houston Cap Com Okay. Fine. Understand.

Conrad Now we haven't done it on the dark side yet. Course we noticed number 8 was firing but giving no thrust, so it was firing off mixture.

Houston Cap Com Roger. Okay. We understand.

Conrad I've got some plots for you on the ground. We broke off a piece of frozen urine maybe $3\frac{1}{2}$ inches by 4, and we've noticed an awful lot of stuff floating by the spacecraft which must come from the medic cryos.

Houston Cap Com Understand.

Conrad I was wondering if maybe something hasn't run into these thrusters when we haven't been using them or something like that.

Houston Cap Com Okay. Understand your comment. We'll be looking into it.

Conrad I'm not exactly sure where all the different vent holes are on the spacecraft in relation to the thrusters.

Houston Cap Com Okay. Understand.

See Pete, in regard to your hydrogen it looks like it'll be about 15 more hours before your curve levels off on that, so you can expect this rate to continue down until about that time. Then you'll see it level out quite drastically.

Conrad You're sure.

See That's what the curve says here. It's a curve that we did not have before flight, but it's the type of a curve they do expect. After about 15 hours you will stop venting, and this will cause the curve to level off quite drastically. We're running well ahead of it incidentally, but this is the shape of it.

Conrad Okay.

See The fact that we're running ahead of it is why you've got another 15 hours to go before you level out.

Conrad I see.

See If I understand you in regard to these chance sightings so to speak, although you might be pointing in the right direction your comment is that you would not have the rates stopped well enough to take a picture unless you had actually stopped. In other words, the rates do not decrease at all, they merely go in different directions.

Conrad The Questar lens - the 9000 foot runway up here fills the whole lens up and the probability of having it pass through the Questar field of view is virtually impossible. One, and even if it did you'd never get a picture.

See Because of the rates.

Conrad That's true. That's equally true with the 200 mm although it doesn't blow up quite so big.

See Roger. I understand.

Conrad I seriously don't even think it's worth rigging the gear, myself.

See Well, we thought - we weren't thinking about those rates. If they were fairly high you've got a good point, you just couldn't do it. If you were dealing with some fairly low rates you might try it and just make the comment that you had such and such a rate, and they could kind of take that into consideration when they analyze the pictures.

Conrad Well, we've got plenty of pictures for them out of the Questar anyhow. Over 70.

See I'll bet.

Houston Cap Com Hey, Pete, next time you try your damping on the dark side how about checking 7 and 8 and see if you get a glow out of them.

Conrad We'll do that. The venting must have slowed down because we've - the rates haven't built up too badly.

We're getting along here about 2 degrees per second now.

Houston Cap Com Okay. Understand. Okay, that's about what we expect.

Conrad We unfortunately - it was a beautiful day in Australia -
and we were just not in the right position to see the
SAP13. We saw Sharksmouth Bay, and that's the last
thing we saw. We were pitching up, and then we saw
the smokestreams 300 miles past over our shoulder, so
I'm sure we could've seen it.

Houston Cap Com Okay. We copied the pass as you went over, and we'll
play it again for tomorrow.

See I lost a bet on that one, Pete.

Conrad What was that?

See I bet you'd be looking at it.

Conrad Came pretty close.

See I guess you're aware that the thing that we're - we feel
is the tightest is the water storage capacity. We're
continuing to work on that, but as you know we don't
have a real good handle to work with on that one.

Conrad That's the one thing bad. We've been talking this
whole thing over, and we're aware of all the problems.

See Roger.

Conrad We're beginning to feel the effects of Gemini 5 : . .

See The effect of what?

Conrad Of being confined so long. We're getting stiff, and
so forth.

See Maybe you ought to open the door and stretch a little bit.

Conrad I'd sure like to.

See I'm not sure we copied exactly what you said, Pete.
We understand you're begining to feel the effect of being cooped up, and were there any other comments?

Conrad No other comments, just that we're getting stiff.

See Roger. The exerciser isn't enough on that, huh?

Conrad No.

See Roger.

Conrad There's not enough really - enough room to use it right.

See Roger.

Houston Cap Com We about have LOS. We'll see you next pass.

Conrad Okay.

END OF TAPE

This is Gemini Control 141 hours and 2 minutes after lift-off. Gemini V is now north of New Zealand, nearing the end of the 89th revolution. During the pass over the Carnarvon, Australia tracking station routine planned landing area updates were passed up to the crew for revolutions 91 through 95. There was also a report of a visual sighting from the Carnarvon station of the Gemini V spacecraft. This is Gemini Control.

END OF TAPE

This is Gemini Control 165 hours and 2 minutes after lift-off. Gemini V presently is in the central Pacific nearing the end of the 104th revolution. Recently it made a pass over the Carnarvon, Australia tracking station in which the flight plan was updated and also updates for the planned landing areas for revolutions 107 through 111 were routinely passed up to the crew. People who have extremely good eye sight and are in the Houston and southeast Texas area may possibly be able to see the spacecraft starting at 5:14 this morning when it will rise in a west-southwesterly direction and will have a maximum elevation of about 70 degrees due south at approximately 5:19 central time, and will set over the eastern horizon at 5:22. The slant range at this maximum elevation will be approximately 132.7 miles. We stand now at 165 hours and 3 minutes after lift-off. We have now a tape of the voice transmission between the Carnarvon, Australia tracking station and Gemini V during this last pass.

Carnarvon Cap Com Gemini V, Carnarvon. I have PLA update when you are ready to copy.

Conrad Roger, ready to copy.

Carnarvon Cap Com Roger, area 107-1, 14 14 44, 12 + 43, 18 + 04, test 8TX. Next area, 108-4, 17 00 17, 15 + 33, 20 + 37, Next area, 109-4, 18 35 54, 14 + 08, 19 + 19. Would you place your quantity read switch to fuel cell H₂.

Next area 110-3, 19 53 52, 16 + 42, 21 + 52.

Next area 111-7, 21 29 46, 15 + 13, 30 + 19.

Weather is good in all areas, bank angles are
roll left 53 and roll right 67 for all areas.

Do you copy?

Conrad

Roger.

Carnarvon Cap Com

OK, turn your quantity read switch off. We have
a flight plan update for you when you are ready.

Conrad

Go ahead.

Carnarvon Cap Com

Roger. Stand by one.

Houston Cap Com

You have to leave your real time TM off.

Carnarvon Cap Com

OK, flight plan update. First item, map 110351,
remarks, longitude 15056 degrees west, rev 104.
Next item star 110351, remarks, 22 hours, 26 minutes.

Do you copy?

Conrad

Affirmative.

Canarvon Cap Com

OK, and one more item we had a medical data pass on
the pilot at Guaymas. The AOS time is 10112.

Conrad

Say again the AOS time, please.

Canarvon Cap Com

Roger. 11 hours, 12 minutes.

Conrad

OK.

Canarvon Cap Com

Have you got writer's cramps?

Conrad

Yeah. We do an awful lot of writing, but not much
work.

Canarvon Cap Com

Roger.

Conrad

Did you see us out there today?

Canarvon Cap Com

Negative. We've got almost complete overcast today.

END OF TAPE

MISSION COMMENTARY CORRECTION

Due to misnumbering of tapes, there is no tape number 388.

This is Gemini Control 165 hours and 32 minutes after lift-off. Gemini 5 is presently in the mid-Atlantic and will be acquired by the Canary Island tracking station in 2 minutes. It is at the beginning of the 105th revolution. During the pass over the Guaymas, Mexico tracking station at the end of the 104th revolution the command pilot ran a medical data check and also made a report of his food and water consumption as well as his sleep. We stand now at 165 hours and 32 minutes after lift-off. We now have a tape of the just completed State-side pass by Gemini 5.

Guaymas Cap Com Gemini 5, we have a valid oral temp. Stand by for surgeon.

Guaymas Surgeon Gemini 5, Guaymas surgeon here. We're standing by for your blood pressure. Your cuff is full-scale. We have a good blood pressure. Standing by for your Mark when you begin exercise.

Cooper MARK.

Cooper I have now exercised.

Guaymas Surgeon Roger. Your cuff is full-scale. We have a good blood pressure. We are standing by for your food, water and 24-hour sleep report.

Cooper Roger. On water, I've had 31 pounds and 7 ounces of water. On food, at 0702 00 00 I had meal 4 Charlie. And in last 24 hours I've had approximately 3 hours of sleep and I'm due for my next sleep period in an hour.

Guaymas Surgeon Roger. We copy. 31 pounds plus 7 ounces of water, Meal 4 Charlie at 07 02 00 00 and three hours of sleep in the last 24. Could you give us an estimate of the

quality of the sleep.

Cooper Very good.

Guaymas Surgeon Roger. Thank you very much. Guaymas Surgeon out.

Cooper Roger.

Guaymas Cap Com Gemini V, Guaymas. You are looking good here on the ground. Would you turn your real-time and press in your TM control switch to the Command position.

Cooper Roger.

Cooper Guaymas, Rog. I'm firing up my FDI's to take our rates out now.

Guaymas Cap Com Ah roger. Understood. Flight, Guaymas.

Houston Flight Roger, I read.

Guaymas Cap Com Okay.

Houston Flight We are going to take it now, Guaymas.

Guaymas Cap Com Go.

Houston Cap Com Gemini, Houston. We haven't got anything for you. You might give us a comment on your rates when you get them damped down.

Cooper Roger. They weren't too high. We just thought we would go ahead and damp them down.

Houston Cap Com Okay, thank you. We appreciate it. Looking good on the ground.

Cooper Roger.

Houston Cap Com Gemini V, Houston Cap Com. We are doing some more discussion on this hydrogen here and the latest thought is that the venting may not stop until we get down to 10 percent on the gauge. But, I'd like to reinterrate

that even if it continued without leveling off anymore at all, we would be in good shape at the end of the mission. We would still have some 4 or 5 percent remaining. We are continuing to monitor this very closely and we do expect it to level out somewhat here as soon as it stops venting which the latest estimate is, it may be as low as 10 percent.

Cooper Okay, just fine.

Conrad My status in regard to experiments is still no fuel expenditure, is that correct?

Houston Cap Com That's correct.

Conrad Okay.

Houston Cap Com You understand the reason, I think, don't you, Pete. We are trying to make certain that we have fuel available to stop these rates as long as we need to do so. Once we get to the point where we don't have any rate buildup due to venting, then we will be free to use the rest of the fuel for experiments.

Conrad Yeah, okay.

Houston Cap Com We'll give you a decision on that radar test on the next rev. as you go by on the fuel usage.

Conrad Okay. The OAMS system is plenty sluggish now. I'll tell you, it just doesn't seem like it is putting out what it use to.

Houston Cap Com Rog, I understand.

Houston Cap Com Pete, do you feel that there are any other thrusters tending to go out at this time, or do you feel it's just a general sluggishness of the system?

Conrad Well, they very definitely have degradation of several thrusters because we've got -- I think more cross-coupling than we should have. As a matter of fact, it has started, let's see, roll has started to couple into pitch now, which it hadn't done before; yaw -- when we are using right yaw -- right yaw has been coupling into roll which it is still doing. But I just think that general performance is just dropping off and dropping off.

Houston Cap Com Roger.

Conrad It may be when we fired up for good, that if we make a good shot at the retro all the way around or something, we might sort of liven things up. I don't know.

Houston Cap Com Are you doing all your damping with pulse?

Conrad That's correct.

Houston Cap Com Let's -- there may be a lot to that. You are just not clearing the system up and you haven't been for a long time. It may just be needing a good shot of clearing out, but we don't want to do that.

Conrad We're right smack dab over Houston, it looks like right now. I can just make it out as the sun is coming up.

Houston Cap Com Very good. Everybody is outside looking for you.

Conrad They ought to be able to see us because the sun is shining on us and not on you.

Cooper Can you see us at Clear Lake too.

Houston Cap Com Yeah, we have had some reports of sightings.

Cooper Okay, we're powering down all our , and so forth.

Houston Cap Com Roger.

Houston Cap Com Gemini V, Houston.

Cooper Go ahead Houston.

Houston Cap Com When you mentioned that the pitch and roll coupled, and the yaw and roll coupled, which direction of roll was that. Can you give us an idea?

Conrad Let's see. Right yaw coupled into right roll, I guess.

Houston Cap Com Okay.

Conrad I think it says that the number 3 yaw thruster is the weaker of the two.

Houston Cap Com Roger. How about the pitch?

Conrad The roll, the right roll -- excuse me. The left roll coupled into pitch up.

Houston Cap Com Okay, understand. Incidentally, as you went by, you were extremely easy to see and I think just about all of Houston saw you.

Cooper Very good.

Conrad What's our empheris now. Still 107?

Houston Cap Com Stand by.

Conrad What?

Houston Cap Com Stand by.

Houston Cap Com 107.4 by 159.0.

Conrad Roger. Let's see, what are the outlooks for the recovery area tomorrow?

Houston Cap Com I think it all looks pretty good. I'll get a detail on it.

Houston Cap Com Gemini V, Houston.

Cooper Go ahead.

Houston Cap Com The way it stands right now, 122-1 is acceptable but about 500 downrange is not so good, 121-1 is clear all the way.

Cooper Roger. Thank you.

Houston Cap Com We're watching it real close down here.

Cooper Okay.

END OF TAPE

This is Gemini Control, 166 hours and 2 minutes after lift-off. Gemini 5 is now midway through the 105th revolution and will be acquired by the Canarvon, Australia tracking station in approximately 7 minutes. The time to retro fire clock at the right-hand side of the Control Center here now says 25 hours and 59 minutes and 55 seconds until retro fire. This is Gemini Control.

END OF TAPE

Gemini Control here. Good morning; 166 hours, 28 minutes into the flight, and we are still waiting for the State-side pass which will be a decision point on whether we are going to go for 122-1 or not. The status of the spacecraft will also be a very strong determining factor on how much experimenting we do in this State-side pass, and we'll come into that as quickly as conversation develops. We do have ready for you now a conversation from Canarvon, and we'll play it now.

Canarvon Cap Com Gemini 5, Canarvon. Place your quantity read switch to the ECS O₂ position.

Cooper Hello, Canarvon, Gemini 5 here. We have the number 2 fuel cell powered up on the line.

Canarvon Cap Com Roger.

Cooper Had one on at about 1203.

Canarvon Cap Com Roger. OK, would you go to FC O₂ on quantity read?

Cooper Canarvon, Gemini 5. We noticed a lot of venting again coming into the dark side this trip, but we presume it's ECS O₂ this time.

Canarvon Cap Com Did you say you noticed a lot of venting?

Cooper Yeah, a couple of times.

Canarvon Cap Com Roger. Now would you place your quantity read switch to the fuel cell H₂? Go ahead, flight.

Houston Cap Com Roger. We don't think that EC O₂ is going to give him much in the way of moments. That vents inside. as close to (interrupted by Canarvon Cap Com)

Canarvon Cap Com Roger. Roger. Did that venting there give you

much rate?

Cooper Oh, it's picked it up a little bit, but not much.

Canarvon Cap Com OK, flight advises that they don't suspect ECS O₂ will give you much of a rate. There's not much movement on that that's near the CG.

Cooper Well, we think that that's probably what it was that was venting.

Houston Cap Com Did he see that, or did he feel it by rates? Did he see a lot of fire flies and things, or is he estimating that on the basis of rates he got?

Canarvon Cap Com Gemini 5, were you estimating that venting on the basis of rates or visual?

Cooper Visually.

Houston Cap Com Roger.

Canarvon Cap Com OK, did you place your quantity read switch to the off position? Everything looks good here on the ground.

Cooper We're go up here.

END OF TAPE

This is Gemini Control Houston- here, 166 hours and 42 minutes. The U.S Weather Bureau, Spaceflight Meteorology Group, says this morning that weather conditions remain quite good should Gemini 5 be committed to an eighth day. The center of tropical storm Betsy was estimated to be about 100 miles southeast of the island of Barbados, several hours ago. Movement was predicted to be on a course of 280 degrees at a speed of 14 knots and the strongest winds to be near 40 knots. The storm is still in the early stages of development and not too quite precisely positioned. Betsy will not likely affect weather conditions significantly in the primary landing area about 600 miles east and a little south of Miami. But an alternate landing area off Jacksonville at the end of the previous revolution will have more favorable weather conditions. Off Miami skies will be frequently cloudy with ceilings of 1,000 feet or less, and scattered showers covering about 10 percent of the surrounding ocean area. Winds will average nearly 20 knots, the seas five to six feet. Off Jacksonville, skies will be less cloudy, with little chance of showers. Winds between 10 and 15 knots and seas of about 3 feet are expected. In the east Atlantic recovery area, about 300 miles west of the Canary Islands, skies will be partly cloudy, ceilings usually unlimited. Winds will average 10 to 15 knots and seas 3 to 4 feet. In the mid-Pacific area, about 500 miles north of Honolulu, cloudiness is decreasing, ceilings when present will be about 800 feet, winds will average 10 knots and seas two to three feet. In the west Pacific area, about 500 miles south-west of Tokyo, mainly fair weather will continue, winds will average a little over 15 knots and seas of four feet. In addition to tropical storm Betsy, a new typhoon has evolved in the fertile area of

the western north Pacific. Typhoon Olive is centered about 1,000 miles southeast of Tokyo moving slowly towards the northwest, probably not much remains of storm Doreen, now centered about 800 miles west of San Diego. In the southern hemisphere, major storms are nearly all centered south of the ground track of Gemini 5, but cold fronts may be seen near South Africa, South America and Australia. This is Gemini Control.

END OF TAPE

This is Gemini Control, 166 hours and 48 minutes into the flight. And the spacecraft has established contact with our Texas station about to go over White Sands area. They have been told to perform a no fuel tracking task of a sled run outh there at Holoman Air Force Base and let's tune in on them now..

Houston Cap Com Gemini 5, Houston. We'd also like to have you bring up your HF receiver so we can play some music as you leave the States here.

Cooper Very good.

Houston Cap Com Gemini 5, Houston. We'd like to have you place your biomedical recorder switch ot off now. We'd like to save the rest of the tape until just prior to retrofire.

Cooper Ok.

Conrad Bimed recorders one and two are both off.

Houston Cap Com Ok. Gemini, Houston. The big blue team gives you a Go for 122-1. Press on.

Cooper Roger. We're pressing on.

Houston Cap Com Good show.

Conrad Ok, blue team. Over the ocean, over the blue, Gemini 5, we thank you.

Houston Cap Com Great. Now we're discussing poems here - I was talking to both Jane and Trudy this morning and they both went outside and saw you. And Jane sent up a little poem here Pete. It goes: "Twinkle, twinkle, Gemini 5, How I want you back alive. Up above the world so high, I saw you today as you went by. Twinkle, twinkle, Gemini

5, Tomorrow you take your great big dive. Zinging toward the ocean blue and I send my love to you."

Conrad Tell her I think it's real great.

Houston Cap Com Ok, we've got about 5 seconds for the White Sands - for the Holloman test. Right up.

Conrad Ok. I see the track. I do not see the lamp lights but I do see the track.

Houston Cap Com Ok. Do you see the rocket?

Conrad Not yet.

Houston Cap Com Ok. It should be burning.

Conrad No. I don't see the rocket but I do see the track.

Houston Cap Com Ok. Well, it should have lit up - it should have been burnt out by now. Let me check with Flight.

It should be breaking right now, Gemini 5.

Cal. Cap Com California is LOS. Texas go remote. Texas, wake up. UHF.

Houston Cap Com Gemini 5, Houston again.

Houston Cap Com Gemini 5, Houston, you can turn your C-band adapter switch back to command.

Conrad Roger, C command.

Houston Cap Com Here comes your DCS load now.

Cooper Roger, we got it.

Houston Cap Com Very good. Gemini 5, Houston. I'd like to give you a little briefing on our flight plan for today. Ready to copy?

Or to listen, I guess.

Conrad Ready.

Houston Cap Com Most of the things that we've got on the schedule today are all to be done with no fuel. So there - if you happen to get pointed in that direction, fine. If you can't, well, that's too bad. We would like to have you so your damping, though, so that you take advantage of the fuel that you're doing the damping with pointing in the direction that would be usable to you. And especially so on the Laredo SAD 13 pass, which is supposed to occur at 16 00 40. WE might even expend a little fuel on that to point the spacecraft in the right direction so that you can see the targets. Ok?

Conrad All right. We concur.

Houston Cap Com Ok. We're still conserving the fuel - I just got here as Elliott was briefing you on the venting and when it may stop, but we would like to get that Laredo SAD 13. Now for tomorrow we have a couple of other things that we want to do. One of which is to do the D-4, D-7 pointing at the sun, and another one is an SAD 13 at Woodleigh Ranch, if possible.

Cooper Right.

Conrad What's their weather outlook tomorrow? They were overcast today.

Houston Cap Com Rog. We had them scheduled but we scrubbed them. We don't really know what it's going to be tomorrow, yet, Pete. We've got no forecast for them.

Conrad Funny thing - the day before yesterday it was so clear
 down there you couldn't believe it.

Houston Cap Com Rog.
 Gordo, Houston. As I said, on your last pass, Trudy
 saw you up there without too much trouble at all.
 She sends here best wishes and she says that she had
 the girls up quite early this morning and they all
 went out and saw you and they certainly enjoyed it.

Cooper Very good, thank you.

Houston Cap Com She said you put on a good show.

Conrad No better than you did.

Houston Cap Com Roger, Pete, Jane said that Gemini horoscope for today
 the paper said that you should get your house in order
 and the evening was good for dining out, in case you're
 interested.

Conrad Ok.

Flight Gemini 5, this is Houston Flight. Stand by. With
 regard to these recovery areas, we're going to take a
 look at the weather for the rest of the day and as
 you come up on this thing, our feeling at the moment is
 that we will go to 122, but we will also be prepared
 in 121.

Cooper Ok. Very good.

Flight The other thing is it looks like, from here to the
 end of the mission, we've got no problem with water or
 with the hydrogen we have left and that you can average
 quite a bit higher amps than we would expect that you

would so that's no problem.

Cooper

Ok. Fine.

Houston Cap Com

Gemini 5, Houston. Have you got the HF up?

Conrad

Roger.

Houston Cap Com

Ok, stand by.

Cooper

Hey, that sounds good.

Gemini Control here. They've picked up a little musical interlude. I want to explain that the Go for 122-1 was passed up by Capsule Communicator Dave Scott. Most of the communications on that pass were handled by Jim McDivitt, the red team capsule communicator. However, Dave reserved the right to pass up that Go, because of the timing of the shifts here. You heard him say the "big blue team" gives you a Go for 122-1." Jim picked it up from there then Chris Kraft came on toward the end and explained his thinking on the recovery areas tomorrow morning, that they were inclined to go for 122-1 but we'd also be covered in 121 if needed. Let's go back and listen to the music. (Music plays)

This is Gemini Control here. That of course is the sound track of the movie Cat Ballaou. We've had a momentary dropout of Cat Ballaou for an unexplained reason. We'll stand by and here it is again. (Music plays)

Gemini Control here. As you can see we are experiencing intermittent dropouts on our Cat Ballaou transmitter. I'm sure that the problem is somewhere in this building. With the spacecraft out east of Bermuda, that will probably wrap up the conversation. So, we'll leave the spacecraft now. (Music again resumes).

END OF TAPE

Gemini Control Houston here; 167 hours, 32 minutes into the flight, and we'll briefly interrupt this special interlude to bring you the following information: our perigee this morning is 123.4 statute miles, our apogee, 183 statute miles. The period of our inertial orbit is 89 minutes, 20 seconds. The period of our revolution orbit is 95 minutes, 18 seconds.

We were in conversation earlier this morning with several staff members of the little cafeteria that serves the Mission Control Center here just a few steps off the floor of the Mission Operations Control room itself, talking about the coffee consumption. They advised during this shift, during this mission, we've averaged about 300 cups per shift. The people in the cafeteria say that they always know when there is trouble, because the coffee consumption begins to spike very quickly. Falling into the jargon of the mission, the cafeteria staff people advise that the coffee consumption curve is very close to the planned values. This is Gemini Control Houston.

END OF TAPE

Gemini Control here; 168 hours, 2 minutes into the flight. We've completed the Canarvon pass, spacecraft half way between Australia and Hawaii right now. We regret that we can't give you the tape on that pass. We've experienced some technical difficulty. We don't know whether it's here in building 30, in Mission Control Center, or over in our News Center Building, but we are working on it from both ends and expect to have it solved momentarily. In the course of the Canarvon pass, the conversation went like this: the crew has passed up a pre-retro command load for 122-1 landing area, and that is the final command load they will get, except for up-dates on the orbits remaining between now and 122-1. They will, over Hawaii, power down the platform. It was turned on over the States and was pulling a peak amp load of 39 amps along with the other systems activated. Over Hawaii they will damp out their tumbling rates, and they will attempt to position the spacecraft small end down; the reason for this is that in the next pass across the States they will attempt another radar test at Cape Kennedy. They will activate their radar and try to read the L-band signal being piped out of the Cape. Also from Canarvon the Gemini 5 crew received congratulations of the station keepers at the Canarvon station, and the crew came back with some nice words for the performance of the Canarvon crew also. Pete Conrad said, "Good show down there." The spacecraft communicator, Charles Lewis, an MSC employee working at the Canarvon site this mission, promised the crew he would bring each of them a can of Swan lager beer back to Houston. This seemed to delight the crew very much. This is Gemini Control at 168 hours, 4 minutes into the flight.

END OF TAPE

Gemini Control here, 168 hours 20 minutes into the flight. We have just concluded the Hawaii pass and we have the tape ready. We will play it for you now.

Hawaii Cap Com Gemini V, Hawaii Cap Com.

Conrad Go Hawaii Cap Com. Gemini V here. Go ahead.

Hawaii Cap Com Roger, all your systems are looking good. We are standing by.

Cooper Computer platform is down and we are going to warm up the radar at this time.

Hawaii Cap Com Roger.

Houston Flight You show the computer is still on?

Hawaii Cap Com That's affirmative.

Houston Flight Roger.

Houston Flight Hawaii, you might tell him that it looks like his hydrogen is not venting, if that makes him feel warm.

Hawaii Cap Com Roger.

Hawaii Cap Com It looks like your hydrogen is not venting.

Conrad We concur that the pressure has dropped to about 740 the last time I looked.

Hawaii Cap Com Roger. By the way, you passed through 24 hours, you are now 25 hours and 50.

Cooper Oh boy.

Conrad We will be looking for you to count down tomorrow.

Hawaii Cap Com I'm practicing.

Conrad So are we.

Hawaii Cap Com Looks real good, Flight.

Houston Flight Roger.

Houston Flight Hawaii, ask him at which direction he is pointing in at the minute.

Hawaii Cap Com Which direction are you pointing in at the moment?

Conrad We are pointed about 30 degrees nose up, about 30 degrees yaw right.

Hawaii Cap Com Copy Flight.

Houston Flight Roger. Ask him if he has any rates.

Hawaii Cap Com Do you have any rates?

Conrad They are relatively low right now. We just put the timer to just gently start her back down so that we are already pitched down by the time we hit Florida.

Hawaii Cap Com Roger. He's got the radar up, Flight.

Houston Flight Roger. I want you to give us an LOS main.

Hawaii Cap Com Roger.

Houston Flight A and B.

Hawaii Cap Com We are coming up on LOS minus 1 minute.

Conrad Roger, Gemini V, standing by.

Hawaii Cap Com C-band LOS. Telemetry LOS. Ac-aid LOS.

Gemini Control here. We are about half way across the State side pass, with the spacecraft directly over Texas. We have established already in the early part of the pass that the hydrogen, fuel cell hydrogen, has stopped venting. It has stopped venting and we noted a pressure drop on that tank from -- it had been running about 349 to

350 pounds, it dropped to 344. A very encouraging sign. We expect some conversation momentarily between Jim McDivitt and the spacecraft.

Let's tune in there and find out what is going on.

Houston Cap Com Roger. It looks like we finally got it stopped.

Cooper Pete finally hit one after a few tries.

Houston Cap Com Gemini V, Houston here. Over.

Houston Cap Com Gemini V, Houston standing by.

Houston Cap Com Gemini V, Houston.

Cooper Go ahead Houston. Gemini V.

Houston Cap Com Roger, we're standing by. How are you drifting? Are you drifting in the right direction?

Cooper We are pitch down and in pretty good shape. We are yaw just slightly off the to the left. We're in pretty fair shape I believe.

Houston Cap Com Very good, very good.

Gemini Control here. One of our quieter passes. As the mission has progressed, I think we have noted less and less conversation with each pass. I think that is true of all stations. We will be performing a radar check over the Cape at which point they should be at in about 30 seconds. We will stand by for anything additional.

Conrad .. range not reading right in 69 yet.

Houston Cap Com Okay, keep us apprised at what happens.

Conrad Okay, I'm going to go to catchup once, quicky.

Houston Cap Com Roger.

Conrad It is still not reading right. Going to standby.

Houston Cap Com Okay.

Conrad It is still not reading right.

Houston Cap Com Okay.

Conrad Okay. We're well past the Cape and we went past the
Cape on look angle and we just broke lock.

Houston Cap Com Roger, just broke lock.

Conrad Roger, we never did get the proper range indication.

Houston Cap Com Roger.

Conrad We are going to turn the radar off at this time.

Houston Cap Com Roger. We'd also like to have you bring the platform
back up now, Gemini V.

Conrad Okay, platform has gone to cage.

Houston Cap Com Gemini V, looks right now that we are never going to
be able to spare the fuel to aline the platform while
we are doing this, so if you ever pass through 000 and
you'd like to go ahead and uncage it, go ahead.

Cooper Yeah, we would try to get some simple ones in.

Houston Cap Com I sort of figured you would. Gemini V, do you think
you will be able to do this selected drifting and do
any good over Laredo?

Conrad Yeah, with the cost of a couple bleeps of fuel, why,
it didn't cost us too much. We came pretty well across
the country with the nose down that time.

Houston Cap Com Okay, very good. So the next pass will be over Laredo

and we would like to have you use this sort of technique to see what you can do with the visual aquity target.

Conrad It's okay for that, it is impossible for D-6. They have been asking for the Questar Mode and you have to absolutely track.

Houston Cap Com I know that, Pete, and I have already talked to all of them about that. It's not for -- I think there is probably one chance in a million you might get a picture.

Conrad Yeah, that's my feelings.

Houston Cap Com We would be more than happy if you just see the targets at Laredo, and I think that would be a pretty successful day.

Conrad Okay.

Gemini Control here.

Houston Cap Com ... a few minutes here before we lose you. We don't have anymore information. We'll just stand by.

Conrad Okay, we'll try and get a look at Betsy and get the S-7 photograph. We got 6 fairly good S-5 photographs across East Africa. Now the time that they gave us for the S-5 was for East Africa and the Mode was for Mexico and I presume it was East Africa that he wanted.

Houston Cap Com Rog. Is there any information that we could furnish you, that you think would be of use to you?

Conrad No. We have a couple of ideas about alining the platform tomorrow and namely, we didn't know

whether to try out the RCS and put one ring on the line and close off all the circuit breakers to yaw left and use it direct or expend fuel out of 7 and 8 which are not burning but are giving some thrust and use it to aline.

Houston Cap Com Roger. We are working on that right now. Can you see the weather right below you right at this time?

Conrad Yes sir. It is a nice round circular storm with a bunch of Cu clouds in it.

Houston Cap Com Okay.

Conrad It is circular but it really doesn't have a defined center as such, but it is open in the center with a couple of really large thunderstorms.

Houston Cap Com Okay.

Conrad And it is 300 or 400 miles across.

Houston Cap Com Okay, we know what storm that is.

Conrad Say again?

Houston Cap Com I say, we know which storm that is.

Houston Cap Com We were a little more interested, Pete, in the weather that was behind you there over 122-1?

Conrad Loud and clear.

Houston Cap Com Roger.

Conrad It looked like it was all scattered all the way.

Houston Cap Com Okay, the thinking right now is that we will arm both the RCS rings and then use one of the rings to do the platform alinement. You might think about that for awhile.

Conrad Well, why not start out with the -- we'll try the OAMS and if we can get it alined with that, we're just that much fatter, if not we use the RCS.

Houston Cap Com Okay. We are working up a good sound set of procedures right now for all the things -- all the contingencies that we might have and we will relay them to you later on in the day and have you take a look at them and see what you think.

Conrad Okay.

Houston Cap Com Gemini V, Houston.

Cooper Go ahead Houston.

Houston Cap Com We have a medical data pass on the Pilot at Carnarvon next time and the AOS is 15 17 50.

Cooper Good.

Gemini Control here. I think we are out of communications range. That pass from the spacecraft well south of Antigua now between Ascension and Tananarive. The Pilots will take on a if can basis some more synoptic weather photography and over Carnarvon there will be a medical data pass on Pete Conrad. This is Gemini Control out.

END OF TAPE

Gemini Control here; our elapsed time, 168 hours, 52 minutes, and our time-to-retro-command clock shows 23 hours, 10 minutes. During that last pass across the Cape, the spacecraft did achieve a radar lock with the L-bank signal from the Cape, and Cape locked up on the spacecraft. A few minutes later Jim McDivitt had a brief chat with the spacecraft as it went over Ascension. The conversation went like this.

Houston Cap Com Gemini 5, Gemini 5, Houston. Over.

Cooper Houston, Gemini 5 here.

Houston Cap Com Gemini 5, Houston. We're interested in what kind of accelerations you're getting out of your spacecraft now that the hydrogen is not venting, so we'd like to see if the rates build up at all without any thruster activity. We'd like to have you do this for long enough so that you can see if there is any significant increase, and would you sort of keep this in mind so that you can inform us the next time you talk to us?

Cooper OK. I've got a question for you.

Houston Cap Com Shoot.

Cooper Any reason why we are using the secondary coolant pump A rather than B?

Houston Cap Com It's about six tenths of an amp more efficient than the other pump.

Cooper Garbled

Houston Cap Com There's a little piece of information for you.

We've got about 3 or 4 more minutes here, but we don't have any other information. We'll just stand by.

Cooper

Check.

END OF TAPE

Gemini Control, Houston here; 169 hours, 2 minutes into the flight, with the spacecraft out on the southern tip of Africa. About 20 minutes from now, when we're over Canarvon, Pete Conrad will go through a medical data pass. About 20 minutes later, between Hawaii and California, there is some photography planned if the spacecraft is pointed in the right direction. Later, over Texas, on the upcoming swing, we will try to acquire those eye charts again about 40 miles north of Laredo. They were observed very quickly on the last pass, and we are hopeful that the pilots will be able to see them again today. This is Gemini Control at Houston.

END OF TAPE

This is Gemini Control, Houston; 169 hours, 31 minutes into the flight, and we're in the 107th revolution. During the recent Canarvon pass, Pete Conrad reported he'd drunk a total of 32 pounds, 10 ounces of water, and he was in the process of eating meal 5 Alpha. Meal 5 Alpha consists of grapefruit drink, chicken bites, corn chowder, peaches, and brownies, 8 in number; total calorie intake of 932 calories. Also during the past, of some significance, is the fact that Pete reported the hydrogen venting, the stoppage of the hydrogen venting which stopped venting about, oh, during the last revolution. The spacecraft now is experiencing very, very slow rates, on the order of only one quarter of a degree per second in pitch, and very little in the other axes. The fuel cell hydrogen pressure is presently reading 340 pounds, and is not venting. We have the Canarvon tape, and we'll play it for you now.

Canarvon Cap Com Gemini 5, Canarvon. We have a valid oral temp.
 Stand by for Surgeon.

Canarvon Surgeon Gemini 5, Canarvon Surgeon. We observe your cuff
 is.....Cuff is full scale. We have your
 other blood pressure. Would you give us a mark
 when you begin your exercise?

Conrad Roger. Mark.

Canarvon Surgeon Cuff is full scale. Roger, Gemini. We have a
 valid blood pressure. Would you update us on
 your water status, please?

Conrad Had 10 ounces.

Canarvon Surgeon Say again, Gemini.

Conrad Roger--10 ounces.

Canarvon Surgeon Say again pounds.

Conrad 32.

Canarvon Surgeon Roger, we've got it. Just a second, Gemini, Surgeon out.

Conrad I ate meal 5 Alpha.

Canarvon Surgeon OK, 5 Alpha.

Conrad That's affirmative.

Canarvon Surgeon Thank you, Surgeon out.

Canarvon Cap Com Gemini 5, Canarvon Cap Com. Would you turn your bio-med recorder number 2 on and leave it on for duration of mission.

Conrad Bio-med recorder number 2 is back on.

Canarvon Cap Com Flight would like to know if you've got any rates switch you can give us.....

Conrad They are very, very low. Looks like we don't have anything in roll and maybe a quarter degree or less in yaw, and about the same in pitch. Very slow drift rate.

Canarvon Cap Com Roger.TM off. The flight wants you to be advised they are standing by for the Laredo test on this pass.

Conrad Roger, the radio test.

Canarvon Cap Com The radar test.

Conrad Laredo, roger. What's the weather guess give down there for tomorrow for the Canarvon site?

Canarvon Cap Com We don't know the weather as yet for the SAD 13.
Is that what you are referring to?

Conrad Affirmed.

Canarvon Cap Com It's still overcast at this time. They think it
might clear.

Conrad Roger.

Canarvon Cap ComLOS. Standing by.

Conrad Gemini 5, right here, standing by and see you
tomorrow.

Canarvon Cap Com Roger. That's must be a pretty good map you've got.

Conrad Did you say nap?

Canarvon Cap Com I say map, your orbital map.

Conrad Why is that?

Canarvon Cap Com How did you know it was our last pass?

Conrad Oh, well yeah. We keep the map up to date.

Canarvon Cap Com Right.

Conrad Actually, we've been so nominal on the orbit that
we've been on the original flight plan from lift-off
as far as stations go, and we slipped 24 minutes
is all on the station passages.

Canarvon Cap Com Roger.

Conrad That's not bad for 7 days.

Canarvon Cap Com No, it isn't.

Houston Cap Com All that was due to the maneuvering we did.

Canarvon Cap Com Flight says all that was due to the maneuvers we did.

Conrad That's affirmative.

Canarvon Cap Com We've had C-band LOS.

Houston Cap Com Roger.

Canarvon Cap Com Still on the beacon. Ac-aid LOS. Flight, did you copy about the rates?

Houston Cap Com Affirmative. We copied all.

Canarvon Cap Com Roger. A point on that C-band adapter--we've got a message received earlier that C-band (interrupted)

Houston Cap Com Roger. You got that from network.

Canarvon Cap Com I must have, yeah. The mission instruction message didn't include it, but we went ahead on the other.

Houston Cap Com He's made his one mistake for the flight.

Gemini Control, Houston here; 169 hours, 41 minutes into the mission. Within the last 15 minutes we have been in contact with the Lake Champlain, the Public Affairs Officer stationed out there, and he's given us a little run down on what's in store for the crew tomorrow when they board that ship. It goes like this: the first few hours will be reserved for medical checks. Starting with the command pilot, the first thing that he will do is undergo a series of X-rays of the chest and the heel bone, followed by a blood chemistry work up, checking the plasma volume, the red cell mass, to be followed by some EKG readings. While Gordon Cooper is undergoing those tests, Pete Conrad will be on the tilt table getting his number 1 tilt. Then the next hour Gordon Cooper is to get an eye exam, to be followed by a tilt, his number 1 tilt. Meanwhile, Pete Conrad will get the same sort of checks that Gordo got during that first hour. The next thing on the schedule for Gordon Cooper is a hearing test, to be followed

by a neuro-psychiatric test, which will include a thorough examination of the nervous system, paying particular attention to the motor responses. Pete then will pick up that part of it during that side of the hour. That will be followed by an internal medical check on both. So the overall schedule shapes up something like this. They are reserving about an hour to an hour and a quarter for recovery exercises themselves. Then they block out about 6 hours for the medical check. They are allowing a half an hour for clean up and shave for both pilots. Then there'll be a half hour set aside for visiting the spacecraft, which by then will be on the hangar deck. That evening they will have dinner in the general mess with the enlisted men, to be followed by a dessert in the Award Room in the Lake Champlain with the officers. After dinner there'll be more tilts and some additional medical checks, fairly brief. Then they plan to be in bed by 10 p.m. tomorrow night. They'll be up early the next morning about 5:30 a.m. and if all the plans hold for it now, they will be leaving the carrier about 7:30 a.m. All the times I gave you were local carrier times. This is Gemini Control at Houston.

END OF TAPE

Gemini Control Houston here, 169 hours 51 minutes into the flight. In the just completed Hawaii pass, the crew was instructed to look for that pencil shaped shaft of light out over White Sands, The Lasser experiment is up and we will attempt to acquire that visually. During the pass, we will also, the crew will also be looking for the eye charts north of Laredo. Here is the Hawaii conversation.

Hawaii Cap Com Gemini V, this is Hawaii Cap Com.

Cooper Hello Hawaii Cap Com. Gemini V here. Go ahead.

Hawaii Cap Com Roger, we hold you green on the ground.

Cooper Our status is green here.

Hawaii Cap Com Roger. I have a flight plan update when you are ready to copy.

Conrad Ready to copy.

Hawaii Cap Com Roger. Map 15 31 24, longitude 140.7 east, rev 107.

Conrad Roger on the map.

Hawaii Cap Com Star, 15 31 24, 23 hours 20 minutes.

Conrad Roger on the star.

Hawaii Cap Com Okay, Gemini V, we have a little information for you here. The Lasser beam is going to be up at White Sands, they are going to be ready for that. They are set up for Laredo and Flight would like to have a UHF 6 during the pass over the States.

Conrad Okay, very good.

Hawaii Cap Com Gemini V, we have nothing further. We are standing by.

Conrad Roger, Gemini V standing by.

Hawaii Cap Com Are you still looking We have all our out
but they are not back yet.

Houston Flight Rog. We have it.

Hawaii Cap Com Roger.

Gemini Control here. Jim McDivitt has just put out his first call for the spacecraft remoting through California. Let's come up on that conversation live.

Houston Cap Com Laredo is very good. Be advised that they will have 4 smoke pots there today. There will be one on the northwest corner, and 2 on the northeast corner, and then another one about three-quarters of the way between the northwest and the northeast corner so that you should have a nice line across the northern border of the acquisition target. Be advised that the wind is blowing from the South-Southeast so that the smoke should be blowing away from the targets and we hope they provide adequate visibility for early acquisition.

Cooper Okay.

Houston Cap Com We'd also like to inform you that the Laser will be on at White Sands, but it has no priority compared to the Laredo pass, we are mostly interested in Laredo pass.

Cooper All righty.

Houston Cap Com We would also like to have you bring your C-band adapter beacon up now. We would like for you to place the switch to Continuous.

Houston Cap Com Gemini V, Houston. We would also like to advise you that we will be updating and reloading your TR over Texas. We would like to get a bias check on your TR so you will get some DCS lights.

Cooper Okay, fine.

Gemini Control here. Very little conversation here. We are assuming that the Pilots are looking for that Laser out near White Sands, they are coming up right over the White Sands area right now. We will stand by here.

Houston Cap Com Gemini V, are you drifting around in the proper direction here.

Cooper Gemini V, affirmative.

Houston Cap Com Very good. When you have completed the SAD-13 pass, give us a call. We have some other information for you.

Cooper Okay.

Houston Cap Com Gemini V, we would like to have you place your C-band adapter switch to command at this time.

Conrad Gemini V, go ahead.

Houston Cap Com Roger, this is Houston. We would like to have you place your C-band adapter switch to command.

Conrad We did. It was somebody else calling us.

Houston Cap Com Roger.

Cooper We have White Sands in sight. I'm looking at it as we go by.

Houston Cap Com Roger, you see White Sands. Do you see the Laser?

Cooper I see the sled track, I guess that is still at White Sands.

Houston Cap Com Roger.

Cooper I don't see any light at all.

Houston Cap Com Okay.

5 NASA 902 5 NASA 902, do you read?

Conrad Hello NASA 902, Gemini V reads you weak but clear.

Conrad We have Laredo in sight, you can see the smoke from it very clear.

Houston Cap Com Okay, the -- does the smoke outline the northern boundary for you, does it help with your orientation of which direction the target is from?

Conrad Yeah, I can't see the targets yet because of the sun angle.

Houston Cap Com Okay.

Conrad In fact, I might not be able to see them at all, Gordo will probably be able to see them because we are not cleared out of the left yaw.

Houston Cap Com Okay.

5 NASA 902 Gemini V. do you read NASA jet 902?

Conrad Roger 902, Gemini V reads you.

Cooper I have the targets in sight.

Houston Cap Com Roger.

5 NASA 902 Hello Gemini V. Do you read NASA jet 902?

Conrad Okay Houston. Gemini V. We got a 4 and a 1 on the first row, and then we lost track because of yaw.

Houston Cap Com Okay, you got a 4 and a 1. Were those the first one and the second one, or were they some other ones in that first row?

Conrad The first and the second.

Houston Cap Com Okay. Very good.

Conrad NASA 902, Gemini V. Do you read?

Houston Cap Com Gemini V, Houston. We are all set to send up the TR time.

Cooper Roger.

Houston Cap Com Could you look at your stowage for reentry and sort of give us a quick appraisal of what you plan on doing, if you plan on doing something different than your preflight plan stowage?

Conrad The only thing different that we may do is, that we may have to have one or two food bags in the foot well. The thing -- we will have the two alpha bags with a food bag each wrapped in them in the right foot well. And I believe that we will make it into the proper place with just about everything else.

Houston Cap Com Okay fine. If you have any real drastic changes, let us know as soon as you can so we can figure it into the CG.

Conrad Okay, I don't really think so Jim. We are in pretty good shape and we are going to work on that this afternoon.

Houston Cap Com Okay, very good.

Conrad There is one change. We'll take the little bit of gear that was in the wing boxes out and carry it on our person and use that as extra storage area for food bags.

Houston Cap Com Okay, very good.

Houston Cap Com Gemini V, Houston again. We'd like to remind you to purge the fuel cells before you power down. .

Conrad Roger. We are still planning on powering down 16 20 00.

Houston Cap Com Roger, and we'd also like to have you read out your propellant quantity gauge to us at this time.

Conrad Okay, stand by.

Cooper The propellant quantity reads about 7 percent.

Houston Cap Com Roger, 7 percent. We want to do some radar tracking with Pretoria on this pass and we would like to have you turn your C-band adapter beacon on and off at these times. Are you ready to copy?

Cooper Roger.

Houston Cap Com Okay, we want you to go to Continuous at 07 16 31 00, we want you to go back to Command at 07 16 42 00.

Conrad Roger, I copied. 07 16 31.00 Continuous, 07 16 42 00 Command.

Houston Cap Com Roger. Be advised also that we would like to run another HF test out of the Eastern Test Range antennas, so after

we have completed the State side pass, we'd like to have you go to HF and we will start the music up again and we'd like to see if we can compare today's results with yesterdays. We thought that that was about the best HF test we have done so far.

Conrad I think you are right, and we'll mark the time down that we lose the signal.

Houston Cap Com Okay, we are going to be going over the Canaveral antenna and then we are going to shift down to the Antigua antenna and then we are going to leave it at Antigua until you lose it.

Conrad Okay. We'll give you a call at either the RKV or CSQ tonight after we get the stowage all done.

Houston Cap Com Okay, very good.

Conrad We are going to take a little nap and then go to work on it.

Houston Cap Com Okay, and we are allowing you between $3\frac{1}{2}$ and 4 hours for your stowage tomorrow prior to retrofire.

Conrad We are going to have all the hard articles stowed, the only

Houston Cap Com Gemini V Houston.

Conrad Go ahead

Houston Cap Com Okay, you cut out. You said you were going to have all the hard articles stowed before then, is that right?

Conrad We are going to give it a try.

Houston Cap Com Okay, very good. Would you put your cryogenic gauging switch to off, please.

Houston Cap Com Gemini V, Houston again.

Conrad Go ahead.

Houston Cap Com We definitely want you to be in UHF over the CSQ. Do you have the acquisition time there?

Conrad Would you please give it to us.

Houston Cap Com Right. The acquisition time there will be 07 17 02 42.

Conrad Okay.

END OF TAPE

Houston Cap Com Gemini V, Houston. We have about another 4 minutes here. We'll just stand by in case you have anything.

Cooper Okay, it sure is a pretty day down over the Caribbean today.

Houston Cap Com Say, would you like to describe some of the colors of the water down there. Do you see any shelves that go from green to blue or anything.

Cooper I'll say. There is a real brilliant green and a bright, bright blue. We came over Cuba, South America is again fairly cloudy.

Houston Cap Com Roger. Can you see any real sharp breaks in the color down below the water?

Cooper Yeah, very clearly. We are coming in over South America now.

Houston Cap Com Roger. Can you see the storm out there at all?

Cooper Yeah, just out to our left.

Houston Cap Com The name of that is Betsy in case you haven't been told about it.

Gemini Control here. We are standing by here for the resumption of another HF test in which music will be played. You heard the pilots say they would log how far from the Cape and the Eastern Test Range antennas they can read the HF signal. Over Texas, Pete Conrad reported he saw 2 squares, he read a 4 and a 1. The one reference indicates a vertical line up north and south through the center of the square, and the number

4 reading indicates a slant line beginning in the upper left of the square and running to the lower right. We are checking with our experimenters staff's port room to see if those were read accurately. Now there goes the music and we will all have a listen. (Music starts)

END OF TAPE

Gemini Control here; 171 hours and 27 minutes into the flight. Some 6 minutes ago, 7 minutes ago the Gemini 5 spacecraft, while in contact with the Hawaii station, logged its 3 millionth mile. The time on that was 171 hours and 20 minutes. The network controller, Ernest Randall, this morning has been in contact with Navy officials on the west coast, and we are attempting to arrange some sort of a patch with the sea lab, the divers, including Scott Carpenter, who went down yesterday off the coast of La Jolla. We don't know whether we're going to be successful or not today. We're talking in terms of making an attempt, and in about 3 hours from now we may remote the signal through Hawaii if the passes are not coming too close to the coast, as they won't 3 hours from now. Again, we are not certain we can undertake the sea lab pass today, but we are making an attempt right now to make a line arrangement to do it. We have the tape from Hawaii for you and we'll play it for you at this time.

Hawaii Cap Com Turn your quantity read switch to fuel cell H₂.

Conrad Roger.

Hawaii Cap Com And leave it there for Guaymas.

Conrad OK.

Hawaii Cap Com Now we've got a medical data pass scheduled on the command pilot. Is he asleep, or is he about to go to sleep?

Conrad Yeah, he's asleep. Do you want him?

Hawaii Cap Com No, we don't want you to wake him up. We'll scrub that data pass if he's sleeping.

Conrad Yeah, he's asleep.

Hawaii Cap Com I've got an update for you if you are ready to copy.

Conrad Ready to copy.

Hawaii Cap Com MSC 1172000. I've already passed it by, Pete.
Place your ECS central circuit breaker to open
and hold it momentarily.

Conrad Do what?

Hawaii Cap Com Turn the ES central circuit breaker to open and
hold it momentarily.

Conrad OK. OK, it's open. Do you want it closed?

Hawaii Cap Com Roger. Close it.

Conrad OK, it's closed. How's that?

Hawaii Cap Com That's OK.

Conrad You just want one orbit on that, don't you?

Hawaii Cap Com Roger, that was on this rev. It was on this rev, Pete.

Conrad OK. I've got something for you to copy.

Hawaii Cap Com Go ahead.

Conrad OK, we lost HF at 07162700.

Hawaii Cap Com Roger.

Conrad And I'll give you Gordo's, he ate a meal, 5 Alpha,
at 071500.

Hawaii Cap Com Roger.

Conrad And his total water is 31 pounds, excuse me, 32 pounds,
8 ounces.

Hawaii Cap Com Roger.
Houston flight, Hawaii Cap Com.

Houston Cap Com Go ahead.

Hawaii Cap Com OK, it's ... on this message of instruction. What
was the purpose of this ECS central circuit breaker
to open?

Houston Cap Com I asked the same question, and all I know is that's
what they wanted done.

Hawaii Cap Com OK, we had them do it, but I don't know why, and
I missed the time on it. I thought that was for
the next rev. I got this thing in kind of late.

Houston Cap Com That's OK. Hawaii, would you get us an onboard
hydrogen read out, and give us your read out of the
battery temperature, BF01.

Hawaii Cap Com Roger. Could you give us fuel cell hydrogen read
out, please? We've had LOS, flight.

Houston Cap Com Roger.

END OF TAPE

Gemini Control Houston here, 171 hours 45 minutes into the flight. We have just completed a rather long swing down the West Coast of North America and we have some 11 minutes of conversation to play for you. One or two other items during the pass, our Guidance and Navigation Controller reported that his gauges showed a little more than 6 pounds of fuel remaining onboard. A little more than 6. No new difficulties were reported in the thrusters or no difficulties in maintaining attitudes. Of course, that problem was vastly simplified several revs ago when the hydrogen in the fuel cell, hydrogen stopped venting. On another matter as to the prime recovery vessel, the Lake Champlain is still out in the area of -- just a little bit north of the 107 pickup point. We expect it may be 2 to 3 hours from now before any firm decision is made dispatching that ship either to the north or to the south. To the north of course, would be the 121 recovery area, to the south it is the 122 recovery area. The best estimate right now is sometime around 3:00 o'clock a decision would be made and the ship would be advised. We have the tape now of the State side pass and we will play it for you now.

Houston Cap Com Gemini V, Houston.

Cooper Go ahead, Houston.

Houston Cap Com On that last pass over the States it looked like you might have tried to start up your thrusters numbers 7 and 8 from the TM data. If you did, we'd like to know how they work?

Conrad Same. Same.

Houston Cap Com Okay, got you. The Flight Surgeon would like to talk to you for a minute here and then we will release you to Guaymas and they will finish up the pass.

Houston Surgeon Hello, Pete. I'd like to check with you a minute about this stowage that you are going to do this afternoon. Would you be sure and check on that reprogrammer and make sure you have that out some place where you can get ahold of it rapidly on the water when you are planning your stowage. Secondly, we will -- I will talk with you tomorrow morning and give you a briefing on how we are going to get the BP's and we are checking that out down here now, how we will do them during the retrofire and the landing sequence. I'd like for you and Gordo to both be thinking about -- we will have to do some discussing about whether we do want you to, or whether you feel there is any need to use any of the item B, so you might consider that between now and tomorrow and depending on how things go with sleep the rest of the time. Do you know of anything that's really been bothering Gordo with trying to get sleep, like last night?

Conrad No. We were just busy, that's all.

Houston Surgeon Okay. Pete, your water intake has been down some to both of you. We are not concerned about it or anything, but it has gone down some from what you have been doing the rest of the flight. It has gone down some in the last 24 hours and you both might watch that some, too.

Conrad Okay. Things have been running fairly cool in here and as you noticed, we have actually heated the suit loop up, and I think that -- we discussed that also and I think that is the reason.

Houston Surgeon Rog. I think so. And I think you still sound like you are pretty well plugged up. Do you feel that you are up there.

Conrad No, no. It's just that 100 percent pure oxygen, that's all.

Houston Surgeon Okay, listen, there is another one you can consider, you and Gordo both between now and entry, if you both feel that you are pretty plugged up, you ought to consider this business about item E for the stuffiness and we can look at it later this afternoon or this evening and check again.

Conrad Okay.

Houston Surgeon Very good. Everything looks good down here, Pete, as far as your data. All of the sensors are still working very well. The data is as clean as it was at prelaunch, it looks real beautiful, your rates and things are leveling out pretty well and we have no concern from the medical point of view down here.

Conrad Okay, we feel real fine.

Houston Flight Guaymas, Houston Flight.

Guaymas Cap Com Go ahead.

Houston Flight Tell him to leave that section 2 on for the rest of the flight.

Guaymas Cap Com Roger.

Guaymas Cap Com Gemini V, Guaymas Cap Com.

Conrad Hello there Guaymas, this is Gemini V.

Guaymas Cap Com You are looking pretty good down here. How are you doing.

Conrad We are go up here, Gemini V.

Guaymas Cap Com Okay, we decided to leave the section two on for the remainder of the flight.

Conrad Okay, very good.

Guaymas Cap Com Roger.

Guaymas Cap Com Flight, do you want to leave them in fuel cell H₂ quantity?

Houston Flight Until you get a readout at Texas.

Guaymas Cap Com Okay.

Conrad Hey Guaymas, would you tell Houston that we didn't come close enough to Betsy to get an S-7 run. It moved quite a bit east of our track.

Guaymas Cap Com Not close enough to where?

Conrad It had moved east of our track.

Guaymas Cap Com Okay, I understand. Flight did you get that.

Houston Flight Roger.

Houston Flight Guaymas, you can have him turn the hydrogen switch off.

Guaymas Cap Com Roger.

Guaymas Cap Com Okay, turn your quantity read switch off at this time.

Conrad Roger.

Guaymas Cap Com Okay, we copied.

Houston Flight What did you read there Guaymas?

Guaymas Cap Com PCM bit count 41.

Houston Flight Roger, that's what we got.

Guaymas Cap Com Quite a difference in that TM, Flight, now that we are not tumbling.

Houston Flight Roger.

Houston Flight Ask him what his rates are now?

Guaymas Cap Com What kind of rates are you having there now?

Conrad Very, very, very low.

Guaymas Cap Com It sure does help on the telemetry. Real Good.

Conrad You said what?

Guaymas Cap Com It really has given us much better telemetry.

Conrad Oh yeah, we are hardly moving at all now that the hydrogen has stopped venting.

Guaymas Cap Com Guaymas has LOS.

Houston Cap Com Gemini V, Houston.

Conrad Go ahead Houston.

Houston Cap Com Pete we are looking at the preparation for retrofire for tomorrow and it looks like the most straightforward way is to arm the RCS and have you do the platform alignment in RCS, and unless you have some objection to that we'll go ahead and sort of plan on that as far as the procedure down here.

Conrad No, we concur to that.

Houston Cap Com Okay, very good. We'll look into it and try and get a time on it. Looks like it really won't make much difference from TR minus 30 on down and we'll just do a few things from TR minus 2 hours down to TR minus 30.

Conrad Okay, TR minus 30 is over Carnarvon, or past Carnarvon?

I'm not sure of that.

Houston Cap Com Just a second -- it's over Carnarvon. Did you get that, it is over Carnarvon at TR minus 30.

Conrad Yeah, I got that.

Houston Cap Com Okay.

Conrad That's the only thing I can see is when we go through the power up checkoff list after the platform warms up we go ahead and arm the RCS early, that's all.

Houston Cap Com That's right.

Conrad Otherwise, it ought to be about the same.

Houston Cap Com That's right. That's why I say there are very few things that are definite. We are just trying to line it all up here to make sure, if there are any differences, we'll let you know about it.

Conrad Okay.

Houston Cap Com We were planning on just telling you a little summary of what we had here and we are going to figure it all out, and we shouldn't have any changes at all, except for that one little thing we have already mentioned.

Conrad Okay. Well, by my calculations, ought to be somewhere around 08 13 25 or so.

Houston Cap Com Rog. I think we've got you over Carnarvon at 08 13 33 00. Is that what you are talking about? Are we still talking to you.

Back to Gemini Control. In the discussion between Pete Conrad and Dr. Berry, you heard reference to item B, item B or Bravo is a dexedrene preparation and another reference to item E, as in Eddie, item E is a nasal decongestant. A nasal decongestant which might be needed as the 100 percent oxygen atmosphere seems to have a drying effect on the nasal passages.

END OF TAPE

Gemini Control, Houston here; 172 hours, 32 minutes into the mission. The CSQ has just been in conversation with the flight director here. They are standing by and should acquire in a very few minutes. They are due to acquire at 35 minutes after the hour. We also have in front of us a large map the retro officers provided which spaces out the flight paths of orbits 121 and 122 tomorrow morning, excuse me revolutions. If we land in the 121-1 area, which is a spot about half way between the Cape and Bermuda, the spacecraft would come over the west coast of Mexico, start across the States at 6:37 Central Standard Time. At 6:39 it would be roughly over El Paso; at 6:41 it would be between Abilene and Fort Worth; at 6:43 it would be a very few miles east of Jackson, Mississippi; at 6:44 it would be almost precisely over Columbus, Georgia; at 6:45, just a few miles east of Savannah, Georgia, with an impact at 6:55 a.m. On the next rev, 122-1 landing area, we would begin to cross the California coast at 8:11 a.m.; at 8:13 we would be just west of the town of Denning, New Mexico; we would proceed, at 8:14 we would be slightly east of El Paso; at 8:15 almost over San Angelo, Texas; a minute later the spacecraft would be just to the east of Bryan; then New Orleans at 8:17; at 8:18 it would be half way across the arm of the Gulf of Mexico between Florida and New Orleans; at 8:19 it would be over St. Petersburg, and with an impact time of 8:30, impacting at 72 degrees west longitude, 23 1/2 degrees north. This is Gemini Control.

END OF TAPE

Gemini Control Houston here, 172 hours 46 minutes into the flight. We have just made a pass over the Coastal Sentry Quebec and that signal, a very clean one, relayed back to the States by a Syncom is ready for you now. It is about a 4 minute conversation. Some 5 minutes from now, the spacecraft will swing north of Hawaii and we are due for a medical data check there from the Command Pilot. Let's find out now what went on over the CSQ.

CSQ Cap Com Gemini V, CSQ Cap Com.

Cooper Hello CSQ, Gemini V here.

CSQ Cap Com Roger. We have you go on the ground and be advised that the Command Pilot has a medical data pass at Hawaii, acquisition time 18 54 11. Do you copy?

Cooper Roger 18 54 11 medical pass, and who is that for?

CSQ Cap Com That is for the Command Pilot. I also have a flight plan update when you are ready to copy.

Cooper Could you wait a second. Go ahead.

CSQ Cap Com Roger, D-4, D-7, sequence 426, it is to be done when both crew members are awake. Do it in drifting flight and use the recorder. The D-6 experiment, expend remaining film on features of opportunity. Do you copy?

Cooper Roger.

CSQ Cap Com CSQ has nothing further this pass. We are standing by.

Cooper Okay, fine, Gemini V here.

Conrad CSQ, Gemini V.

CSQ Cap Com CSQ, go ahead.

Conrad Roger. We were supposed to do MSC-1 at 17 20 00 and we were doing something and the time got by us, and could you check with Houston the experiments please to give us another time today to do it?

CSQ Cap Com We'll check on that, MSC-1 is that affirmed.

Houston Flight We'll check on that.

CSQ Cap Com Roger. Copy.

CSQ Cap Com Gemini V, Houston is checking on a new time for that.

Conrad Okay.

Houston Flight We don't have your summary yet, CSQ.

CSQ Cap Com CSQ, roger.

Houston Flight We now have your summary.

CSQ Cap Com Roger. We sent them all again.

Houston Flight Roger.

END OF TAPE

Gemini Control here; 172 hours, 54 minutes into the flight, and as we have been talking Hawaii acquired. Let's cut in on that conversation.

Houston Cap Com ...we are sure he is going to be awake.

Hawaii Cap Com Roger, flight. Gemini 5, Hawaii. We do not have a valid temperature. Gemini 5, Hawaii Cap Com.

Conrad Go ahead, Hawaii.

Hawaii Cap Com We do not have a valid temperature yet.

Conrad It's coming.

Hawaii Cap Com Roger. Flight, this is Hawaii. ... good.

Hawaii Surgeon Gemini 5, Hawaii Surgeon. We have a valid blood pressure. Give us a mark when you begin exercise.

Conrad Roger.

Hawaii Cap Com Flight, we are copying dump.

Houston Cap Com What did you say, Hawaii?

Hawaii Cap Com We are copying dump.

This is Gemini Control. That appears to be all the conversation we'll have on this pass. This is Gemini Control out.

END OF TAPE

Gemini Control here; 173 hours, 2 minutes into the flight. We have just completed a medical data pass over Hawaii, and Gordon Cooper reported his total water intake was now 34 pounds. He said he finished his last meal about 3 hours ago. It was 5 Alpha. The Rose Knot Victor should raise the spacecraft in about 15 minutes, and the flight plan at this point is mostly all white space. They have just about wrapped up all their experiments. They have a few to do tomorrow morning before re-entry, but the flight plan itself is as barren as we've seen it. It just shows items like briefing period, pilot eat, command pilot eat, medical data pass here and there, and that's about the extent of it, continuing in drifting flight. This is Gemini Control, Houston. .

END OF TAPE

This is Gemini Control at 173 hours and 32 minutes into our Gemini 5 mission. The spacecraft has just begun its 110th revolution around the earth. At the present time it is over the south Atlantic off the east coast of South America. Here in the Mission Control Center we have had a change of shift, with the White Team of flight controllers taking over from Chris Kraft and his Red Team. As Doctor Charles A. Berry, our flight surgeon, left the Control Center, he advised us that the flight crew, Gordon Cooper and Pete Conrad, are still in excellent physical condition, and that during our last voice communication with the crew over the RKV tracking ship, both were awake, and they did sound cheerful and in good spirits. We are now 173 hours and 32 minutes into our flight. Here is the taped voice communication between the Rose Knot Victor tracking ship and spacecraft Gemini 5.

RKV Cap Com Gemini 5, RKV Cap Com.

Conrad Go ahead, RKV.

RKV Cap Com Roger. We would like for the pilot to be awake if possible over CSQ Hawaii on the 110th rev.

Conrad OK. What's the acquisition?

RKV Cap Com CSQ acquisition is at 2009, 2009. That's your up-coming rev.

Conrad OK, I'll be up.

RKV Cap Com And what we'd like to do, we're going for...thruster check, and we want to give you the instructions on this rev over the CSQ in Hawaii to perform the test on the next rev over the CSQ in Hawaii.

Conrad OK.

RKV Cap Com We have all your systems real good here on the ground. Everything looks fine.

Conrad OK, we're go up here.

RKV Cap Com Roger. We have nothing else for you. We'll be standing by.

Conrad OK.

Houston Cap Com RKV, Houston Flight.

RKV Cap Com Flight, RKV.

Houston Cap. Com Tell Pete he can go to sleep for the next rev and Gordo could take down the instructions, then Pete could be up for the pass over the CSQ in Hawaii for the actual test.

RKV Cap Com Roger. Gemini 5, RKV Cap Com.

Conrad Go ahead.

RKV Cap Com Flight advises that if you want to sleep for the next rev, you can go ahead and the command pilot can take down the instructions and then you can be awake to do the test. Most of the switches are on your side of the cockpit. That's the problem.

Conrad Well, listen, we're working on....and a lot of things like that....We'll probably.....your way for the next couple of rounds.

RKV Cap Com Roger, understand.

Houston Cap Com Very good.

END OF TAPE

This is Gemini Control at 174 hours and 2 minutes into the flight of spacecraft Gemini 5. At the present time our spacecraft is coming up over the Philippines on the 110th revolution and will very shortly be over the Coastal Sentry Quebec, our tracking ship located in the Pacific south of Japan. Our flight status at this time is essentially unchanged, as it has been over the past 16 hours. The spacecraft is in drifting flight and the flight crew are in excellent physical condition. This is Gemini Control; 174 hours and 2 minutes into our mission.

END OF TAPE

This is Gemini Control at 175 hours and 32 minutes into the flight of spacecraft Gemini V. At the present time our spacecraft is on its 111 revolution over the earth and at the present time is passing over the Indian Ocean. Our last voice communications were made with spacecraft Gemini V as it passed over the Coastal Sentry Quebec and over the Hawaiian tracking station shortly thereafter. This was approximately 40 to 45 minutes ago. At that time, Flight Director, Eugene Kranz, passed on instructions to the spacecraft crew to have a procedtres check of thrusters 7 and 8 and a plan to heat up the thruster chamber assembly through a series of switching maneuvers or switching of procedures in the spacecraft cockpit and this particular attempt to heat up the thrust chambers will take place as spacecraft Gemini V moves again over the Coastal Sentry Quebec tracking ship and we expect to get some information as to whether it was successful after the maneuver or switching procedure is completed. The spacecraft Gemini V also received a map update and some instructions on medical passes to be performed. This is Gemini Control at 175 hours and 33 minutes into the mission. We now bring you a voice transmission between spacecraft Gemini V and the Rose Knot Victor, our tracking ship off the West Coast of Peru.

RKV Cap Com Gemini V, RKV Cap Com.

Cooper Go ahead.

RKV Cap Com Did you turn Acq beacon circuit breaker off over us?

Cooper Yes we did. We were late, I know.

RKV Cap Com Okay. It was on when we got acquisition and it went

off during our pass, and we were wondering if you were
conducting your MSC-1 or what happened?

Cooper

Right, we are entering MSC-1 right now.

RKV Cap Com

Roger, understand. I can ...(faded out)

Turn your Commanding real time off.

END OF TAPE

This is Gemini Control at 176 hours and 2 minutes into the flight of spacecraft Gemini 5. Our spacecraft at the present time is on its 111th revolution around the earth and is approaching now the Hawaiian tracking station in the Pacific Ocean. We had voice conversation with spacecraft Gemini 5 over the Coastal Sentry Quebec tracking ship a few minutes ago. At that time both members of our flight crew were awake and Pete Conrad did the talking. There was an attempted thruster check and an attempt to fire the thrusters in sequence which was designed to try to unfreeze thrusters 7 and 8. Pete Conrad reported that during sequence thruster firing, he built up some fairly high rates, and he would then have to damp them out. That conversation came just shortly before loss of signal, and we did not get word on whether thrusters 7 and 8 did fire. At this time we expect to get further word as the spacecraft passes over the Hawaiian tracking station. We are now 176 hours and 3 minutes into the flight of Gemini 5. We will now play back the taped conversation between the Coastal Sentry Quebec and Pete Conrad, aboard spacecraft Gemini 5.

Conrad CSQ, CSQ, Gemini 5.

CSQ Cap Com Gemini 5, CSQ. Read you loud and clear. We have you go on the ground.

ConradGarbled.....

CSQ Cap Com Negative, all we got was a lot of noise on HF.

Conradbuild up some high rates, but we'll damp them out when we get through with them.

CSQ Cap Com Roger. CSQ copy. Houston, CSQ.

Houston Cap Com Go ahead.

CSQ Cap Com Did you copy that (interrupted by Conrad)

Conrad

Houston Cap Com Go ahead and finish the tests....we'll take up with you later.

CSQ Cap Com Gemini 5, CSQ. Say again.

Conrad Roger. Atomic control is holding at 23.1.

CSQ Cap Com Roger, copy. Gemini 5, CSQ requests you place the quantity read switch to the fuel cell H₂ position.

Conrad Roger.

CSQ Cap ComCSQ. Did you turn.....left circuit breaker on and off? Over.

Conrad Yes, we did, but we got no, negative results.

CSQ Cap Com Very good. TX transmitted.

Houston Cap Com CSQ.....don't forget the medical data pass over Hawaii.

CSQ Cap Com Roger. Gemini 5, CSQ. Want to remind you that the pilot has a medical data pass over Hawaii, and you can place the quantity read switch off.

Conrad Roger. Do you have the acquisition for Hawaii, please?

CSQ Cap Com Roger, 220246 and we will monitor HF. CSQ is LOS.

Houston Cap Com Roger. CSQ A and D, how far did he say he got through the check?

CSQ Cap Com How far did he get through the check, is that your question?

Houston Cap Com Yes, sir.

CSQ Cap Com He was attempting to, it looked like he was attempting to fire 7 and 8 thrusters at about 47. He turned

the circuit breaker on and off, and then at about 4:30 he tried it again. Then we monitored him in a direct mode, and it looked like possibly he was trying to damp his rates. Some of the other thrusters were firing. We didn't get any of the results of the test. Over.

Houston Cap Com

OK, what did he say about build up of rates?

CSQ Cap Com

When we acquired him he said he had built up some....rates.

Houston Cap Com

OK. That's all he offered then on the tests, huh?

CSQ Cap Com

That's affirmative. He didn't give us any results at all. It appeared that he might have been trying to damp out his rates prior to LOS. He had some of the other thrusters firing, and he was in a pulse mode.

Houston Cap Com

OK.

END OF TAPE

This is Gemini Control at 176 hours and 32 minutes into the flight of spacecraft Gemini V which is at this moment passing over the Southern part of South America and beginning the 112th revolution over the earth. We had a voice conversation with Spacecraft Gemini V over Hawaii. In discussion with the Command Pilot Gordon Cooper concerning the attempt to refire, or fire the thrusters that had been frozen obviously or evidentially on tests was not successful. Command Pilot Cooper also advised that the rates of the spacecraft at this time are completely acceptable. Our Flight Director Eugene Kranz has noticed on his trend charts that the hydrogen pressure seems to be building up again. He has instructed the spacecraft crew to power up the platform to prevent hydrogen from beginning to vent again. Our Flight Surgeon, Dr. Duane Catterson, has recommended to the crew that concentrate on water, food, and sleep for the next 10 hours. This is Gemini Control at 176 hours and 33 minutes. We will now play the taped voice communication between spacecraft Gemini V and the Hawaiian tracking station.

Hawaii Cap Com Gemini V, this is Hawaii Cap Com.

Cooper Roger Hawaii, Gemini V here.

Hawaii Cap Com We have a valid temperature. Standing by for blood pressure.

Cooper Okay.

Hawaii Surgeon Gemini V, Hawaii Surgeon. Your cuff is full scale.

Hawaii Cap Com Transmitting TX.

Houston Flight Roger.

Hawaii Surgeon Gemini V, we have your valid blood pressure. Give me a mark when you begin your exercise.

Conrad Mark.

Hawaii Cap Com He's looking good on the ground, Flight.

Houston Flight Roger, Hawaii.

Hawaii Surgeon Gemini V, Hawaii Surgeon. Your cuff is full scale.

AFD Hawaii, AFD. Have you commanded tape dump?

Hawaii Cap Com That's affirmative. A wrong time. 176 03 30.

AFD Roger.

Hawaii Surgeon Gemini V, Hawaii Surgeon. We have a good blood pressure, standing by for your water report only.

Conrad Roger, wait one. 34 pounds 8 ounces.

Hawaii Surgeon Roger Gemini V. Thank you and happy landing to you and Gordo tomorrow. Hawaii surgeon out.

Conrad Roger. Thank you.

Cooper Roger. Thank you.

Hawaii Cap Com Gemini V, Hawaii Cap Com. I'd like a readout on your onboard quantity, source temperature and source pressure for the OAMS?

Cooper Roger. Our onboard quantity is about 6 percent, temperature is 50 degrees, and source pressure is 1000 psia.

Hawaii Cap Com Roger. I understand. Copy Flight.

Cooper You want the results of our little test that we did?

Hawaii Cap Com That's affirmative. We'd like to know what you did there.

Cooper All right. We followed procedure to the letter and the first thing that we did was roll left pretty good and the gas started going out through the left yaw thrusters.

We got pretty good rates all certified. We held the thrusters on yaw left for 10 minutes, then we went to the other procedure for rearming and trying them and we still had no thrust.

Hawaii Cap Com Roger, I understand.

Cooper In the mean time we have discovered that we don't have the number 1 thrusters are out, so we are getting down with just very few thrusters left on the OAMS system.

Hawaii Cap Com Do you happen to know the numbers of the ones that failed?

Cooper No, we were unable to get any left roll, with the roll jets and the yaw logic.

Hawaii Cap Com Roger, I understand that.

Cooper Just a minute let me recheck that. It was roll logic in, that's right. Left roll only with the roll logic switch in the pitch and then no right yaw, then right yaw only with the roll logic in the yaw, but no left roll in that position.

Hawaii Cap Com Roger, I understand.

Cooper And the yaw is feeding through into the pitch, which means a very weak thruster on the right yaw also.

Hawaii Cap Com Okay.

Hawaii Cap Com Did you copy that, Flight.

Houston Flight Affirmative.

Hawaii Cap Com Telemetry off.

Houston Flight What are ...

Cooper Other than that, it is a pretty good system.

Houston Flight What are his rates now. Is he pretty well damped?

Hawaii Cap Com Just a second, Flight.

Hawaii Cap Com What are your rates now, Gemini V. Are you pretty well damped out?

Cooper Roger. We have managed to switch back and forth and work on the few remaining thrusters and we have our rates damped pretty well now.

Hawaii Cap Com Roger.

Hawaii Cap Com Okay Gemini V. We have nothing further. Hawaii standing by.

That was voice communications taped between Gemini V and the Hawaiian tracking station and we will now give you the taped voice conversation between Gemini V and the Rose Knot Victor tracking ship.

RKV Cap Com Gemini V, this is RKV Com check. How do you read?

Conrad RKV, Gemini V. Read you loud and clear.

RKV Cap Com Roger, would you close your Acq beacon circuit breaker?

Conrad Roger.

RKV Cap Com Okay, and we'd also like you to bring up the platform at this time. The reason for this is that we might start venting H₂ and we want to prevent this. Right now hydrogen and oxygen pressure is low.

RKV Cap Com We show them powered up, Flight.

Houston Flight Roger.

RKV Cap Com You want to know the main?

Houston Flight Affirmative.

Conrad Okay, the platform is on at this time.

RKV Cap Com Roger.

Conrad Now what are you going to want us to do?

Houston Flight Just leave it up, we want to stay in a powered up state while we watch his

RKV Cap Com in the powered up position right now at the present time. We don't want you to do anything.

Conrad Okay.

RKV Cap Com We'd like to pass some information to you. We are going to cancel the medical data pass on the Command Pilot over the CSQ on rev 114.

Conrad

RKV Cap Com Okay and the Surgeons recommend that both of you concentrate on water and sleep for the next 10 hours.

Conrad Say, do you have an Acq time for that pass over the CSQ?

RKV Cap Com Roger. The pass on 114 is 02 28 26, and that medical data pass has been deleted.

Conrad Oh, you want it deleted?

RKV Cap Com That's affirmative.

END OF TAPE

This is Gemini Control at 177 hours and 2 minutes into the flight of spacecraft Gemini 5. At the present time our spacecraft is passing over the continent of Africa on its 112th revolution around the earth. Flight Director Gene Kranz, here in Mission Control Center, has made a decision to bring the spacecraft in on revolution 121 into the area designated 121-1 landing area, which is approximately 240 nautical miles southwest of Bermuda. The decision was made due to adverse weather in the 122-1 area where tropical storm Betsy, although moving now on an undetermined path, has a long range forecast that would place it in a much worsened condition and near the 122-1 area sometime in the next 24 to 36 hours. The decision now then has been made that spacecraft Gemini 5 will land on the 121st revolution in the area designated 121-1, 240 nautical miles southwest of Bermuda. In that area at the present time, the carrier Lake Champlain is steaming toward that target point. This is Gemini Control at 177 hours and 4 minutes... into the mission.

END OF TAPE

This is Gemini Control at 177 hours and 32 minutes into the flight of spacecraft Gemini 5, which is now passing over the Pacific Ocean on its 112th revolution over the earth. At this time the Gemini 5 spacecraft is in drifting flight, its rates are damped out, and the platform is powered up to insure hydrogen venting does not reoccur. Flight Director Gene Kranz states that failure of additional thrusters on the Gemini 5 indicates that we may be running out of OAMS fuel. For that reason he has placed the spacecraft in the drifting flight mode, at least for the present, until the fuel load can be determined. The splash down of spacecraft Gemini 5 is scheduled for the 121-1 area. It is estimated to occur at 12:55 Greenwich time, or 6:55 a.m. Central Standard Time. The spacecraft will land approximately 276 statute miles southwest of Bermuda, at 29 degrees 43 minutes north latitude, and 68 degrees west longitude. Ken Nagler, now our Mission Control Center weather man, will give us an update on the weather in those landing areas. Come in, Ken.

Thank you, Al. Well, as most people know, this is tropical storm season, and all week we have been watching to see if something would crop up in the Atlantic, and yesterday tropical storm Betsy was located, just in time to give us some problems along revolution 122. So this is the current position according to the advisory put out by the Weather Bureau Office in San Juan. With this disturbed area something like this, moving in this direction, with the center of the storm expected in here, the, at least the eastern edge of area 122-1 would be awfully close to disturbed weather. So this is the reason why this area is a little bit risky to use for tomorrow. Now, with regard to 121-1, we also have a problem there. We are sort of being squeezed from a tropical storm moving this way, and

a cold front coming down this way with a band of shower activity out ahead of it. But by moving the recovery area a hundred miles or more to the east over to this new position here, this gets it well out of the way of the showers. So we expect the landing conditions to be very good in this area tomorrow morning. That's all from the Weather Bureau.

Thank you, Ken Nagler, our weather man; and this is Gemini Control at 177 hours and 34 minutes into the flight of spacecraft Gemini 5.

END OF TAPE

This is Gemini Control at 178 hours and 2 minutes into the flight of spacecraft Gemini V, which at this moment is passing within voice range of Rose Knot Victor, our tracking ship located off the west coast of Peru. It is on its 112th revolution and within a matter of moments will start the 113th revolution over the earth. As we reported on our last transmission, spacecraft Gemini V is due to splash down southwest of Bermuda, 276 miles, statute miles southwest of Bermuda, at 29 degrees and 43 minutes north longitude, and 68 degrees west latitude, at approximately 5 minutes to 7:00, central standard time, or, 12:55 Greenwich time. Retrofire will take place at 12:27 Greenwich time. At this time we are 178 hours and 3 minutes into the flight of spacecraft Gemini V. We now have for you the voice transmission between spacecraft Gemini V and the Coastal Sentry Quebec tracking ship.

CSQ Cap Com Gemini V, CSQ Cap Com.

Conrad CSQ, Gemini V, go ahead.

CSQ Cap Com Roger,, also we would like you to put your quality read switch to the fuel cell hydrogen position please.

Conrad Roger, we're at fuel cell hydrogen.

CSQ Cap Com OK, Houston advises the fuel is possibly -- you will have sufficient time to to the thrusters. They would like you to fire up again and go to false load, PCA circuit breakers 7 and 8 closed, rate gyros on, and again liquid thrusters. Over.

Conrad You mean all thrusters or 7 and 8?

CSQ Cap Com I believe he means 7 and 8, I'll check it.

CSQ Cap Com Flight, CSQ.

Houston Flight Go ahead

CSQ Cap Com You want them to check thrusters 7 and 8. Is that affirmative?

Houston Flight Well, we'd like them to check all thrusters, but I'd like to make sure 7 and 8 are closed during this check.

CSQ Cap Com You want all circuit breakers on the thrusters closed.

Houston Flight That's affirmative.

CSQ Cap Com Roger

CSQ Cap Com Gemini V, advise all circuit breakers on the thrusters closed. Check all thrusters.

Conrad OK

CSQ Cap Com Also, Gemini V, Houston advises there is sufficient hydrogen for the remainder of flight and no problem on water. Over.

Conrad OK, they want us to leave the platform up all the time. Is that correct?

CSQ Cap Com That's affirmative. Leave the platform on and after your thruster check turn the rate gyros back off.

Conrad Roger.

Houston Flight CSQ, please rebroadcast your alpha summary

CSQ Cap Com Say your QT again.

Houston Cap Com Please rebroadcast your alpha summary.

CSQ Cap Com Copy.

END OF TAPE

This is Gemini Control at 178 hours and 32 minutes into the flight of our spacecraft Gemini 5. At the present time the flight crew is on its 113th revolution over the earth and is passing over the continent of Africa. In a pass over the Rose Knot Victor, our tracking ship off the west coast of Peru, just a short while ago Pete Conrad reported there was "no joy" on the attempts to fire thrusters 7 and 8. And as we had reported earlier failure of additional thrusters to fire properly indicates the spacecraft may be running out of OAMS fuel according to Gene Kranz our flight director. Therefore, he had advised the crew to go to drifting flight. The rates are damped out, and the platform is powered up to insure that hydrogen venting does not start again. Here in the Mission Control Center the scene is normal. Some of our flight controllers have started their evening meals; Others are relaxing at their consoles waiting for the next pass over the Coastal Sentry Quebec, the tracking ship which should be coming up in approximately 22 minutes. The room atmosphere here is relaxed and conversation at a low pitch. Aboard the spacecraft our crew had been advised by flight surgeon, Dr. Duane Catterson, to get as much rest as they can through the remainder of the flight and to drink a bit more water. Evidently, command pilot Gordon Cooper is taking that advice as our ground data indicates he is asleep right now. At this time we are 178 minutes and 178 hours and 33 minutes into the flight of spacecraft Gemini 5. We now have for you the voice transmission between spacecraft Gemini 5 and the Rose Knot Victor, our tracking ship off the west coast of Peru.

RKV Cap Com Gemini 5, RKV Cap Com.

Conrad RKV Cap Com, Gemini 5 here. Read you loud and clear.

RKV Cap Com Roger. Read you loud and clear also. All systems are go on the ground. We would like to advise you you have a UHF-6 over CSQ on rev 113.

Conrad Roger. Rev 113. And be advised that we went back through the thruster checks again and ran them in direct and ran them in pulse and like we told you before, it's still the same.

RKV Cap Com Roger. Is that enough for you, flight?

Houston Flight That's affirmative.

RKV Cap Com Okay. We'd like to have a fuel purge at this time.

Conrad Roger.

RKV Cap Com Give me a mark.

Conrad Roger. Stand by. Mark hydro - Mark hydrogen number 2 on my mark - mark. Stand by for oxygen on number 1. Mark.

Conrad Number 1 purge complete, commencing number 2.

RKV Cap Com Flight, this is RKV.

Houston Flight Go, RKV.

RKV Cap Com Roger. We show circuit breakers for thrusters 7 and 8 are closed at the present time. You want us to open them?

Houston Flight I don't think it makes any difference.

RKV Cap Com Roger. Gemini 5, this is RKV. We'd like to know your platform position please. When you can give it.

END OF TAPE

This is Gemini Control at 178 hours and 54 minutes into our Gemini 5 flight mission. The spacecraft is now approaching the Coastal Sentry Quebec, our tracking ship in the Pacific Ocean south of Japan. Gemini 5 is on its 113th revolution over the earth. We expect to have voice communication with the tracking ship within moments. Let's listen for the live conversation now.

CSQ Cap Com Gemini 5, CSQ Cap Com.

Conrad Go ahead CSQ, Gemini 5 here.

CSQ Cap Com Roger. Be advised that you are UHF-6, and we'd like you to place your quantity reswitch to fuel cell hydrogen position please.

Conrad Roger. Switch to fuel cell hydrogen at this time.

CSQ Cap Com Also, be advised that due to fog rolling on area 122-1 Flight has decided to commence to 121-1. We'll be updating your TR time.

Conrad Roger. Understand 121-1 is to be the new recovery area.

CSQ Cap Com Listen Gemini, I also have the coordinates if you're ready to copy.

Conrad Roger. Okay, ready to copy.

CSQ Cap Com Roger. 21 degrees, 43 minutes north, 68 degrees, 00 minutes west.

Conrad Roger.

CSQ Cap Com Transmitting TR.

Conrad The TRC of 121-1.

CSQ Cap Com Gemini 5, say it again.

Conrad The TRC of 121 first please.

CSQ Cap Com Roger. Stand by to copy. TRC - 01 29 45. RDC 403
20 plus 24.

Houston Flight CSQ Cap Com, you gave them the wrong TR - you gave
them 114 delta.

Conrad (Garbled) . . . Would you give me the TNTRC of 121-1.

CSQ Cap Com Roger. Disregard what I gave you. The TNTRC is 12 plus
27 plus 39.

Conrad Okay. 12 plus 27 plus 39.

CSQ Cap Com That's affirmative. RET 403 14 plus 08.

Conrad I'm sorry, you're cutting in and out. Say it again.

CSQ Cap Com Roger. RET 403 is 14 plus 08.

Conrad Okay, I got it.

CSQ Cap Com RETRV 19 plus 30.

Conrad Roger. Could you tell us what the recovery force is?
Will the carrier be there?

Houston Flight That's affirmative. The carrier will be there.

CSQ Cap Com The carrier will be there, and I have the extension
with it in that area. Over.

Conrad Mission copied.

CSQ Cap Com Roger.
Cloud cover - five tenths - 2000 foot scattered -
10 miles visibility - 1230 degrees - one or two knots -
wave height 2 to 3 foot - water temperature 82 degrees.

Conrad Sounds pretty good to me.

CSQ Cap Com Roger. Gemini 5, we'd still like to know your. . .

Conrad Roger.

CSQ Cap Com Copy

Houston Flight CSQ Cap Com, did you get your TR in, and is it in sync?

CSQ Cap Com Roger. I have the TR in and it's within one-quarter second.

Houston Flight Roger.

CSQ Cap Com Gemini 5, be advised we have our TR on clock.

Conrad Roger. Understand TR is in sync. And you may advise Flight that we'll be ready for 21-1.

CSQ Cap Com Roger. Copy. Gemini 5, you can return to the off position with your quantity read-out switch.

Conrad Roger. Would you give me a GMT?

CSQ Cap Com Roger, on my mark it will be 01 hours 00 minutes 25 seconds. 2 1 mark. Would you like.

Conrad Garbled.

CSQ Cap Com Okay. We'll be coming up on 0 hours, 01 minutes, 00 seconds.

Conrad Roger.

CSQ Cap Com 5 4 3 2 1 mark. That was 01 hours, 01 minutes, 00 seconds.

Conrad Roger. We got it. Thank you.

CSQ Cap Com CSQ has LOS, Flight.

Houston Flight Roger, CSQ, well done.

CSQ Cap Com Not too well.

That was live voice conversation between the Coastal Sentry Quebec tracking ship and Pete Conrad aboard spacecraft Gemini 5. This was the

first word our spacecraft had received on the decision to land during the 121st revolution southwest of Bermuda. This is Gemini Control at 179 hours and 1 minute into the flight.

END OF TAPE

This is Gemini Control at 179 hours and 32 minutes of flight for the Gemini V mission. At the present time spacecraft Gemini V is ending its 113th revolution around the earth and is coming up on our Rose Knot Victor tracking ship located off the west coast of Peru. It will shortly start the 114th revolution. To give you a recap of our situation, our flight crew was advised that they will end the mission during revolution 121. That will be at 12:55 Greenwich mean time, or 6:55 a.m., central standard time. Actually, the retrofire will commence approximately 690 statute miles due north of Hawaii. That is the time of retrofire. Splashdown will occur at 12:55 Greenwich mean time, or 6:55 a.m., central standard time, during the 121st revolution. Landing will be 276 statute miles southwest of Bermuda at 29 degrees, 43 minutes north longitude, 68 degrees west latitude. We have a weather report for that area. The weather forecast is good with winds out of the southwest 12 knots, clouds scattered to broken at 2000 feet, visibility 10 miles, and wave height will run... 2 to 3 feet. That is the weather forecast for the landing area tomorrow morning. This is Gemini Control.

END OF TAPE

This is Gemini Control at 180 hours and 2 minutes into the flight of spacecraft Gemini V, which is now on its 114th revolution around the earth, and at the present time is passing over the continent of Africa. Aboard our spacecraft, command pilot Gordon Cooper has awakened from his sleep period and pilot Pete Conrad should be sleeping now, according to our flight plan. The spacecraft is in drifting flight and powered down. The crew has been notified that their flight will end at 12:55 Greenwich mean time, that is 6:55 a.m., central standard time here in Houston, and splashdown will be 276 statute miles southwest of Bermuda. The city of Chattanooga, Tennessee has called us to advised they have conferred honorary citizenship on Gordon Cooper and Pete Conrad, and have named them "Brothers of the Brush." Chattanooga is celebrating the 150th anniversary of its founding and many of the residents there have grown beards to commemorate the event. They tell us the 8-day beards of Cooper and Conrad will amply qualify them for this elite society, Brothers of the Brush. We will pass on the message to the spacecraft at our earliest opportunity. Spacecraft Gemini V will be visible in the Houston area from 5:04 a.m. to 5:09 a.m., central standard time, Sunday, on its 119th revolution. It will come over the horizon at west-southwest, traveling east-northeast. At this time we are 180 hours and 3 minutes into the flight of Gemini V. We now have for you the voice transmission between spacecraft Gemini V and the tracking ship Rose Knot Victor on tape.

RKV Cap Com Gemini V, RKV Cap Com. Contact, how do you read?
Conrad RKV, Gemini V. Its loud and clear.
RKV Cap Com Roger. Have a map update for you. Acknowledge
when you are ready to copy.
Conrad Ready to copy.
RKV Cap Com Roger. Map 01 55 42, longitude 19 west, rev 114
star 01 55 42, 23 07 11.
Conrad Roger
RKV Cap Com Okeydoke. All systems are Go on the ground.
Conrad All systems are Go up here.

END OF TAPE

This is Gemini Control at 180 hours and 32 minutes of flight for spacecraft Gemini V, which at this time is making its last pass over the Coastal Sentry Quebec, our tracking ship in the Pacific, located south of Japan. The revolutions from now through the end of this mission do not bring our spacecraft within voice range of Coastal Sentry on any further passes, and we are in voice communication from Coastal Sentry Quebec at this time, and we assume that they will be saying goodnight to our spacecraft crew and wishing them well. The next voice transmission we will have with the spacecraft Gemini V crew should occur over the Rose Knot Victor, the tracking ship off the west coast of Peru in approximately 30 minutes. During the pass over the Coastal Sentry Quebec, there was a spacecraft systems check and from the ground, all systems looked good. This is Gemini Control at 180 hours 33 minutes into the flight.

END OF TAPE

This is Gemini Control at 181 hours and 2 minutes into the flight of spacecraft Gemini 5. At the present time spacecraft Gemini 5 is passing over the Pacific Ocean and will shortly come up over the Rose Knot Victor, our tracking ship located off the west coast of Peru. During the last pass of spacecraft Gemini 5 over the Coastal Sentry Quebec, our other tracking ship which is located south of Japan, the tracking ship gave our spacecraft crew a go from the ground. At this time spacecraft Gemini 5 is coming up the end of its 114th revolution and within minutes will be starting its 115th revolution around the earth. We are now 181 hours and 2 minutes into the flight of spacecraft Gemini 5. We now have for you the voice transmission - the last voice transmission - between spacecraft Gemini 5 and the Coastal Sentry tracking ship.

CSQ Cap Com Gemini 5, CSQ Cap Com

Conrad Go ahead, CSQ, Gemini 5.

CSQ Cap Com We have you go on the ground. We'd like to get a ground read-out of all your cryogenic quantities. Will you select the ECS O₂ on the quantity read-out switch please?

Conrad Okay.

CSQ Cap Com And we'd also like to know if the total water consumption is close to mark please.

Conrad 86. Command pilot's is 36 pounds.

CSQ Cap Com Copy.

Conrad Pilot's is 34 pounds, 4 ounces.

CSQ Cap Com Copy. Will you select the fuel cell O₂ please.

Conrad That's 35 pound 4 ounces

CSQ Cap Com Roger. 35, part 4. Gemini 5, would you select fuel cell H₂ please.

Conrad Roger.

CSQ Cap Com Gemini 5, you can return to the off position quantity read-out switch. Houston, CSQ has Gemini 5 go and nothing further at this time.

Houston Flight Roger. Why don't you pass up your best wishes. This is your last pass I believe.

CSQ Cap Com Roger. Will do. Gemini 5, CSQ.

Conrad Go ahead, CSQ.

CSQ Cap Com Roger. This is the last pass as you come around. I hope you have a nice landing, and I'll see you in Houston.

Conrad Thank you. Thank you for all your help, you did a real fine job. Over.

CSQ Cap Com Thank you.

END OF TAPE

This is Gemini Control at 181 hours and 32 minutes into the flight of spacecraft Gemini 5. Our spacecraft has just recently begun its 155th revolution around the earth. At the present time it is just approaching the west coast of Africa. A short while ago as it passed over the Rose Knot Victor, our tracking ship located off the west coast of Peru, that tracking ship told the flight crew that everything looks good from the ground. They then updated the spacecraft star map, and sent the flight crew on its way. At this time we are 181 hours and 32 minutes into the mission of Gemini 5. We now have for you the voice transmission between spacecraft Gemini 5 and the Rose Knot Victor tracking ship.

RKV Cap Com Gemini 5, RKV Cap Com.

Conrad Go ahead, RKV, Gemini 5.

RKV Cap Com Roger. Everything looks real good here on the ground.

I have some landing area updates for you if you're not -
acknowledge when you're ready to copy.

Conrad Okay. Just one second and we'll be ready.

RKV Cap Com Roger.

Conrad Okay, we're ready to copy.

RKV Cap Com Roger. The weather is good in all areas - it is day 8.
The bank angle remains the same for all, roll left 53,
roll right 67.

Conrad Okay.

RKV Cap Com Area 11 7-2. 06 17 03, 17 plus 07, 22 plus 11. Area 11 8-2.
07 52 49, 15 plus 42, 20 plus 47. 11 9-1, 09 15 18,
17 plus 12, 22 plus 16. 12 0-1. 11 plus 04 18, 12
plus 52, 18 plus 16. 12 1-1. 12 27 39, 14 plus 08,

19 plus 20.

Conrad Roger. Got all of those.

RKV Cap Com Roger. Houston Flight, RKV Cap Com.

Houston Flight Go ahead, RKV.

RKV Cap Com Everything looks real good here on the ground
We're transmitting real time. TM off this time.
Gemini 5, RKV Cap Com. We'll be standing by for
the rest of the pass.

Conrad Okay. Mighty fine. Thank you

That was taped voice conversation between spacecraft Gemini 5 and the
Rose Knot Victor tracking ship off the west coast of Peru. This is
Gemini Control at 181 hours and 35 minutes into the flight.

END OF TAPE

This is Gemini Control at 182 hours and 2 minutes into the flight of spacecraft Gemini V, which at the present time is on the 115th revolution and is passing over approximately Vietnam, and moving out over the Pacific area. According to the reports we have from our ground stations over the past hour, all spacecraft systems are functioning normally and the spacecraft crew is in good health, and command pilot Gordon Cooper is awake at this time while pilot Pete Conrad is in a sleep period. According to our flight plan, very shortly command pilot Gordon Cooper will have a MSC-1 test, which is a measurement of radiation outside the spacecraft. This is Gemini Control at 182 hours and 3 minutes into the flight.

END OF TAPE

This is Gemini Control at 182 hours and 32 minutes into the flight of spacecraft Gemini 5. At the present time spacecraft Gemini 5 is on its 115th revolution over the earth, and is passing over the south Pacific on its way to the Rose Knot Victor, our tracking ship located off the west coast of Peru. Here in the Mission Control Center the white team of flight controllers is concluding its last night of direction of spacecraft Gemini 5, and the blue team is about to take over. Our press briefing will begin at the NASA news center at 11:30 p.m. This is Gemini Control at 182 hours and 32 minutes into the mission.

END OF TAPE

This is Gemini Control 183 hours and 2 minutes after lift-off. Gemini V has just begun the 116th revolution and will be acquired by the Canary Island tracking station in 2 minutes. It just made a pass over the tracking ship Rose Knot, which will be the last pass over this ship for this mission. The blue team of flight controllers has just settled down for their last tour of duty for this mission here in Mission Control. This is Gemini Control.

END OF TAPE

This is Gemini Control 184 hours and 26 minutes after lift-off. Gemini V has just begun its 118th revolution and will be acquired by the Antigua station of the Eastern Test Range within the next minute. A communications check between the Sea Lab with astronaut Scott Carpenter aboard, off the shore of California, in approximately 200 feet of water, will be run, remoted from Houston, through the Antigua station. As Antigua acquires the spacecraft and communications are established, we will join the conversation. Still no conversation yet on air-to-ground. We expect it is imminent that there will be some discussion between the spacecraft communicator here -- we'll go live now.

Houston Cap Com Gemini V, Gemini V, Houston Cap Com. Over.

Cooper Go ahead Houston Cap Com, Gemini V.

Houston Cap Com Roger. You're looking good here on the ground. We have a number of things to pass up to you now, and if you can copy them down we will try and be quiet the rest of the way. First, we would like you to place your reentry C-band to continuous.

Cooper Roger. C-band continuous.

Houston Cap Com Roger. I have some update on your PLA's if you are ready to copy.

Cooper Roger. Just a moment.

Houston Cap Com OK.

Cooper OK, we're ready.

Houston Cap Com Roger. Area 122-1, 14 02 24, REP 400K is 12 + 58, 18 + 17, roll left 53, roll right 67. Area 123-4, 16 47 58, 15 + 50, 20 + 55, roll left 53, roll right 67. Copy?

Cooper Roger. Got those.

Houston Cap Com OK, now some general instructions. When you get to Carnarvon set your event timer to 27, I say 27, instead of 36. Copy?

Cooper 27 instead of 36, Roger.

Houston Cap Com Roger, and the weather in the recovery area is improving. The forecast at present for your landing is 2000 scattered, ten miles, 10 miles, the winds 230 degrees at 10 knots, the sea about 2 to 3 foot waves, the temperature is 82, and you have about five tenths coverage.

Cooper OK, got it.

Houston Cap Com OK, on your medical data passes we would like to delete the Canary medical data passes on revs 119 and 120 and add the following if you are ready to copy.

Cooper OK, ready.

Houston Cap Com Rog. Medical data on the pilot at the Canaries, acquisition time 08 13 26. Medical data on the

command pilot at Carnarvon, acquisition time 08 48 10.

Cooper Say again that Carnarvon time.

Houston Cap Com Carnarvon is 08 48 10.

Cooper Go ahead.

Houston Cap Com OK, in general, your acquisition times according to your flight plan are 38 minutes later, in other words, the flight acquisition is 38 minutes later than you have on your flight plan for the rest of the mission.

Cooper OK.

Houston Cap Com OK, Elliot's got some procedures on your retro checklist now.

See The first thing I want to discuss with you is proposed fuel cell test. What they'd like to do is have you take all your load on section 2, and the purpose is to see if a section which has been down for a pretty fair amount of time can carry the full load before retrofire. This is proposed to be done only for about an hour and then we'll turn it back on. How does this sound to you guys?

(Pause) Let me go ahead and give you the procedures for it and than you can continue to think about it because you got a while before it should be done.

Are you reading me, Gemini V?

Cooper Roger, we're reading you.

See OK, the procedures would be as follows: Time day 8 08 13, purge both fuel cells. Would you put your reentry C-band on, please? (Pause) Would you put your reentry C-band on continuous, please, Gemini V?

Cooper Done.

See OK, next item is 8 08 57, section 1 power switch off. We do not want you to shut down the primary coolant loop, repeat, do not shut down the primary coolant loop. At time of day 8 09 57, section 1 power switch on. During this period you should be carrying about 32 amps which we think will bring you down to about a 23 volt main buss voltage. How does this sound to you? You can be thinking about it and as far as I'm concerned if you have any strong objections, it's up to you whether you do it or not. We would like very much to do it if it's OK with you guys. Now Sea Lab 2 is standing by and is ready to talk to you at this time.

Cooper OK.

See You can go ahead and call them.

Cooper Hello Sea Lab, Gemini V, Cooper.

Sea Lab 2 Sea Lab 2 transmitting from 200 feet down off LaJolla. How do you read, Gordo?

Cooper Fine, how you doing, Scott?

Sea Lab 2 Roger, Gordo. You're doing a great job. We almost missed you. We just got down this afternoon and I'm glad we got a chance to tell you what a great job you two guys are doing. I hope you have a very pleasant reentry shortly. Over. .

Cooper

Sea Lab 2 Thank you. My best before too long. Over.

Cooper Good to hear from you down there. How're things going?

Sea Lab 2 Roger, Gordo, things are going very well. We just got . . . Sea Lab about 6 hours ago -- 8 hours ago. It took a while to get set up and get going. We have a lot of sea life to study. The Sea Lab is in good condition and we're looking forward to pleasant days down here.

Cooper Please say that over again.

See You have about 20 seconds to LOS, Gordo.

Houston Cap Com Gemini V, Houston here, would you check to make sure your reentry C-band is on and your adapter C-band is off please

Cooper You want adapter C-band off?

See On command. Adapter on command, and reentry on continue.

Cooper Houston, Gemini V here.

See Go ahead.

Cooper Houston, Gemini V.

See Go ahead, Gemini V.

This is Gemini Control. You could faintly hear the voice of astronaut Scott Carpenter in Sea Lab. The falsetto garbled effect of his voice was due to the mixed breathing gas of oxygen and helium at several atmospheres which effects the effectiveness of his vocal chords. This is Gemini Control 184 hours 36 minutes after lift-off.

END OF TAPE

This is Gemini Control 185 hours and 2 minutes after lift-off. Gemini 5 presently is about one-third of the way through the 117th revolution, will be acquired by the Carnarvon, Australia tracking station in approximately 13 minutes for a pass that should last around 7 minutes and 30 seconds. There will be about another 4 passes over Carnarvon before the end of the mission. The retrofire clock at the right hand side of the control room says 5 hours and 25 minutes until retrofire. During the pass over the Canary Island station earlier in this revolution all the telemetry read-outs on the ground looked very good according to the spacecraft communicator at Canarys. They also ran a C-band track of the spacecraft from Canarys using the reentry antenna on the adapter. This is Gemini Control.

END OF TAPE

This is Gemini Control 185 hours 32 minutes after lift-off. Gemini 5 is now one-half way through the 117th revolution just past Australia, north of New Zealand. The stations to acquire will be the stations of the Eastern Test Range at 58 minutes past the hour. During the pass over the Carnarvon, Australia tracking station earlier in this revolution a radar track on the reentry was run again as it had been run in the Canary Island pass earlier. At this time we are 185 hours 32 minutes after lift-off. We now have for you the voice transmission tape between the spacecraft Gemini 5 and the Carnarvon tracking station.

Carnarvon Cap Com Gemini 5, Carnarvon Cap Com.

Conrad This is Gemini 5, go ahead Carnarvon.

Carnarvon Cap Com Roger. I have a flight plan update when you are prepared to copy.

Conrad Ready to copy.

Carnarvon Cap Com Power up 09 21 34. Remarks: 132.8 degrees west, rev 118. Next item - star, same time, 09 21 34. Remarks: Right Ascension 22 hours 59 minutes. Do you copy?

Conrad Roger. Copy.

Carnarvon Cap Com That's it. You're looking good down here.

Conrad We're go up here.

END OF TAPE

This is Gemini Control 186 hours and 2 minutes after lift-off, and 4 hours and 25 minutes til retrofire. Gemini 5 has just begun the 118th revolution, was acquired 4 minutes ago by the stations of the Eastern Test Range.

Spacecraft communicator Dave Scott here in Mission Control is presently talking to the crew of Gemini 5. He said they looked good on the ground, and he also recommended that they begin stowage procedures prior to the retrofire sequence and subsequent landing. This is Gemini Control.

END OF TAPE

Conrad Affirmative.

See We'll check that one out for you.

Houston Cap Com Gemini, Houston. We've got an update on your flight plan if you want to copy it now, or we can pass it to you at Carnarvon. We're checking the thrusters and the scanners out for you.

Conrad We're ready to copy.

Houston Cap Com Okay. Coming up.

See Okay, Pete. On day 8 10 hours 27 minutes power up checklist with one change - rate gyros on before computer on. Start preretro checklist. Copy?

Conrad Okay. 08 10 27 power up checklist, rate gyros on before computer.

See Right. Okay, did you get that time? That was 10 27 and 00 on the seconds.

Conrad Roger.

See Okay. At 11 hours 00 minutes 00 seconds OAMS power switch off. Activate and check RCS operations. Then align platform using RCS. Do you copy?

Conrad 08 11 00 power switch off, operate and activate RCS, and align platform with RCS.

See Right. That was 11 hours - it's day 8, 11 hours. Okay, at day 8, 11 hours, 26 minutes, 00 seconds, which is approximately TR minus one hour, RCS power switches off, evaluate OAMS in direct. That's to check it out as thoroughly as you can, tell whatever you can at this

point about its operation - whether - just blasting it out indirect will clear it out, or whether we're essentially out of fuel. When completed fire the OAMS regulator squib, complete preretro checklist. And RCS power switches will have to come back on, of course, because you'll be pretty close to being out of OAMS.

Conrad Okay. We got it, go ahead.

See Okay. And at day 8, 12 hours. Stand by a minute. Pete, on the last Carnarvon pass before retrofire, which will be a time of 11 hours, 57 minutes, report preretro checklist complete and continue nominal flight plan. Do you copy?

Conrad That's fine.

See That's all we have. We're standing by.

Conrad Okay. Well, give us a reading on the scanners. As I see it we have a night retrofire. Is that correct?

See That's affirmative.

Conrad And we will not have a countdown from Hawaii. Is that correct?

See We plan that you will have a countdown from Hawaii.

Conrad We have that much acquire time with them on orbit 121 huh? I mean 120 huh?

See That's correct.

Houston Cap Com Roger. Acquisition at Hawaii at rev 120 is 12 23 22.

Conrad And when do we lose them?

Houston Cap Com Okay. LOS is 12 30 47.

Conrad Okay, we'll make out pretty well on that.

Houston Cap Com Roger. They ought to be able to get your IVI's and
attitude and everything.

Conrad Okay. Very good. And if you can answer the questions
on what the RCS will do to the scanners we're very
happy.

See Okay.

Houston Cap Com We'll check it and give it to you at Carnarvon.

See We'll get some info in that to you as quickly as we
can.

Conrad Okey-dokey. Incidentally, as a matter of information,
the OAMS propellant gauge has gone on down to below 0.

See The OAMS quantity gauge?

Conrad Yeah. The prop quantity gauge.

See Roger. It's no problem if in this exercising you
just run it on out of fuel.

Conrad Fine.

END OF TAPE

This is Gemini Control 187 hours and 2 minutes after lift-off. Gemini V is just crossing the east coast of Australia and is north-west of the Island of New Zealand, midway through the 118th revolution. During the Carnarvon pass just completed, medical data pass check was run on the command pilot. He also gave food and water and sleep reports to the Carnarvon surgeon. Guaymas station will acquire the spacecraft in 25 minutes. For those of you in the Houston and southeast Texas area who operate eyeball tracking stations, the spacecraft should be visible starting at 5:02 central standard time in a westerly direction. It will rise at 5:02, will pass to the north, be due north at 5:08 at an elevation of approximately 67 degrees. It will set to the east at 5:09 central time. At this time we are 187 hours and 3 minutes after lift-off. We have now a tape of the voice transmission between the Carnarvon station and Gemini V.

Carnarvon Cap Com	Gemini V, Carnarvon, we have a good oral temp. Stand by for surgeon.
Carnarvon Surgeon	Gemini V, Carnarvon Surgeon, standing by for your first blood pressure.
Cooper	Roger.
Carnarvon Surgeon	Your cuff is full scale.
Carnarvon Cap Com	Would you place your quantity read switch to fuel cell H ₂ and leave it there for remainder of mission.

Carnarvon Cap Com That'll be TX.

Carnarvon Surgeon We have your blood pressure. Standing by for exercise on your Mark.

Cooper 2, 1, MARK.

Carnarvon Cap Com Flight, Carnarvon.

Houston Flight Go ahead, Carnarvon.

Carnarvon Cap Com OK, do you want to change the time on that that was updated to the crew on that TR minus one hour or do you want to leave it now that's it's full scale? You updated them 11 26 and the flight plan said 11 27 39.

Houston Flight Negative. It's approximately one hour we're interested in.

Carnarvon Cap Com Roger

Carnarvon Surgeon We have your blood pressure. Standing by for food, water and a 24-hour sleep report.

Cooper Roger, I've had 37 pounds 4 ounces of water, 08 000000 I had meal 5 Charlie. I had 2 hours of sleep just recently, very sound.

Carnarvon Suregeon Very good. How are you feeling in general at this time.

Cooper Fine

Carnarvon Surgeon Thank you Gordo. If you're doing as good as you look on the ground, you're in good shape. Carnarvon Surgeon out.

Carnarvon Cap Com Gemini V, Carnarvon Cap Com, did Flight advise you that for your OAMS thruster check at 11 hours 26 minutes, to use attitude thrusters only. Do not use maneuver thrusters.

Cooper Roger.

Houston Flight Carnarvon Cap Com, this is Houston Flight.

Carnarvon Cap Com Go ahead.

Houston Flight In answer to that question they asked on the effect of the RCS plume on the scanners.

Carnarvon Cap Com Roger

Houston Flight As far as we can determine there will be no problem. They ran some similar checks on GT-3 and it's OK.

Carnarvon Cap Com Roger

Carnarvon Cap Com Gemini V, Carnarvon. Flight advises on this RCS plume effect on scanner, there should be no effect. He said that they ran test on GT-3 and found no problem.

Cooper OK, very fine. Thank you.

END OF TAPE

This is Gemini Control 187 hours and 32 minutes after lift-off; 2 hours 55 minutes until retrofire. Gemini 5 is now completing the 118th revolution. During the pass over the Guaymas, Mexico station telemetry looked real good according to spacecraft communicator Ed Fendell at the Guaymas station. During the present State-side pass there was a check of the fuel cell section number 1, checked the voltage with it turned off, and it read 22.9 volts. A purge of the fuel cell sections will be conducted during the upcoming Canary Islands pass. This is Gemini Control.

END OF TAPE

Good morning. Gemini Control, Houston 187 hours 57 minutes into the flight. The last pass across the States Dr. Berry among others chatted with Gordon Cooper, and Cooper declined the use of any stimulates for the reentry upcoming in about another rev or two. He said he was feeling fine, and he sounded quite cheery. Dr. Berry conveyed congratulations to Gordon Cooper on his wedding anniversary today. We believe it's his 18th. Congratulations came from his wife. We have the conversation. We'll play it for you now.

Houston Surgeon Gemini 5, this is surgeon. Good morning, Gordo.

Cooper How are you?

Houston Surgeon Listen, I'd like to check with you - according to the records here you both have had some sleep during the night. How do you feel about any aid here as far as coming in for fatigue?

Cooper Making a house call?

Houston Surgeon Yeah. Could I do that? Say, incidentally, Trudy asked me to tell you "Happy Anniversary" this morning.

Cooper Return my wishes to her.

Houston Surgeon Will do.

END OF TAPE

Gemini Control here 188 hours 32 minutes into the flight. We just passed the Carnarvon station at which point we actuated the RCS rings and they appeared to be working all right. We've also turned the rate gyros on; the computer has been powered up, it's in the prelaunch mode; and everything appears to be quite green at this point. This is Gemino Control

END OF TAPE

This is Gemini Control, Houston, 188 hours 48 minutes into the flight. We have racked up now the Carnarvon pass and will play it for you at this time.

Carnarvon Cap Com You look good on telemetry and we're standing by.

Cooper Roger Carnarvon . . .

Carnarvon Cap Com Computer just came on.

Houston Flight Roger.

Carnarvon Cap Com You need a little yaw right. . .

Gemini Control here. Our orbit this morning is like this, 123.8 perigee, apogee 180.3, statute miles of course. The period of our revolution is 95.2 minutes. Just been chatting with the weather man, Ernie Ammon, a veteran of Mercury as well as Gemini launches. He works both the Cape and Houston. Ernie's report is thus: down in 121-1 he reports scattered clouds, southerly winds of about 10 knots, seas running 2 to 3 feet, visibility 10 miles. We asked Ernie if he was happy with that and he came back with the statement, "Real happy. They picked a good spot." We also note with some interest here around the Control Center, a number of people have read it, the horoscope in one of the local morning newspapers, which goes like this: "Being active during the morning brings fine results, but later you have to take it very easy. Maintain your poise. Say what you plan to do then carry it out -- then carry on with the work with a nice easy gait." Pretty good advice for the people involved in the Gemini effort this morning. This is Gemini Control.

END OF TAPE

Gemini Control here 189 hours 10 minutes into the flight. And the Guaymas station raised the spacecraft just a few minutes ago. The opening message was certainly a cheerful exchange. The ground gave the spacecraft a go, and the report came back from Gordon Cooper "We're go up here. Everything is just peachy keen." Pete Conrad complimented the Guaymas station on their handling of this mission, all they've done for them, and he advised that he'd see them on the ground. The spacecraft is operating on their reentry control system maneuvering unit right now. It's been on that for about an hour. And over the Guaymas station Conrad made one last attempt to see if there was any fuel left in the main onboard maneuvering system tanks - the system we've been using for the last 8 days, and he got 0 thrust out of his attempt. The ground showed no fuel or and no thrust. This is Gemini Control.

END OF TAPE

This is Gemini Control, Houston, 189 hours and 12 minutes into the flight. And we have the beginning of this Stateside pass, we're going to break it up into increments but we'll play it right through for you. One element - one note before we start that - in the event that we don't accomplish a 121-1 landing - that is, if we should at the last moment, wave off a retro-fire, the Flight Director has decided the next area he would go for, is 123-4, that's 123-4 out in the west Pacific. But I want to emphasize that everything looks just 4.0 at this point for a 121-1 landing. Everything seems to be functioning on board, the crew sounds chipper, and they've got their stowage list apparently all put to bed and they're going through their preretrofire checklist. Let 's listen to the Stateside conversation now.

Guaymas Cap Com Gemini 5, Guaymas Cap Com.

Cooper Ok, Guaymas. Gemini 5.

Guaymas Cap Com Ok. We show you go here on the ground. What do you do?

Cooper Roger. We're go here. Everything's peachy keen.

Guaymas Cap Com Ok.

Cooper It's nice to have a control system again.

Guaymas Cap Com I imagine it is.

Conrad Hey, Guaymas.

Guaymas Cap Com Say, boy.

Conrad We sure appreciate everything you did for us. We'll see you on the ground.

Guaymas Cap Com Ok, Peter.

Cooper Say thank you to all the people there who have done a fine job.

Guaymas Cap Com I sure will. I think you all have done a real great job.

Conrad Thank you. We couldn't have done it without you all.

Guaymas Cap Com What is your status with that OAMS at this time? What are you doing with it?

Cooper We're not really . . . the OAMS . . .

Guaymas Cap Com Ok. Will you run that OAMS check?
didn't

Conrad We/have enough OAMS system left to run it. We tried a little . . . and if you'll stand by I'll go ahead and run this test to see if we can hear anything left there. we're in RCS

Guaymas Cap Com Ok.

Conrad No, I put in a squib but I couldn't hear anything.

Guaymas Cap Com Ok. Very good. Flight, Guaymas, Copy that?

Houston Flight Affirmative.

Guaymas Cap Com I'm not showing any OAMS lights at all on my console.

Cooper Chris, our whole OAMS system was just pretty well shot.

Guaymas Cap Com Roger.

Cooper We're all set. We have the platform all aligned. And . . . once more and follow along.

Guaymas Cap Com There we go.

Cooper We've even got everything stowed.

Guaymas Now you're talking of a real accomplishment.

Cooper It is

Guaymas Cap Com RCS seems to be holding real well.

Cooper Yeah, it's a real fine system.

Guaymas Cap Com Ok.

Conrad We're using radiation waves all the way around.

Guaymas Cap Com I beg your pardon.

Conrad I say we're using radiation waves all the way around for the alignment.

Guaymas Cap Com Roger.

Cooper We'll also start our for retrofire and then we'll for reentry until we need to bring

Guaymas Cap Com Roger, got that.

Houston Cap Com Gemini 5, Houston.

Cooper This is Gemini 5, all set . . . retro.

Houston Cap Com Very good. We're going to be sending your computer load. We want to confirm that you've got the computer on and it's in prelaunch.

Cooper Roger. I'm prelaunch computer.

Houston Cap Com Ok. Very good. I've also got your backup information. Are you ready to copy?

Cooper Ready.

Houston Cap Com Ok. GMT of retrofire is 12 27 38. Time for 400,000 is 14 plus 18. Time to reverse bank, 19 plus 25. Roll left 53, roll right 67.

Cooper Roger. . . .

Houston Cap Com Gemini 5, Houston. Say again, please.

Cooper Roger. You want us to put our computer

Houston Cap Com Roger. Are you all set now?

Cooper Right.

Houston Cap Com Roger. GMT of retrofire is 12 27 38. Time to reverse bank - time to 400,000 feet, 14 plus 18. Time to reverse, 19 plus 25. Bank left, 53. Bank right, 67.

Conrad Copied.

Houston Cap Com Roger. Your altimeter setting for the recovery area is 30.10. Gemini 5, Houston again.

Cooper Go ahead.

Houston Cap Com Be advised that by some calculation here, your water tank for your fuel cells is approaching the full point, and if you get a Delta P light, we advise you not to worry about it because we've run some tests that indicate that there's plenty of time - on the order of 20 plus hours after you've run the tank full that the fuel cell will still operate properly.

Cooper Roger. We won't worry.

Houston Cap Com Ok.

Cooper These old fuel cells have done very well, haven't they?

Houston Cap Com They sure have. We've run all kinds of tests on them, haven't we?

Cooper Yes, we have.

Conrad Houston our yaw system. It was just so sick that there was just no sense working with it. When the rates were down what was coupling into what rate, we just couldn't figure out which thrusters were bad.

Houston Cap Com Roger.

Conrad We put in a squib and we couldn't hear it, then I did pulse regulator and it worked.

Houston Cap Com Ok, very good. Do you have a good DCS load for 121-1, and a good TR time?

Conrad Roger. We'll put the computer to reentry at this time.

Houston Cap Com Roger.

Houston Surgeon Gemini 5, this is Surgeon. I want to check again for sure that we're in agreement that we will not use Item B. Is that affirm?

Cooper It's not affirm. We took one for the road.

Houston Surgeon One for the road. Ok. Gordo, I want to confirm again this blood pressure for Pete's use on reentry - we checked the times here and we see that the only time that we'll be over a site where we can get any blood pressure prior to the time that you're on the water would be over Guaymas, Pete, this would be between 12:35 and 12:40 over Guaymas. That would be after retro over Guaymas. So if you can get one blood pressure at that time then get the programmer in as soon as you're on the water and be prepared to switch it back and forth then. The other item is in postlanding, remember that if you do have any symptoms at all

END OF TAPE

Houston Surgeon have any symptoms at all after bridling the chute or on the water to be sure and prop those calves and get your feet elevated, slide down so that your feet are above your head.

Cooper I've got the blood pressure bulb inside, and I have the pumping gear in my pocket, and all I have to do is put it on and pump up a blood pressure, right, and it goes on recorded?

Houston Surgeon Roger. Correct.

Houston Cap Com Gemini 5, Houston. Be advised everybody ran out, looked up, and there you were.

Cooper How did it look?

Houston Cap Com They want me to - well, it looked like you were about 3 degrees off in yaw.

Cooper No, that's wrong.

Houston Cap Com Okay.

Cooper Garbled.

Houston Cap Com Must have been the sun angle.

Cooper That's what it was.

Houston Cap Com Did Dave Scott mention to you the fact that you're going to have a lighted horizon at 400,000 feet on your reentry?

Cooper Going to have what?

Houston Cap Com Just about as you get to 400,000 feet you should have a lighted horizon.

Cooper Roger.

Houston Cap Com Gemini 5, Houston again.

Cooper Go ahead.

Houston Cap Com The ships that will be in your landing area will be the Lake Champlain and 2 destroyers, the DuPont and the Waldron. The airborne - the man in charge of the airborne operations call sign will be air boss, and the helicopters will be called Recovery I and II, and Search I, II, and III.

Cooper Okay.

Houston Cap Com Then as you're coming on down I'll give you the call sign of the closest one to you and who you should try to contact.

Cooper Roger. What's the call sign of Lake Champlain?

Houston Cap Com The call sign is "Nighthawk" but I think it'll be referred to as the Lake Champlain.

Cooper Okay, we just wanted to call them to get a Charlie time and a Fox coordinate.

Houston Cap Com Roger. Do you still remember those panel signals for coming onboard.

Conrad You bet.

Cooper

Houston Cap Com Say again.

Cooper

Houston Cap Com I don't know how you log time like that.

Cooper

Houston Cap Com Gemini V, Houston here. Be advised that since you have

changed microphones, you are pretty difficult to read. It would be better if you talked a little bit slower.

Cooper Roger. We used the headsets for the entire flight till about 15 minutes ago.

Houston Cap Com Okay, very good. They are a lot better. You seem to be picking up a lot of background noise when you are transmitting.

Cooper Okay

Houston Cap Com What kind of head sets were those, Gordo.

Cooper Those lightweight

Houston Cap Com I think I've heard of that before.

Cooper Good.

Conrad Houston, Gemini V. We'd like to report that the retro checklist is complete.

Houston Cap Com Roger, I understand. Preretro is complete.

Conrad Houston, could you give us a GMT time hack.

Houston Cap Com Roger. GMT time hack. On my mark it will be 11 16 00, and that will be about 50 seconds.

Houston Cap Com I'd like to remind you again, Gemini V, that your event timer should be set up at 27 minutes over Carnation, rather than the 36 it was in the flight plan.

Conrad I'm sorry.

Houston Cap Com Okay, in 15 seconds approximately it will be 11 16 00. 5 seconds, 3, 2, 1 MARK.

END OF TAPE

See 3, 2, 1, MARK, 11 16 00

Cooper

See Gemini V, let me caution you on your microphone again. We're going to need the IVI readings over Hawaii, and we're not going to have a lot of time, so try to give them slowly and distinctly.

Cooper OK, is that better now?

See Yes, it is. Did you put the face plate down?

Cooper No, I moved the microphone farther away.

See OK.

Cooper How do I sound now, the faceplate's down?
Is it any better?

See That's a little better.

Cooper OK.

See It looks like we will have adequate coverage across the states so that we should be able to provide you your backup guidance quantities before you go into blackout.

Cooper Very good. Houston, Gemini 5.

Houston Cap Com Go ahead.

Cooper When would you like the number 1 bio-med recorder put on, what time? We don't have it on the check list.

Houston Cap Com Right now would be a good time, right now. Did you get that, Gemini 5?

Cooper I say what time would you like to bio-med number one

recorder on? It's not on the check list.

Houston Cap Com

Roger. Put it on now, put it on now.

Cooper

Roger.

Houston Cap Com

We're just coming up on LOS now.

END OF TAPE

This is Gemini Control, Houston, 189 hours and 32 minutes into the flight. We have just had a pass south of the Canaries station and had a brief update there. Had the usual exchange of congratulations. We will probably hear more of that in the last circuit around the earth. Congratulation to the crew going up from the ground and from the crew back to the ground stations. Let's listen to the Canary conversation now.

Conrad Hello, Canary Cap Com, Gemini 5.

Canary Cap Com Roger. We would like to confirm that biomed recorder number one is on.

Conrad Roger, it's on.

Canary Cap Com Ok, and what computer mode are you in?

Conrad Reentry.

Houston Flight We want it on.

Canary Cap Com I thought that's what I said. He said it is on. And it is on.

Houston Flight No, he said it was off. Check him again.

Canary Cap Com We're showing it on here. Flight would like to get another reading on the biomed recorder no. 1 status.

Conrad I said it's on. Number 1 is on - they're both on.

Canary Cap Com Roger, I copy No. 1, 2 both on.

Canary Cap Com Gemini 5, we'll give you a time hack for TR at one hour - that will be 60 minutes.

Houston Flight What do you show his computer in now?

Canary Cap Com I'm still showing touchdown predict. Want to get a checklist backgrounder on that. We're showing no time here on the ground.

Houston Flight Roger.

END OF TAPE

Canary Cap Com Gemini 5, Canary Cap Com. I'll give you a time hack on TR in roughly one minute.

Conrad Gemini 5, roger.

Houston Flight I'll give you a time hack in 15 seconds. On my Mark it will be 11 27 00. MARK.

Canary Cap Com Roger, Flight. I'm with you.

Houston Flight Time to go is one hour and 25 seconds from my Mark. MARK.

Canary Cap Com Roger.

Canary Cap Com 10 seconds. 3, 2, 1, MARK. In 60 minutes.

Conrad Roger, It's right on the button. 600 00.

Canary Cap Com Roger. We'll have LOS in about 30 seconds. Everybody here at Canary Island would like to send their congratulations

Conrad Thank you very much. We'd like to say the same to you for your wonderful help.

Canary Cap Com Roger, our pleasure.

Conrad See you in Houston.

Canary Cap Com Roger. The Canaries have had LOS.

END OF TAPE

Gemini Control, Houston here; 189 hours, 42 minutes into the flight, and we're coming up on Tananarive off the coast of Africa. I would like to run through the sequence of events at the retro fire--during the retro maneuver itself the spacecraft will be pitch-down, nose down, 30 degrees. That is blunt end forward, pitch down 30 degrees, 0 roll, and 0 yaw. That attitude will be held through retro fire, and immediately after retro fire, the crew will roll the spacecraft around 180 degrees and assume a re-entry angle of 1.7 degrees, that'll be 1.7 degrees up off the horizontal, in other words, slightly nose up. At that point the crew will be heads down if we're still altogether. The retro fire will take place 700 miles northeast of Hawaiki. Then a bout 14 minutes after retro fire, the spacecraft should be at 400,000 feet, somewhere between Texas and Florida, and at that point they will still be heads down, and they will roll to their left about 53 degrees; according to the present estimate this could change slightly based on radar data during this pass. The present plan is 53 degrees. Ten minutes later they should be entering their black out period, that'll be 16 minutes after retro fire, and at that time they will be at about 300,000 feet. A minute or two after they are in the black out, the computer onboard will give them their first solution on their landing area, and will have evaluated all the information to date there, the exact thrust they got from the retro rockets, the other values; and it will give them a solution. They will end the blackout period at an altitude of 137,000 feet. That should occur about 20 minutes and 35 seconds after retro fire. And by that time they will have reversed their roll. They will have rolled over to the right to about 67 degrees off a zero point of heads down. Then they will look at their eight ball, in the

center of the console, a series of two cross hairs, one horizontal, one vertical; and they will attempt to drive these cross hairs to the zero point, and this will have the effect of taking out both cross range and down range errors. Then if everything goes right, at 50,000 feet, the 50,000 foot point would occur 22 minutes and 19 seconds after retro. They should have main chute about 24 minutes after retro fire, and they should be on the water at a point 275 miles southwest of Bermuda at 28½ minutes after retro fire. This is Gemini Control.

END OF TAPE

This is Gemini Control here, 190 hours 2 minutes into the mission. We are in a Carnarvon pass right now. The crew has run through their final check points with the Carnarvon station. They started an event timer on-board. The flight plan calls for them to start a minus 256 second checklist between Canton Island and Hawaii. A very few minutes, a minute or so after they are acquired at Hawaii, they will go into their T-1 minute checklist with retrofire occurring at 6:27:43 central standard time. We have the Carnarvon conversation. We are still in communication out there and we will play it for you now.

Carnarvon Cap Com Gemini V, Carnarvon Cap Com.

Conrad Go ahead Carnarvon, Gemini V.

Carnarvon Cap Com Roger, I'm going to update you with a new preretro load and a new TR time. I've also got the backup guidance quantities. Are you prepared to copy?

Conrad Ready to copy.

Carnarvon Cap Com Transmitting your TR. You got a TR, you are in sync, transmitting your load.

Conrad Wait a minute. Don't transmit it yet.

Carnarvon Cap Com I'll transmit the load.

Conrad Did it go in.

Carnarvon Cap Com Roger, I got a

Carnarvon Cap Com Let me give you your backup guidance quantities to you and check a couple of the cores in the MDIU.

Conrad Read it.

Carnarvon Cap Com Roger. GMTRC 12 27 43. REP 400K. 14 + 12, RETRB 19 + 21. Bank left 53, bank right 67. Copy?

Conrad Roger.

Carnarvon Cap Com Okay, let's check cords, 03, GR cord 03.

Conrad 52192.

Carnarvon Cap Com Roger, stand by one. Flight, there is some difficulties, isn't there? He copied at 992, I got 93 at the end.

Houston Flight That's okay.

Carnarvon Cap Com Okay, read out cord 10.

Conrad 00955.

Carnarvon Cap Com Roger, you got it. Looks good.

Conrad Oh.

Carnarvon Cap Com I'll give you an event timer countdown time hack at 27 minutes 00 seconds.

Houston Flight Carnarvon, have him stand by.

Carnarvon Cap Com You got 20 seconds. Go ahead Flight.

Houston Flight That's all right, stand by. We want to have him go out on one mode and back into reentry just to check it. Stand by.

Carnarvon Cap Com 10 seconds, 4, 3, 2, 1 MARK. 27. Got it?

END OF TAPE

Canarvon Cap Com Got it. Okay, I'll give you a GMT time hack at
12 hours 00 minutes at 12 hours 01 minutes, and
about 5 seconds.

Cooper Roger.

Canarvon Cap Com 2, 1, MARK.

Conrad Okay, we're right on 2. Verify the computer is
in reentry.

Canarvon Cap Com Roger. Flight, what were you talking about check?

Houston Flight That's okay. That's what we want him to do, was
verify ...

Conrad I don't quite understand why we didn't get a DCS light
on either the TR or the load that just went in.

Houston Flight Roger.

Canarvon Cap Com Roger, I got knots back in those core readouts you
gave me check with my ET message.

Conrad Give me a TR at 26.

Canarvon Cap Com Roger, 10 seconds to go. 5, 4, 3, 2, 1 MARK. Got it?

END OF TAPE

This is Gemini Control at Houston. Forgive the loss there. We're at 190 hours, 22 minutes into the flight, and while we are talking, Jim McDivitt has been remoting to the spacecraft through Canton Island.

Let's come up on that conversation, please.

Houston Cap Com Gemini 5, Gemini 5, Houston here. We're standing by in case you need anything.

Cooper This is Gemini 5.....

Houston Cap Com Roger. Houston here. We're just standing by in case you need anything.

Cooper Right here, everything's fine.

Houston Cap Com Very good, very good.

Gemini Control back here. Retro fire clock shows 4 minutes and 10 seconds. Here in the Control Center, the Flight Director Chris Kraft, the flight surgeon, the capsule communicator, Jim McDivitt, and our retro fire officer, Tom Carter, have the same kind of sensors applied to their bodies that the crew does on Gemini 5, and we'll be taking another EKG reading during this retro fire maneuver. Hawaii has acquired. Pete Conrad's on the line. During that final minute, Pete will, Gordon Cooper will be holding his attitudes very carefully, then Pete Conrad at the same time will push a button marked SEP OAMS LINE. This will cut the line back to the OAMS system and the adapter, and then he will push the SEP ADAPTER button. At T-10 seconds he will arm the retro button by pushing it, and meanwhile Cooper will count down with our Hawaii communicator, Bill Garvin, down to the retro fire point. Our ground station in Hawaii says that the spacecraft is right on its proper attitude. It's 30 degrees pitch down, 0 roll, 0 yaw.

END OF TAPE

And with a little more than 2 minutes to go, it's all quiet here in the Control Center and it is all quiet out in Hawaii, and at a point of about 150 to 40 miles of bubble lighting. Pete Conrad says, "We are right on" he caught the 2 minute mark. Over in the Atlantic Ocean everything is ready, we've got 2 big 4 engine airplanes, 1 200 miles uprange, 1 200 miles downrange from the landing point, 3 search helicopters, 3 recovery helicopters, we have an on-scene Commander, a Navy plane, and S-2 out. We also have 3 C-130 airplanes which will relay telemetry. Here is the 1 minute mark. "Right there, SEP OAMS," Conrad said, "SEP ELECTRIC" and "SEP ADAPT".

9, 8, 7, 6, 5, 4, 3, 2, 1 MARK. Rocket 3 has fired, Rocket 2 has fired, Rocket 4 has fired, and Hawaii has verified all retros have fired, Conrad confirms. And Gordon Cooper has just read out his incremental velocity indicator needles, they showed 269 aft, 010 left, and 181 down. This sounds quite nominal. We're 1 minute beyond the retrofire point, and out in the spacecraft they should have just gotten our computer light on. Flight Director has asked for another set of summaries of the conditions at the time of retrofire. Through our rapid communications system, they will be in here and displayed within a second or two. The Hawaii Communicator is talking now. Let's listen to that conversation.

Conrad 26.

Hawaii Cap Com Roger.

Hawaii Cap Com I'll give you a mark at TR plus 3 minutes.

END OF TAPE

Gemini Control here. All the data is in from Hawaii and we look very good. A big sign has just gone up on our recovery map which says, "Nominal Retrofire." It's as much as we could have hoped for.

Hawaii Cap Com Hawaii has had LOS.

Conrad Say, we got it Hawaii.

Hawaii Cap Com Roger, roger.

Houston Flight Well done, Hawaii.

Flight Director Chris Kraft gives the Hawaii Station a well done on that maneuver. And within 3 to 4 minutes the California station should acquire. From the Carrier we learned that the helio's are airborne, the search and the recovery helios, a total of 6. Very little talk here in the Control Center. Everybody has their jobs to do and their numbers in front of them. And that will be a very active period in this pass across the States, several radar points taken.

Gemini Control here, we'll come back to you when California acquires.

END OF TAPE

This is Gemini Control here. Jim McDivitt has just raised the spacecraft through the California station and our environmental electrical communications officer says the main batteries look fine, their voltage is right up there where it ought to be. Jim has just urged the crew to enjoy the view as they take the plunge across the United States coming down the home stretch on their 120 revolution flight. They are probably getting a good look at this spacecraft down on the west coast. It's sweeping across New Mexico, darkness on the ground out there. Jim says the weather looks good at the recovery area. We're about 7 minutes now - 7 minutes into the - since retrofire. Cooper making a comment about looking for the pump package that was observed by Grissom and Young as it went by after the adapter separation. He apparently missed it though. The crew is now being instructed to pump up their blood pressure cuffs and we're going to take a blood pressure as we sweep across Texas here. The cuff is full-scale, Dr. Berry reports. We've got a valid blood pressure on the pilot. The blood pressure quantity was taken actually at the Guaymas station, Guaymas, Mexico. We've got about six minutes to go here before we reach the 400,000 foot mark and one minute later we'll be at 300,000 feet where the blackout period will begin and last about 4 minutes, a little over 4 minutes. Here's Jim McDivitt talking to the spacecraft - let's cut in on that.

Houston Cap Com Ok. You should get the lighted horizon just slightly before
400,000.

Conrad Roger.

Guaymas Cap Com . . . are holding good, Flight.

Houston Flight Roger.

Guaymas Cap Com The secondary O₂ is real good.

Houston Flight Roger.

Conrad This is a very futuristic sight out here with - I don't know what all this stuff is - I guess it's pieces of the retro adapter, or whatever, following along, but it's all lit up with sunlight in a complete black void.

Houston Cap Com Roger, can you see the retro adapter back there at all?

Conrad No.

Houston Cap Com Ok.

Conrad Ok. We're beginning to see the horizon a few degrees below us.

Houston Cap Com Ok.

END OF TAPE

.....ECOM reports the cabin temperature is 61 degrees.

Conrad Yeah, we have a good horizon now.

Houston Cap Com Roger on the good horizon.

Everything entirely nominal up to this point. We're listening right along with you, and everything just looks 40. Jim McDivitt giving Pete Conrad a little advice on how the horizon should look and exactly where to look. We're still estimating at 56 minutes, 56, we should have splash. We'll be coming very shortly into the blackout zone. The last communication was rather garbled, always an indication that we're going into blackout. They would be somewhere between, coming up on 400,000 feet in about 30 seconds. Jim McDivitt has just advised that blackout will occur at 16 minutes and 14 seconds after retro fire, which is very close the value we planned, about 2 revolutions ago, which was 16 minutes and 15 seconds. The pilots are now being instructed to roll left 53 degrees, and then their reverse angle will be 68 degrees. They start the 68 degree maneuver at 19 minutes and 25 seconds after retro fire, about 5 minutes from now. We're hearing from Pete Conrad. It's a little ragged, but it's coming in. Jim McDivitt's just advised the crew that their time for drogue chute will be 22 minutes and 5 seconds from retro fire. Their time for main chute is 23 minutes, 48 seconds. Jim McDivitt says, "You're coming up on blackout now, Gemini 5. Have a nice ride." Blackout to begin in 10 seconds. A minute or two into blackout, a computer on board should give the crew its first solution of the landing problem, it's evaluation, it's instructions on what angles to fly, and we suspect that it will agree very carefully with what has been plotted here.

END OF TAPE

Now comes the long quiet spell. They should be out of blackout in twenty minutes, thirty-five seconds, about three and a half minutes from now. This is time when the spacecraft comes to what must seem like a virtual halt on board from a speed of something over 17,000 miles an hour down to a speed around 1,700-800 miles an hour, in a short span of several minutes. It's very quiet, almost a methodical approach here, in the Gemini Control Center, everyone seated listening for the communication. Jim McDivitt is broadcasting now in the blind at 18 minutes and 30 seconds since retrofire, but we've not heard back from the spacecraft yet, shouldn't for another two minutes. Jim McDivitt just put in another call 19 minutes and 20 seconds since retrofire. It's also all quiet from down range. We've had no reports in the last few minutes from the carrier, the Lake Champlain, but they will be coming to life, I'm sure, in a very few minutes. We're now at 20 minutes and 8 seconds since retrofire, and we estimate from 30-60 seconds they should be out of the blackout region. Their drogue chute presently is planned for an opening at 22 minutes, 5 seconds after retrofire followed by a minute and a half later they'll go to main chute. The drogue chute is to come out at 50,000 feet. Twenty-one minutes since retrofire.

END OF TAPE

Now we can hear Pete Conrad, his voice. It's very faint, but we can hear him. Jim McDivitt's final raised them. There he goes on another call. Pete Conrad says they are flying various bank angles, and he believes they may be a little bit short of the target. There's the drogue out, Pete called it. Pete called it at about 22 minutes, 10 seconds, and that's within 5 seconds of what we were planning here. They are on drogue. The carrier, we are informed, has radar contact with the spacecraft. Now the carrier is in voice contact with the spacecraft we're told. Gemini 5 communicator Jim McDivitt says, "Give us a call when you put your main out." Pete comes back with a roger. The main chute should be going out a second or two from now. "Roger," Pete says, "main chute out." He's on a main and he says it looks fine. Jim says that according to our radar information, they may be a little bit up range; we don't have a plot yet just where. They both report they are feeling fine. The precise word was, "We feel OK." The destroyer DuPont, as you can see, if you are look at a plot of that 121-1 area, is 72 nautical miles up range from the destroyer, from the carrier, I'm sorry. We hesitate to say, because we do not have any data yet on just where this point is, but the inclination seems to be that the landing point may be up around the DuPont. It's very likely somewhere between the DuPont and the Champlain. The on-scene commander down range has voice contact with the spacecraft. They are still on main chute. We have an estimated splash point here of 70 degrees, 15 minutes west, 30 degrees, 15 minutes north.

END OF TAPE

Gemini Control here. The radar contacts are pouring in at this point and we are able to give you a preliminary estimate that the spacecraft is floating on the water and they are on voice contact with an airplane called the Onscene Commander. We estimate this position about 80 miles west of the Carrier itself, west of the carrier Lake Champlain, this would be slightly to the South of the ground track and right now the best estimate is 80 miles west of the Carrier. We'll stand by and bring you additional information as it develops.

END OF TAPE

Gemini Control here. We have just been advised by the carrier, the On Scene Commander down there that an airplane, an HC-97 will be over the spacecraft in about 5 minutes and it will remain there until additional aircraft, helicopters, have reached the point. They are on the water and we say the best estimate right now is about 80 statute miles west of our original target point. This is Gemini Control standing by.

Gemini Control here. We just heard one of the cleaner transmissions we have heard in the last few minutes and it came from Gordon Cooper. He said Gemini V here. We're on the water and we're in good shape, standing by awaiting you sailors and you airplane people.

END OF TAPE

We still have no decision on just exactly what the crew will do, whether they'll sit it out there in the spacecraft and wait for the carrier to come along side, or whether they will go through a helicopter pick-up as we have in the two previous Gemini landings. Before this mission we planned for the crew to remain in the spacecraft to be physically hoisted aboard the carrier. However, in this...excuse me if this eighty mile estimate is accurate, that would mean about three hours, so that's a factor that has to be considered. This is Gemini Control standing by....

Gemini Control here. The recovery room was given the following briefing to the flight director. They estimate that we're--the spacecraft is down at a point twenty-two miles south of the destroyer Dupont. The on-scene airborne commander is in the area over the spacecraft. He has directed three rescue helicopters to come to the scene, and they're proceeding at full throttle to that point. We have all good green reports from the spacecraft. All in all, it looks like a good situation down there with fairly low waves, good visibility--ten miles, and we'll stand by for additional information.

END OF TAPE

This is Gemini Control here. One of the rescue aircraft has the spacecraft in sight and he is on the scene. The recovery helicopters, three in number, are presently about 15 to 20 minutes away from the spacecraft and we have not got a decision back from the on-scene commander but we are recommending from here that we go ahead with the helicopter pickup and transfer the crew back to the carrier, Lake Champlain, via helicopter. We'll stand by for additional information as it develops. This is Gemini Control, out.

END OF TAPE

Gemini Control here. The airplane air boss assures the on-scene commanders that he has the green dye markers that have been put out by the Gemini-5 spacecraft on splash, they have the dye markers in sight, letting down toward it. Now the space- the air boss on-scene commander has the spacecraft clearly in sight.

END OF TAPE

This is Gemini Control. The swimmers, the pararescue men, members of the Air Rescue Service, are about to jump into the water in the area of the spacecraft and it appears right now that the spacecraft is resting on the 33° north latitude by about $69-1/2^{\circ}$ west longitude. We're standing by. This is Gemini Control and our situation looks like this. The destroyer, Dupont, is 17 miles north of the spacecraft and is proceeding toward it. We have two swimmers that are poised and ready to go at the command of the on-scene commander who is also in the area in another aircraft. And we have three helicopters which should be there in a very few minutes. And the on-scene commander then must decide whether he wants to deploy his pararescue men or let the helicopters go in and make the pickup. In all probability, he will deploy his pararescue jumpers, but we'll stand by for the precise word.

END OF TAPE

Gemini Control here. Our status is this, the rescue aircraft is over the Gemini V spacecraft, and a decision has been made not to jump the 2 para-rescue aboard, but instead to wait for the helicopters to arrive. They are expected within 10 to 15 minutes. They will have, they also have swimmers who will go into the water and fix a flotation collar about the spacecraft and then assist the crew in anyway they need assistance in leaving the spacecraft and going up the sling into the helicopters. This is Gemini Control.

END OF TAPE

Gemini Control here. The helicopters which are coming in on the site are estimating that they'll be over the spacecraft in about six or seven minutes from right now, and we'll put them over at about 20 minutes before the hour. The on-scene commander says that he can not see the reentry-- the recovery antenna does not appear to be up, and he has not had any voice contact with the spacecraft. However, the carrier itself had voice contact as they approached the landing splashpoint, or very close to splash. We're standing by for additional information.

Gemini Control here. The recovery helicopter, search recovery helicopter, has been directed to proceed in on a pick-up pass and deploy its swimmers. The helicopter is commanded by Navy Commander Fredrick L. Highsmith of Nahunta, Georgia. They have three swimmers aboard the helicopter. They are Lt. J.G. John Hunt of Boston, Massachusetts, Quarter Master Third Class Peter A. Spencer, Stamford, Vermont, and William L. Langley, Airman--Navy Airman, of Greenville, South Carolina. This is Gemini Control standing by...

END OF TAPE

This is Gemini Control. From the airplane "Air Boss" the on scene commander, we learned that he is directing recovery helicopter number 1 to make an approach and go ahead and deploy it's swimmers. They should be jumping momentarily. We are also advised that in the same area there is a commercial ship, tentatively identified as the Victoria, under United States registry and it apparently just happened by and it's getting a pretty good eye view of the recovery pickup. This is Gemini Control standing by.

END OF TAPE

This is Gemini Control, one swimmer in the water, two swimmers in the water. A flotation collar has been dropped. All three swimmers in the water with the collar and they will inflate the collar and encircle the spacecraft with it.

The recovery helicopter pilot is now backing off a little bit so he doesn't make too much wake which would interfere with the swimmer operations, they are in the water now swimming around the spacecraft.

The swimmers are now beginning to put the flotation collar around the spacecraft. The report from the On Scene Commander is that the collar is now affixed to the spacecraft, and we are standing by for further word.

Gemini Control here. The swimmers are still putting the flotation collar around the spacecraft, securing it to it. We have a very clean signal from the On Scene Commander.

END OF TAPE

The one swimmer is up on the edge of the collar and he has signaled the recovery helicopter to drop the liferaft. Standard procedure, and the raft is now on the water. One of the swimmers now has plugged in an interphone communication patch on the spacecraft. The liferaft is now inflated beside the spacecraft. The swimmer who has been talking on that interphone connection just flashed a big "thumbs up" signal to the recovery helicopter. That's the report from down scene. A big thumbs up. We still have no reports yet on a hatch opening but we should have that momentarily.

We have a report, a hatch is open. The left hatch. The left hatch is now open we are advised by the On Scene Commander.

Now one astronaut is leaving the spacecraft at this time. That would most likely be Gordon Cooper. The astronaut is standing on the seat and one of the swimmers is chatting with him. Now we are advised that one of the astronauts who was standing on his seat has moved over. He is sitting on top of the spacecraft. And the astronaut gives us a big "thumbs up". He is giving a thumbs up sign to the On Scene Commander.

END OF TAPE

Now a second astronaut is standing up in his seat. He's talking to the swimmer. The first astronaut has entered the life raft; the second astronaut is walking around the flotation collar, apparently to make his jump into the life raft. Now the hatches on the spacecraft are being closed--a safety measure to avoid a wave splashing in there. The hatches are being closed and we're preparing to bring the astronauts up on the life lines. Still, one astronaut on the life raft; one astronaut is holding on to the spacecraft. We're preparing to hoist one of the astronauts--let's try to catch the signal live downrange.... Gemini Control here again. That signal from downrange is getting a little rough, but it certainly was good up to that point. The man who gave us that blow by blow is Commander Kenneth O. Echlin, Jr., who is Air Group Commander from Air Group 54. He's a native of Grimerton, Washington; he now lives in Key West, Florida. Now, the sling is being placed around the second astronaut. He's about to be hoisted in the recovery helicopter.

END OF TAPE

Gemini Control here. Now we have both astronauts in the recovery helicopter and that seemed to be a signal for Chris Kraft to break out his cigar box and he is passing them out to various people here in the Control Center. We do not have at this time a precise fix on when the helicopter is due back on the Lake Champlain, but we will stand by and give you that as it develops. We've got a report from the helicopter relayed to the On Scene Commander. He says that both the astronauts are looking pretty good, it sounds like they are a little bearded, but they are walking around in the helicopter, they seem to be in good spirits. He says they look good. We are standing by.

Now with the helicopter proceeding toward the Lake Champlain, we are advised that it is moving a speed of 130 knots.

END OF TAPE

This is Gemini control here. We're advised through the relay that the astronauts have gone through their first medical check point. A simple stand up test, but best be described as a deep knee bend and it was entirely normal. We will keep you advised as additional information reaches us.

This is Gemini control. We're now estimating the helicopter will be on the deck of the Champlain at 36 minutes after the hour -- 36 minutes after the hour -- about a half hour from now. We're getting very good reports on the crew. They are minimal but they are certainly good reports. Meanwhile here at the control center, smiles and big cigars are the order of the day. Dr. Gilruth, Director of the Manned Spacecraft Center is congratulating Chris Kraft, the other two flight directors John Hodge and Gene Kranz are in the room along with Charles Mathews, the Gemini Program Manager. You can just feel the atmosphere relax in a round of hand shakes and cigar smoke. This is Gemini Control Center standing by.

END OF TAPE

This is Gemini Control. We've been passed two bits of information from the helicopters. The pilots inquired as to whether the gentleman who wanted the dollar bill is on board the carrier. This is a reference to the National Aeronautics Association representative who is on the carrier ready to certify this flight as the world's record for endurance, as well as several other record departments. They've also requested, the pilots that is, that they've advised that they will walk down to the sick bay area. They don't want any help--a very hopeful sign. We're estimating that the helicopter should land on the deck of the Champlain at 28 minutes after the hour, and we'll be back with you in a very few minutes.

Gemini Control here. From downrange we're advised that the search planes have given up the search for the reentry, the radar and reentry section. That's the forward nose of the spacecraft which we have sometimes recovered in past flights. We hoped to get it today, but apparently it sank. There's some question as to whether it had any of the cork material inside of it which would have kept it floating. We're also advised that the astronauts are going to come back aboard in their spacesuits. They have taken off their helmets, and we should see a furry and growthy beard. But they will still have their spacesuits on. This is Gemini Control standing by....

END OF TAPE

Gemini Control here. Trudy Cooper and her two daughters have just walked into the Control Center. Chuck Berry has his arm around her. They are both looking up at a big Videx presentation coming from the carrier, various shots of Pete and Gordo as they got out of the helicopter and walked across the deck. Deke Slayton, the assistant director for flight crew operations, is down congratulating Trudy, now chatting with her. We are sure she is going to make her way around the Control Center, restrained conversation if anything. Of course, it's been a long mission. Trudy has a big smile on her face. Now Deke Slayton is escorting Trudy and the girls across the Control Center up to Chris Kraft's console. Here we come now. Chuck Matthews, the Gemini program manager, shaking hands with Trudy now. Now Chris Kraft, the flight director, big cigar stuck in the side of his mouth--couldn't be happier. George Mueller, associate director for manned space flight, and Doctor Bob Gilruth, director of the Manned Spacecraft Center, just relaying their compliments to Trudy. Now we're not quite sure what's going on here. Chris is plugging in some head sets. Trudy's got one in her hand. A very few minutes ago we were going around the world, stopping at the individual stations, Kraft relaying a well done to each of the stations. In our other ear we are getting a report from sick bay that the boys look fine, from the doctor.

A very happy and smiling Jane Conrad approaching the Mission Control Center, and in quite a hurry to get to the third floor where Mrs. Gordon Cooper is already waiting.

Commentator

Mrs. Conrad, I know you are in a hurry to get to the third floor. What comment do you have at the moment?

Mrs. Conrad Not right now.

Commentator Not right now. She is in a hurry to get upstairs.

Perhaps she is about to speak to her husband for the first time in at least eight days, Mrs. Jané Conrad with Bob Gordon of NASA Protocol, making their way to the elevators, and in just a few seconds they too will be up there in that third floor Mission Control room where Mrs. Trudy Cooper and the two daughters of Gordon Cooper are all ready there.

Commentator This is Murphy Martin in the lobby of Mission Control.

END OF TAPE

In the midst of a lot of congratulations, we got additional word from the recovery forces that during that period they were on the water apparently there was some difficulty with their antenna. They were attempting to transmit, and either their on-the-water transmitter wasn't working or the antenna by which they do talk in that position was not in the up position. But that is not of very much concern at this point.

Jane Conrad has joined us here in the Control Center. She didn't bring the boys with her, however. Both wives seem very much absorbed in a picture where they are actually watching themselves on Chris Kraft's monitor at that center console which has been the scene of numerous conferences these past 8 days, I can assure you.

Gemini Control here again. The circuits are being checked out right now. We hope momentarily to arrange a little conference call between the wives and the pilots out on the Lake Champlain. We have released a certain circuit for that purpose. It is being checked out by the communicator. We have no estimate on exactly when this call will take place. Now Jane Conrad has taken Chris Kraft's seat at the console and another chair is being pulled up for Trudy Cooper. The two Cooper girls, Cam and Jan are busy in a private conversation all of their own. Now chairs are being brought up for them.

END OF TAPE

President Johnson I want to salute you both for the very calm and cool courage that you have shown throughout these last 8 days. In the face of disappointments and discouragements, you have conducted yourselves nobly. You have certainly proved for once and all that man has a place in the exploration of the great frontier of space. Gordon, when are you going to be ready to go up again?

Cooper Well in a day or two, sir. As soon as we can have a little to eat and a little rest.

President Johnson Well that's fine. Astronaut Conrad, after you see that family of yours, would you like to see some of the world at ground level for a change?

Conrad I'm sorry sir. I couldn't hear you.

President Johnson I say after you see that family of yours, how would you like to see some of the world at the ground level for a change?

Conrad Oh, I'd like to very much, sir.

President Johnson Well, you are going to get the chance. We want you to take a good rest and work with your doctors and follow out Mr. Webb and Dr. Seamans instructions, but afterwards, we hope that both of you, along with the other astronauts can accept some of the invitations to share your achievements with the people in other lands, because the one thing that we are all working for and really our only

purpose in space is peace in the world. We want all mankind to be the beneficiaries of what you have done. And I know that you can continue to communicate America's message on Earth as in the skies. We spent a good part of last evening working out some plans for you. Now Gemini V will long be remembered and long honored for the courage of the crew and the competence of the team on the ground and the vision of all who dared to see this great interprise. We can only hope that your achievement will encourage all other nations to accept more fully what great accomplishments can be wrought by cooperating together in these new realms of infinity. So I just want to say God bless you both, we're glad you are back, we shall be everlastingly proud of you and we are so thankful for all the blessings that are ours. Do either of you have any observations you want to make?

Cooper

No, no sir. It was certainly a wonderful trip and we saw a lot of the whole world, a lot of countries and a lot of places that were extremely interesting and it makes me feel how small and insignificant man is compared to a country or the world and how we all should work together to further(garbled)

President Johnson

Well Gordon, we wish you could be out here with us this morning.

President Johnson Gordon, do you read me!

Cooper Yes sir, we are reading you.

President Johnson Are you just reluctant or did you not hear me?

Cooper We are reading you. Are you reading us?

President Johnson I sure am. I wish you could go the the Short Horse
with me this morning as we did not long ago.

Cooper That would be nice.

President Johnson We'll be looking forward to seeing you and congratulations
again and I know that those families are going to be
mighty happy to see you again.

Cooper Thank you, thank you very much for calling us.

President Johnson Over and out.

Cooper We'll see you, bye.

END OF TAPE

Gemini Control here. Gemini Control here. Our ground communications haven't worked out nearly as well as our space communications in the last eight days, but in the last five minutes both Trudy Cooper and Jane Conrad talked with their husbands as well as the two girls, out on the carrier. We understand that the patch did not work out so that that particular conversation failed to get out, but it was a very abortive sort of a conversation. They had great difficulty hearing the carrier, and apparently the boys had difficulty hearing them. However, they did relay their congratulations both ways, and the girls are now leaving the Control Center, presumably to go back home. Trudy had told Gordo that she would see him in about four days, and apparently Jane Conrad has other ideas. She said that it might not be that long. This is Gemini Control out.

END OF TAPE