

1 cc. 10-20-65

~~CONFIDENTIAL~~

NASA PROGRAM GEMINI WORKING PAPER NO. 5040

GEMINI V AIR-TO-GROUND TRANSCRIPTION (U)

MICROFILMED

MAR 21 1988

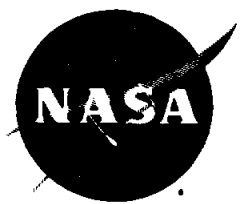
GROUP 4
Downgraded at 3-year
intervals; declassified
after 12 years

CLASSIFIED DOCUMENT - TITLE UNCLASSIFIED

This material contains information affecting the national defense of the United States within the meaning of the espionage laws, Title 18, U. S. C., Secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

DISTRIBUTION AND REFERENCING

This paper is not suitable for general distribution or referencing. It may be referenced only in other working correspondence and documents by participating organizations.



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
MANNED SPACECRAFT CENTER
HOUSTON, TEXAS

October 5, 1965

~~CONFIDENTIAL~~

13-6660


CONFIDENTIAL

NASA PROGRAM GEMINI WORKING PAPER NO. 5040

GEMINI V AIR-TO-GROUND TRANSCRIPTION (U)

Prepared by: Mission Training Section

Authorized for Distribution:


Donald K. Slayton
Assistant Director for
Flight Crew Operations

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MANNED SPACECRAFT CENTER

HOUSTON, TEXAS

October 5, 1965

CONFIDENTIAL

CONFIDENTIAL

1

CAPE KENNEDY

10, 9, 8, 7, 6, 5, 4, 3, 2, 1.

CC IGNITION!

00 00 00 01 CC LIFT-OFF!

00 00 00 02 C ... started.

00 00 00 05 C We're on our way.

00 00 00 05 CC Lift-off 13:59:59. Lift-off 13:59:59.

00 00 00 11 C Roll Program initiate.

00 00 00 12 CC Roger on the roll.

00 00 00 14 CC Plus 10 seconds.

00 00 00 22 C Roll program is finished.

00 00 00 23 CC Roger.

00 00 00 24 C Pitch initiate.

00 00 00 26 CC Roger on the pitch. You're looking good.

00 00 00 27 C Roger. Feels mighty good. Been a long time getting back.

00 00 00 33 CC Roger.

00 00 00 42 C ... fuel cells ...

00 00 00 45 CC Roger. It will be 50 seconds on my mark. 2, 1.

00 00 00 49 CC MARK.

00 00 00 51 C ... away.

00 00 00 53 CC Roger.

00 00 01 21 P Great.

00 00 01 33 P ... The cabin's sealed off a little high.

00 00 01 36 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

00 00 01 37 C Gemini-5 has lost our--
00 00 01 37 CC 01:40.
00 00 01 40 C --IPS.
00 00 01 42 CC Say again, Gemini-5.
00 00 01 45 C Roger. Lost the IPS fuel gage. Still have the
APS.
00 00 01 48 CC Roger. You lost the IPS.
00 00 01 50 C Roger. That's on Stage 2.
00 00 01 55 CC Roger. You lost IPS on Stage 2.
00 00 01 59 C Roger. ... lost the IPS on Stage 2.
00 00 02 10 C Roger. Gemini-5 GO for staging.
00 00 02 13 CC Roger.
00 00 02 26 P Q + 25 DCS is in.
00 00 02 28 CC Roger.
00 00 02 34 C Roger, we've staged.
00 00 02 36 CC Roger on the stage.
00 00 02 37 C Roger.
00 00 02 45 C Roger, got it.
00 00 02 50 C Roger. We have Guidance Initiate.
00 00 02 58 CC Stage 2 thrust is looking good, Gemini-5.
00 00 02 60 C Roger.
00 00 03 12 CC Gemini-5, Houston here. Looks like both of your
guidance systems are working fine.
00 00 03 17 C Roger.
00 00 03 25 P ... GO and everything looks good.

CONFIDENTIAL

CONFIDENTIAL

3

00 00 03 28 CC Roger on the fairings.

00 00 03 48 P What a beautiful view!

00 00 03 50 CC Roger. Everything's looking fine down here now, Gemini-5.

00 00 03 57 C Roger. It looks mighty good up here.

00 00 04 01 P ... real ...

00 00 04 13 CC Gemini-5, you're GO down here.

00 00 04 16 C Roger, Gemini-5 is GO here.

00 00 05 02 CC Stand by for Point 8.

00 00 05 04 C Roger. Standing by.

00 00 05 09 CC Point 8, Gemini-5, Point 8.

00 00 05 11 C Roger. Mode 3.

00 00 05 15 CC Gemini-5, this is Houston. You're at Point 8.

00 00 05 18 C Roger. We're at Mode 3. Thank you.

00 00 05 22 CC Gemini-5, Houston here. You've passed through Point 8.

00 00 05 26 C Roger. We're reading you. Are you reading our ...

00 00 05 33 CC Gemini-5, this is Houston here. How do you read?

00 00 05 34 C ...

00 00 05 43 P One, seven. We have a 32 here.

00 00 05 46 C ... good. SECO ... Houston.

00 00 05 52 CC Gemini-5, you're GO, you're GO.

00 00 05 60 CC Gemini-5, this is Houston here, do you read?

00 00 06 03 C Roger, Houston, Gemini-5 reading you loud and clear.

00 00 06 06 CC Okay, Gemini-5. I'm transmitting in the blind.

CONFIDENTIAL

CONFIDENTIAL

You have a GO.

00 00 06 14 P One, seven. We have the 32 here.

00 00 06 23 CC Gemini-5, this is Houston here. How do you read on this frequency?

00 00 06 38 CC Gemini-5, this is Houston here. How do you read?

00 00 06 48 C Houston, this is Gemini-5 reading you loud and clear. How us? Over.

00 00 07 01 C Roger, 10 plus 11. Our IVI's are forward 002, right 013, up 002. Everything looks good.

00 00 07 17 CC Gemini-5, you're 85 by 199.

00 00 07 46 CC Gemini-5, Houston here. What UHF set are you on?

00 00 07 55 P Roger. This is Gemini-5. We're on UHF-2. We had a perfect diffusion on our computer 25808.

00 00 08 05 CC Roger. Understand you're on UHF-2.

00 00 08 09 P That's affirmative. We'll go back to UHF No. 1 and give you a try.

00 00 08 14 CC Okay. Why don't you stay on 2 for awhile?

00 00 08 17 ...

00 00 08 23 CC Gemini-5, Houston here. Why don't you make the comm check over Canaries?

00 00 08 29 P This is Gemini-5. Roger, we'll make the comm check on UHF No. 1 over Canaries.

00 00 08 35 CC Very good. Very good.

00 00 08 41 P Gemini-5 commencing its first checklist.

00 00 08 45 CC Roger, Gemini-5. Be advised the ground is reading you loud and clear now.

00 00 09 01 CC Gemini-5, this is Houston here. Your 2-1 time is 1 plus 27 plus 26.

00 00 09 15 P Roger. ... of 2-1 is 1 plus 27 plus 26.

CONFIDENTIAL

CONFIDENTIAL

5

00 00 09 23 CC Roger. That's 16, not 26. 1 plus 27 plus 16.

00 00 09 32 P Roger. 1 plus 27 plus 16.

00 00 09 35 CC Roger. That's affirmative.

00 00 10 07 CC Gemini-5, Houston.

00 00 10 10 P Go ahead, Houston, Gemini-5.

00 00 10 13 CC Roger. I'll tell you what. We had to switch your real time telemetry to the standby transmitter. We're picking up a lot of noise and we'd like to have you just leave it that way.

00 00 10 25 P Okay. Start ... first stage ... We really had a lot of POGO.

00 00 10 31 CC Roger. Understand you had a lot of POGO.

00 00 10 34 C Affirmative. We had quite a bit of POGO starting at about 2:06.

00 00 10 38 CC Roger. 2:06.

CANARY ISLANDS

00 00 15 20 CC Gemini-5, this is Canary CAP COM.

00 00 15 24 C Go ahead, Canary, Gemini-5.

00 00 15 27 CC Roger. Have a GMT of lift-off for you. One zero hours, wait one - 13 hours, 59 minutes, 59 seconds. GMT of lift-off 13:59:59.

00 00 15 34 C Roger. 13:59:59.

00 00 15 48 CC That's affirmative. We're standing by for your UHF communications check.

00 00 15 55 C Roger. Wait 30 seconds.

00 00 15 56 CC Roger.

00 00 16 14 CC Gemini-5, this is Canary CAP COM. We have a new 2-1 time for you. It will be 01 hours 22 minutes 27 seconds. Do you copy?

CONFIDENTIAL

CONFIDENTIAL

00 00 16 27 C Say that again, would you?

00 00 16 30 CC That is 01 hours, 26 minutes, 27 seconds.

00 00 16 36 C Roger. We got that.

00 00 17 57 CC Gemini-5, this is Canary CAP COM.

00 00 18 00 C Roger, Canary CAP COM. Gemini-5 on UHF No. 1. How do you read? Over.

00 00 18 05 CC Roger, Gemini-5. I read you loud and clear. We're showing that your tape recorder, Bio-Med No. 2, is on. Flight Plan calls for it to be off.

00 00 18 16 C Roger. We'll get it off momentarily.

00 00 18 18 CC Roger. Thank you. Standing by for your HF check.

00 00 18 22 C Roger.

00 00 18 27 CC Roger, we're showing that the tape recorder is off.

00 00 19 27 CC Gemini-5, this is Canary CAP COM on HF. Do you read?

00 00 19 32 C Roger, Canary. Gemini-5 reads you loud and clear on HF. How me?

00 00 19 36 CC Roger. I'm reading you loud and clear on HF. Going back to UHF.

00 00 19 42 C Gemini-5.

00 00 19 54 CC Gemini-5, this is Canaries on UHF. We're standing by to report on your Control Mode Check.

00 00 20 09 C Roger, this is Gemini-5 on UHF. We haven't gotten our Control Mode Check yet.

00 00 20 15 CC Roger.

00 00 20 17 C We are having the water boiler yawing us off left. We're correcting back now.

00 00 20 23 CC Roger. Understand.

00 00 21 34 CC Gemini-5, this is Canary CAP COM. Would you confirm

CONFIDENTIAL

CONFIDENTIAL

7

that you have your main batteries off?

00 00 21 40 C I'm sorry. Our main batteries are off.

00 00 21 42 CC Roger.

00 00 25 21 CC Gemini-5, Gemini-5, this is Houston.

00 00 25 26 C Roger, Houston. Gemini-5. Reading you loud and clear.

00 00 25 30 CC Roger, we're reading you loud and clear also through our remote site. Be advised that when you perform the hydrogen purge you should get a very small pitch down moment applied to the spacecraft.

00 00 25 42 C Roger.

00 00 26 01 CC Gemini-5, Gemini-5, this is Houston.

00 00 26 09 C Roger, this is Gemini-5, go ahead.

00 00 26 12 CC Roger, Gemini-5, this is Houston here. Be advised your apogee burn will be 10 feet per second at 56 minutes at nominal burn.

00 00 26 26 C ... over, thank you.

00 00 26 29 CC Roger.

00 00 26 33 C Be advised our Control Mode Check is good. Over.

00 00 26 37 CC Roger. Understand you completed your Control Mode Check.

00 00 26 41 C Roger. We are in Orbit Rate and going to ... Horizon Scan.

00 00 26 50 CC Roger, Roger..

00 00 26 55 P Houston, Gemini-5.

00 00 26 58 CC Go ahead, Gemini-5, Houston.

00 00 27 01 P Roger. We lifted off with what we thought was a little lower OAMS propellant and we're showing them at 82 and lifted off with 87. Now do we still have--

CONFIDENTIAL

CONFIDENTIAL

is that the proper amount?

00 00 27 14 CC Roger, understand you now have 82% showing and--say again your question.

00 00 27 20 P Well, the question was that it seemed to us that we got off with less than we should have.

00 00 27 25 CC Roger, we'll take a check on that and inform you later.

00 00 27 29 P Thank you.

00 00 27 30 CC All right.

00 00 27 40 CC Your new orbit, Gemini-5, is 87 by 188. This is prior to your burn.

00 00 27 50 P Roger, 87 by 188 prior to burn.

00 00 27 54 CC Roger.

00 00 28 25 CC Gemini-5, Houston here. We would like to remind you to go to FLOW at 35 on the radiator.

00 00 28 32 P Roger, FLOW at 35.

00 00 28 35 CC Roger.

00 00 36 27 CC Gemini-5, Gemini-5, this is Houston here.

00 00 36 32 P Houston, Gemini-5.

00 00 36 34 CC Roger, we're just checking on communications here at remote. Be advised, we will have some further information for you on your OAMS situation on your stateside pass. We want to pick up some more data over Carnarvon.

00 00 36 49 ...

00 00 38 30 CC Gemini-5, Gemini-5, Houston here for another radio check. How do you read?

CARNARVON

00 00 49 34 CC Gemini-5, Carnarvon CAP COM. Would you place your

CONFIDENTIAL

CONFIDENTIAL

9

Quantity Read Switch to ECS O₂?

00 00 49 40 C Roger - ECS O₂.

00 00 50 18 CC Gemini-5, Carnarvon. You're GO on the cold IR.

00 00 50 23 C Roger, understand GO on cold IR. Thank you.

00 00 50 27 CC What's your status on the cold IR?

00 00 59 29 C Roger, we're GO up here on our cold IR also.

00 00 50 32 CC Roger. Would you place your Quantity Read Switch to Fuel Cell O₂?

00 00 50 39 C Roger. Going to FC O₂ now.

00 00 50 44 CC I'll give you a GET time hack at 52 minutes in about 1 minute.

00 00 50 57 C Roger.

00 00 50 59 CC Be advised you're GO on your radiators. Evaporator Switch to NORM.

00 00 51 05 C Roger. Evaporator Switch to NORM.

00 00 51 12 CC What's your status for Area 6-4?

00 00 51 15 C Roger, our status is GO.

00 00 51 18 CC Roger.

00 00 51 47 CC Stand by for your time hack in about 10 seconds.

00 00 51 51 C Roger.

00 00 51 53 CC Place your Quantity Read Switch to FC H₂.

00 00 51 57 CC 3, 2, 1.

00 00 52 01 CC Mark 52 minutes.

00 00 52 01 C Roger. My event timer is right on.

00 00 52 02 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

00 00 52 06 P Hello, Carnarvon. Gemini-5 here. The Pilot says hello to everybody down there.

00 00 52 12 CC Roger, Pilot.

00 00 52 21 CC We're calling ground for 6-4. I'm going to transmit your 6-4 T_R time.

00 00 52 26 C Roger. Standing by.

00 00 52 32 CC Roger. You have it on board. It's in sync.

00 00 52 35 C Roger.

00 00 52 42 C Are you finished with the FC H₂ readout?

00 00 52 47 CC Roger. We're through.

00 00 52 49 C Good.

00 00 53 45 CC Gemini-5. Be advised that they're going to change the lift-off time to 14:00:00.

00 00 53 54 C Roger, 14:00:00.

00 00 53 59 CC Affirmative.

00 00 54 00 C That do make it easier.

00 00 54 02 CC That's affirmative.

00 00 54 11 C You might advise Flight that this new Platform Mode is the cat's whiskers for alining the platform.

00 00 54 18 CC Roger.

00 00 54 21 CC Flight would like to know how you're coming on the equipment unstowage.

00 00 54 27 C Slow.

00 00 54 28 CC Roger.

00 00 54 31 C We're working on it.

00 00 54 32 P We are right on the Flight Plan.

CONFIDENTIAL

CONFIDENTIAL

11

00 00 54 34 CC Roger, Pilot.

00 00 54 43 P We're all set up for our burn. Platform alined, and we'll burn at 56.

00 00 54 48 CC Roger, we are standing by.

00 00 55 59 CC Starting burn.

00 00 56 01 CC Gemini-5, you're burning.

00 00 56 04 P Roger.

00 00 56 13 P Gemini-5. Stop burn.

00 00 56 15 CC Roger, Gemini-5.

00 00 56 44 P Carnarvon, Gemini-5. Be advised that we burned 9.7 feet forward.

00 00 56 50 CC Roger, Gemini-5. 9.7.

00 00 56 54 CC We copy.

00 00 57 50 P Carnarvon, Gemini-5. Be advised we have the lights of a large town passing on our right. I believe it is probably Perth.

00 00 57 57 CC Roger, copy.

00 00 58 25 CC Gemini-5, Carnarvon. Everything looks real good on the ground. We are standing by.

00 00 58 29 C Roger.

00 00 58 32 P Roger. Gemini-5 is powering down the IR at this time.

00 00 58 37 CC Roger, Gemini-5.

00 01 13 13 CC Gemini-5, Gemini-5. This is Houston here.

00 01 13 17 P Roger, this is Gemini-5 reading you loud and clear.

00 01 13 21 CC Roger, Gemini-5, Houston here. I am reading you weak and a little garbled but readable. I'd like to give you a little information about your heater

CONFIDENTIAL

CONFIDENTIAL

switches. We want you to leave your ECS and Fuel Cell, those two switches, heater switches, in AUTO, but put your Fuel Cell H₂ Switch to OFF. We want you to regulate your fuel cell H₂ pressure on the gage to between 220 and 330, and I say again those are gage readings - gage readings. That's all.

- 00 01 14 17 P Roger, we understand. ... Fuel Cell H₂ is OFF and ECS and Fuel Cell are in AUTO.
- 00 01 14 27 P Be advised the Fuel Cell H₂ reading is 250.
- 00 01 14 38 CC Roger, understand. Be advised, Gemini-5, that on your pass across the States you--we want you to make a UHF No. 6 check.
- 00 01 14 54 P Roger.
- 00 01 24 55 P Okay. This is Gemini-5 on Record here, and the GMT time is 15:24:00. Standing by for the first pass on Guaymas, and we have the D-2 camera equipment all unstowed, ready to go. The 16mm camera was mounted in time. Our only problem so far is equipment stowage. And it looks like we won't get our helmets off. You recognize that. This is something the guys in "7" are going to have to think about. They've got more junk than we have. How are you doing in your footwell, Gordo?
- 00 01 25 31 C I have my helmet bag down there with the food in it. I have a Hasselblad camera. I have one bag that I started collecting garbage, and I've picked up at least 10 to 15 washers in here.
- 00 01 25 43 P Yes, washers and screws.
- 00 01 25 46 C ... stalling, screws. We did have one mishap there when the auxiliary receptacle light wouldn't come out right and broke on the right side.
- 00 01 25 55 P That's right, and let's see, I turned off a circuit breaker on the H₂ heater installing the 16mm camera, and we didn't catch that until we were trying to use the heater. Is that heater coming up now? I believe it is, isn't it?
- 00 01 26 12 C Yes, it's about 2--

CONFIDENTIAL

CONFIDENTIAL

13

00 01 26 14 P Yes, very slow, very low power heaters, though. Okay, we should hear from Guaymas in a minute. We're going to get the 6-4 preretro command load over the Cape again. You're going to have to give them a blood pressure at about 01:36.

00 01 26 36 C Okay.

00 01 26 38 P And at that time we want the Platform ORB RATE, Attitude Control HORIZON SCAN, and I have to unstow and activate the M-1.

00 01 26 43 C What time are we over Guaymas?

00 01 26 46 P We should be getting AOS right now. 01:28:05.

00 01 26 48 C Okay. And what's our time with CAL there, the next station on?

00 01 26 55 P I think we're continuous from there all the way through to--

00 01 27 05 C Boy, look at all that undercast. Man, we're not going to see anything!

00 01 27 10 P Yes. Listen--

00 01 27 12 C Not here, anyway.

00 01 27 14 P I notice this cabin pressure keeps sneaking down a little bit. I don't know what the reg. pressure is going to wind up being.

00 01 27 19 C Well, let's just watch it. We're okay as long as it doesn't get down below 35.

00 01 27 24 P ECS O₂ is on the bottom of the peg. Heater's beginning to do something, I think, slowly. This looks good. I'm going to put this back on experiments.

00 01 27 36 P Hello there.

00 01 27 38 C&P Hello young lovers wherever you are.

00 01 27 43 P Okay.

CONFIDENTIAL

CONFIDENTIAL

00 01 27 46 C Whoever gets our tape recorder, you're just going to have to put up with me.

00 01 27 48 P Yes, I'm going to turn the tape recorder off now while we're at it.

GUAYMAS, MEXICO

00 01 28 09 CC Gemini-5, Guaymas CAP COM.

00 01 28 12 P Hello Guaymas. Gemini-5 here. Read you loud and clear.

00 01 28 15 CC Roger, read you loud and clear. How are you doing?

00 01 28 17 P Status is GO.

00 01 28 19 CC Okay. You're looking good here on the ground. Stand by for the Pilot's blood pressure.

00 01 28 24 P Okay. Pilot's blood pressure coming down.

00 01 28 27 CC Roger.

00 01 28 43 P Coming up - cuff is full-scale.

00 01 29 03 CC Okay. We got a good blood pressure out of you.

00 01 29 11 P Okay. We'll give you our status here with regard to the REP. We have the D-2 unstowed. We have the 16mm camera installed and we're sitting here waiting - ready to go.

00 01 29 23 CC Very good. We will keep the conversation down and let you get ready.

00 01 29 36 CC How about another try at the Pilot's blood pressure. It leaked off a little too rapidly on us.

00 01 29 40 P Okay, give you another one.

00 01 29 42 CC Roger.

00 01 29 55 CC Okay. We got cuff full-scale on that blood pressure.

00 01 30 04 CC Have you got your auto heaters on your Fuel Cell O₂?

CONFIDENTIAL

CONFIDENTIAL

15

00 01 30 09 P Yes. We have the H₂ heater on. We bled down to 220, and we are in the process of bringing it up to about 300.

00 01 30 17 CC Roger.

00 01 30 19 P And our ECS O₂ is building slowly and we would just as soon turn that heater off.

00 01 30 28 CC How about the fuel cell O₂?

00 01 30 30 P Fuel cell O₂ is holding right in the green.

00 01 30 39 CC We got a good blood pressure from you.

00 01 30 41 P Roger.

00 01 31 04 CC Give me a readout on your fuel cell O₂ tank pressure.

00 01 31 08 P Roger. Fuel cell O₂ tank pressure is reading 485.

00 01 31 16 CC Roger, copy.

00 01 32 12 CC ECS O₂. Roger.

00 01 32 15 C Say again, Flight?

00 01 32 17 CC You can turn the ECS O₂ off.

00 01 32 20 C Turn the Auto Heater off, right?

00 01 32 22 CC That's affirmative. We would like you to turn your ECS O₂ Auto Heater off at this time.

00 01 32 26 P Roger, ECS O₂ Heater is off, and our status then is Fuel Cell O₂ AUTO and Fuel Cell H₂ is in AUTO.

00 01 32 36 CC Roger, looks like your water bottle has stopped burning off, and we are not showing any yaw indication down here at all.

00 01 32 41 P Roger, we're in Horizon Scan and we have stopped yawing also.

00 01 32 45 CC Okay.

CONFIDENTIAL

CONFIDENTIAL

00 01 32 49 C We stopped yawing at elapsed time of 45 minutes.

00 01 32 53 CC Roger, very good.

00 01 32 56 C Our yaw rates when the water boiled was 1/2 degree per second.

00 01 33 00 CC Right, got that.

00 01 33 18 P Hello NASA 903, NASA 903. Gemini-5 here. We read you loud and clear. Do you read us?

00 01 33 32 P Well, we're right on the Flight Plan. We got all the gear unstowed and we're looking real good ... fuel. ... right down the line ...

00 01 33 47 P You'll have to climb pretty high.

00 01 34 10 P I'll bet our flight's more fun than yours.

00 01 34 17 C Yes.

00 01 34 19 P I just changed my mind; space flight's better than flying.

HOUSTON, TEXAS

00 01 35 20 CC Gemini-5, Gemini-5. Houston here.

00 01 35 24 C Roger.

00 01 35 30 C Roger, it looks like you have a few clouds down there.

00 01 35 45 P These fuel cells are 4.0, buddy, right down the line.

00 01 35 50 C Just like advertised.

00 01 35 54 P We had both Delta-P lights on boost all the way. They came on shortly after lift-off and the last one, the Section 2 one, went out about 2 minutes after insertion.

00 01 36 12 CC Gemini-5, Gemini-5. This is Houston.

00 01 36 15 C Hello Houston. Gemini-5 here. Read you 5 by 5. Our status Green.

CONFIDENTIAL

CONFIDENTIAL

17

00 01 36 20 CC Roger. Be advised that we'd like to pick up some more T/M data on your OAMS. We'll get this over this pass and over Carnarvon and then update you on a reading for the REP mission on the next pass across the States.

00 01 36 37 C This is Gemini-5.

00 01 36 41 CC We'd also like to advise you after you've put out the REP and you want to turn around to look at it, do it slowly so that you don't put any unwanted Delta V in with the attitude thrusters.

00 01 36 56 C Roger.

00 01 36 59 P Hey Houston, Gemini-5. Did you hear us in contact with the back-up?

00 01 37 04 CC Go ahead Gemini-5, Houston here. Say again.

00 01 37 07 P I say we were in contact with NASA 903 and 902 in flight over Mexico. Did you hear us?

00 01 37 13 CC Roger, I did. That's pretty good.

00 01 37 51 CC Roger, Gemini-5. This is Galveston in to you.

00 01 37 55 CC Very good. Gemini-5, Houston here. Could you read us out your OAMS Propellant Quantity please?

00 01 38 02 C Roger. OAMS Propellant Quantity is 78% and it's been that since after our apogee burn. Over.

00 01 38 11 CC Roger. Understand it's been 78% since apogee burn.

00 01 38 14 C Affirmative.

00 01 38 33 C Who's playing the music?

00 01 38 36 CC It's not down here.

00 01 38 38 C We're getting some music on UHF.

00 01 38 40 P Sounds good.

00 01 38 49 CC Gemini-5, Houston here. We're standing by for a Command Pilot blood pressure.

CONFIDENTIAL

CONFIDENTIAL

00 01 38 55 C Roger. Coming to you momentarily.

00 01 38 57 CC Okay.

00 01 39 38 C Houston, Gemini-5. We had quite a display when we jettisoned the doors on the geometric experiment. I don't know what all the debris was, but it looked like a snow storm.

00 01 39 51 CC Roger. Remember what I told you about those sunsets.

00 01 39 54 C Yes, we're looking forward to that.

00 01 40 08 C 903, Gemini-5. See you guys in 8 days.

BERMUDA

00 01 41 10 CC Gemini-5, this is Houston here. We still haven't received the Command Pilot blood pressure.

00 01 41 15 P He was having a little trouble getting it in. He's got it in now and he's pumping it up.

00 01 41 21 CC Okay, very good.

00 01 41 24 C It ought to read plenty high, because I've been working.

00 01 41 28 CC Roger. That's one of the toughest jobs of the flight.

00 01 41 55 CC We've gotten a good blood pressure from you.

00 01 41 59 C Roger. I'll give you another one right after a rest cycle.

00 01 42 04 CC It's okay down here.

00 01 42 06 C All right.

00 01 43 09 P Houston, Gemini-5.

00 01 43 13 CC Go ahead Gemini-5. This is Houston.

00 01 43 15 P Roger. I activated the M-1 Experiment at 1 hour plus 40 elapsed, and it's ...

CONFIDENTIAL

CONFIDENTIAL

19

00 01 43 26 CC Roger. Understand you activated the M-1 at 1 plus 40.

00 01 43 31 P Affirmative.

00 01 43 34 CC How does it feel?

00 01 43 36 P Fine.

00 01 45 08 CC Gemini-5, this is Houston.

00 01 45 12 P Go ahead Houston, Gemini-5.

00 01 45 15 CC Roger. Do you have your radar up on Standby yet?

00 01 45 18 C Negative, not yet.

00 01 45 22 CC Okay, it was supposed to come up about 1:30.

00 01 45 48 C Okay, with the radar in Standby, the ... range rate, in range, oscillated back and forth from full-scale to full-scale two or three times, and then it settled down on zero.

00 01 48 56 C Comment for the tape as far as the windows are concerned. Before the launch the right-hand window was completely frosted over with a lot of moisture in between the layers, which cleared when we got out in the sunlight. Cleared up fairly well. The left window was very clear at that time. At the present time, 1 hour and 50 minutes--

00 01 49 19 P I'm going to purge.

00 01 49 21 C --my window on the left side here has some slight gray matter, just a few light little streaks, which occurred when we jettisoned fairings. The top right-hand side of my window has some frosting which appears to be on the inside of the outside pane of glass.

CANARY ISLANDS

00 01 49 48 CC Gemini-5, this is Canary CAP COM.

00 01 49 52 C Go ahead Canary. Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

00 01 49 53 CC Roger. Would like you to confirm that your radar is in Standby.

00 01 49 59 C Roger. Radar is in Standby and we are presently purging the fuel cells.

00 01 50 04 CC Roger.

00 01 50 14 CC Gemini-5, this is Canary CAP COM. I'll give you a time hack at 1 hour and 51 minutes. That's 1 hour, 51 minutes.

00 01 50 25 C All right.

00 01 50 43 P Comment for the tape. While purging the fuel cell, the No. 2 fuel cell Delta P light did not come on during--

00 01 50 50 CC Stand by for your time hack.

00 01 50 52 C Roger. Standing by.

00 01 50 55 CC 3, 2, 1.

00 01 50 58 CC MARK.

00 01 51 00 C Roger. That was 1 hour and 51 minutes. Is that affirm?

00 01 51 03 CC That is affirmative.

00 01 51 04 C Roger.

00 01 51 05 P Tell them we're purging the fuel cells right now.

00 01 51 17 P I can't get hold of this thing. This is going to be a pain in the rear, boy!

00 01 51 24 CC Gemini-5, this is Canary CAP COM. My "T" was off here on the ground. I'd like to give you another time hack at 1 hour and 52 minutes.

00 01 51 35 C Roger. Standing by for your time hack.

00 01 51 55 C We're over Africa again.

00 01 51 57 CC 3, 2, 1.

CONFIDENTIAL

CONFIDENTIAL

21

00 01 52 00 CC MARK.

00 01 52 02 C Roger. 1:52.

00 01 52 04 CC Roger.

00 01 52 05 P ... this spacecraft clock over here is running about 2 seconds fast.

00 01 52 09 C Mine's about a quarter of a second fast here.

00 01 52 29 P Boy, I'll tell you, this is really going to be a pain in the rear!

00 01 52 33 C How are you doing there, Big Daddy?

00 01 52 36 P I'm going to have to invent some way to hold this switch up here. It's another comment for the tape. These fuel cell purge switches should be ON-OFF and not momentary. About to break my finger off.

00 01 52 50 C You want the tape left on?

00 01 52 53 P No, we'll turn it off. Let's turn it back on for REP ejection, though.

00 01 53 46 CC Gemini-5, this is Canary CAP COM. We have an indication here on the ground that Fuel Cell H₂ Quantity Read is on.

00 01 53 56 C Affirmative, we're watching it.

00 01 53 58 CC Roger.

00 01 54 08 C We're turning the Fuel Cell H₂ Heater out of AUTOMATIC to OFF, and we're turning the Marker Switch off now.

00 01 54 56 CC Gemini-5, this is Canary CAP COM. Be advised that all three accelerometer readings are GO.

00 01 55 03 P Roger. Thank you.

00 01 55 34 C Roger. Fuel cell purge is complete. Draw filters off.

00 01 55 38 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

00 02 13 43 C Record on? Let's put it on.

00 02 13 45 P Yes, okay. Let's see; we got the REP out at about 15 seconds late. And we're back on ... at 4 feet a second on our radar. The biggest problem we have right now is apparently my address 69 does not read. Aw, darn it! It's reading 80.9. It keeps insisting on reading 80.9.

00 02 14 04 C I'm reading--

00 02 14 07 P 8.09 I mean.

00 02 14 09 C 2200 feet out.

00 02 14 12 P Are you? Well, I'm going to get the recorder on. You boresighted onto it?

00 02 14 14 C Pretty well.

00 02 14 16 P Okay, recorder is on. And I'm showing an IR reading here of about 420 and we got it on at 16:15:00. I don't know whether we're getting anything worthwhile or not. Oh, I know what I did wrong.

00 02 15 04 C Remember Emil Streuhalling.

00 02 15 07 P Yes.

00 02 15 21 P There we go. Now, look at him. What's our distance?

00 02 15 31 C Distance is about 2500 feet.

00 02 15 45 P We've put you out at 02:07:15.

00 02 16 16 P You're still getting a signal, aren't you? Yes.

00 02 16 19 C Yes.

00 02 16 24 P Okay, CATCH UP, ORB RATE, PULSE, radar ON, address 25. I know what my big trouble is; I know I'm reading radar range too. Now it's going to read. Yes sir! Yes sir! Wasn't in CATCH UP.

00 02 16 48 C Well, see, there's just another good example on why, if you have a worthwhile experiment, it ought to be done a couple of orbits later rather than

CONFIDENTIAL

trying to get everything into the first orbit and a half.

00 02 17 02 P Okay. What does your Delta V read?

00 02 17 09 C It's reading 4 feet 1--yes, 3-1/2 feet per second, right now, 4, bouncing between 3-1/2 and 4. Are we getting any readings on that OAMS on the--

00 02 17 26 P Yes. Look! It's reading high! It's reading 260!

00 02 17 31 C Hey, that's great, great!

00 02 17 32 P You were centered right on it.

00 02 17 36 C Yes, I try.

00 02 17 38 P After 4 minutes of measurements--They just want you to keep drifting out here until we don't read any more. And we can do that for 20 minutes. He's flashing away just as easy as he can, isn't he?

00 02 17 52 C Yes.

00 02 18 02 P Now. I want you to look at those star backgrounds. See if you get the idea of nulling on him. My lights too bright?

00 02 18 14 C No, yours don't bother me.

00 02 18 16 P Okay, we're at 3,000 feet.

00 02 18 24 C My reticle's too bright.

00 02 18 36 P Put the radar right on him and let me get an address 59 reading.

00 02 19 12 C Right on.

00 02 19 19 P 114.7 and a 58 just for drill; minus 80 is what we're going for. Okay. 69, that's correct. Understand we're still getting a steady reading on the gage.

00 02 19 48 C Suppose it ought to peak more than that?

00 02 19 50 P Well, I don't really know.

CONFIDENTIAL

00 02 19 52 C I'm going to drag it through him a little bit here. Watch the gage and see if it--

00 02 20 00 P Yes.

00 02 20 00 C --changes now.

00 02 20 02 P It's dropping down a little bit. Looks like we're going--you lost him?

00 02 20 07 C No, I'm just coming right to him exactly right now. Right on him. Now I'm off to the right. What did it do on him?

00 02 20 26 P Oh, it's just dropping slowly, 240.

00 02 20 40 C Yes, I'll come back on him now.

00 02 20 58 P Well, I'll tell you, we're really smoking away from him.

00 02 20 55 C Yes, he's at 3300 feet.

00 02 20 57 P Yes, but we ought to slow down. What's your range rate now?

00 02 21 00 C About 3.

00 02 21 02 P Yes, well we're slowing down a little then.

00 02 21 12 P You notice we haven't changed much on that star background either.

00 02 21 14 C No.

00 02 21 16 P Listen, I'm serious. We want to be darn careful he doesn't run into us. This thing is smoking straight out of there, you know that?

00 02 21 24 C Yes.

00 02 21 26 P Look at the ... ball. Now there's enough clearance, but I'll bet he goes by pretty close.

00 02 21 36 P Okay, he's about 3600 feet; a little bit better than that, 3720. Range rates have started dropping off pretty fast.

CONFIDENTIAL

CONFIDENTIAL

25

00 02 21 52 C Yes, we stay on him until we get the range, yaw R-dot zero, don't we?

00 02 21 57 P Yes. Now remember, we're going to back up on him this time.

00 02 22 09 C Yes.

00 02 22 07 P I don't understand these scanner limits.

00 02 22 12 C Well, I think that's where your scanner's the weakest, when you're going into sunset. And I think it was kind of a combination ...

00 02 22 19 P Okay, put it back on you now. You've drifted off a little bit, haven't you?

00 02 22 21 C Yes, I'm off just to the left.

00 02 22 24 P He's also changing a little bit with that star background. Boy, those lights are bright.

00 02 22 38 P Okay, range rate ought to be under 3 feet now. Ed White thinks you can get out to 7.2.

00 02 23 04 C Ought to check our fuel cell hydrogen, I guess, in a little bit. It's all right.

00 02 23 19 P Yes. Look at the oxygen. That fuel cell O₂?

00 02 23 26 C Yes.

00 02 23 28 P How the heck did that get that low with the auto heater on?

00 02 23 30 C I don't know.

00 02 23 31 P Don't tell me that circuit breaker's off.

00 02 23 33 C No?

00 02 23 36 C Well, it's lower than the--it can go lower--

00 02 23 40 P Yes, should be right here. Think I'd better pump that up a little bit. I'll tell you what it was - probably the purge.

CONFIDENTIAL

CONFIDENTIAL

00 02 23 52 P Let me see that go to 300 now.

00 02 24 00 C Okay, it was reading about 260, right?

00 02 24 04 P Yes, put the radar on it; we're not getting--

00 02 24 05 C Okay, get back on him.

00 02 24 14 P Okay.

00 02 24 19 C It seems unusual to have something out there to look at.

00 02 24 21 P Okay, we're at 70--4200 feet right now.

00 02 24 26 C 2 feet per second is R-dot.

00 02 24 28 P Okay. Well, we're going to get pretty close to--

00 02 24 38 C Still got 98 OAMS?

00 02 24 40 P Yes, tell you what I'm going to do. You look at black sky for 4 minutes.

00 02 24 43 C Just a minute. I'm right on him right now.

00 02 24 50 P Okay. It's still reading--well, we're going to start coming back in.

00 02 25 00 C Okay, but if I do for 4 minutes, though--

00 02 25 02 P Maybe he wants a black sky measurement for 4 minutes right next to him.

00 02 25 07 C Oh, okay.

00 02 25 09 P That's right next to him.

00 02 25 10 C All right.

00 02 25 14 P You're right on him now. There he is. He's beginning to drift quite a bit, isn't he? Beginning to drift aft and up.

00 02 25 24 C Little bit.

00 02 25 26 P Yes, he's drifted out of the star pattern too.

CONFIDENTIAL

CONFIDENTIAL

27

00 02 25 31 P The thing that's bothering--I still hope that platform was alined.

00 02 25 40 C I do too.

00 02 25 48 P Boy, there's no doubt about it, he's right out there. I should save the tape.

00 02 28 00 C Yes. Reticle has too much shine on the glass on it; I get quite a lot of reflection from both the reticle itself and any lights around the cockpit area.

00 02 28 12 P Okay. What's your range rate? You ought to start to go to zero pretty soon.

00 02 28 16 C Yes.

CARNARVON

00 02 30 02 CC Gemini-5, Carnarvon.

00 02 30 05 C Go ahead, Carnarvon.

00 02 30 06 CC Roger, request you place your Fuel Cell O₂ Heater on.

00 02 30 13 C Roger, it's been in AUTO all along.

00 02 30 18 CC Roger.

00 02 30 22 CC Standing by for your readouts on the Delta V station.

00 02 30 28 C We don't have any yet.

00 02 30 32 CC Roger.

00 02 30 37 CC Is the REP out?

00 02 30 38 C That's affirmative.

00 02 31 12 P Carnarvon, Gemini-5, the preliminary look, it's still drifting in a little bit, looks like it got about 5.8 feet.

00 02 31 20 CC Roger, counting, counted 5.8.

00 02 31 22 P And if you'll wait one second I'll get you a hack and 58, 59 and a 69.

CONFIDENTIAL

CONFIDENTIAL

00 02 31 28 CC Roger.

00 02 32 57 CC Gemini-5, Carnarvon. We've got less than a minute to LOS.

00 02 33 02 P Roger, at 02 plus 32 plus 30; 58 read minus 63.8; 59 read 01398; and the mileage was 00089.

00 02 33 25 CC Roger, I copy. Do you have the Delta lead solution yet?

00 02 33 30 P No, it's still drifting away from us and I'm looking at about 6 feet right now.

00 02 33 37 CC Roger.

00 02 33 42 CC Gemini-5, be advised this Fuel Cell O₂ Heater to go to the ON position.

00 02 33 48 CC I understand you're in AUTO.

00 02 33 50 P It's to go ON at this time?

00 02 33 51 CC Roger.

00 02 33 54 C We have had this Heater Switch in the AUTO position and we're now going to the Manual ON. Over.

00 02 33 59 CC Affirmative.

00 02 47 14 CC Gemini-5, Gemini-5, this is Houston here.

00 02 47 36 C Gemini-5, can you read?

00 02 47 39 CC Roger, Gemini-5, this is Houston. We're reading you weak and a little garbled. We'd like to have you check your Fuel Cell O₂-H₂ Heater circuit breaker please.

00 02 47 56 C This is Gemini-5. Be advised we have checked that further ... we ... continuity ... and we have on the O₂ Fuel Cell Heater, I can get no increase on amperage when I go to Manual O₂ Fuel Cell Heater nor do I get any reading in amperage when I go to AUTO and the H₂ heater works perfectly. Over.

00 02 48 27 CC Roger, Gemini-5, you're coming through very weak and

CONFIDENTIAL

CONFIDENTIAL

29

garbled but I think you said that you do not get any increase in amperage when you turn your Fuel Cell O₂ Heater ON or to AUTO. Is that correct?

- 00 02 48 46 C That is affirmative, that is affirmative. We have decided to power down the radar and we're in the process of powering down the spacecraft. Our fuel cell oxygen pickup is 170 and falling.
- 00 02 49 06 CC Roger, we understand, understand.
- 00 02 49 16 C ... You guys think about it for awhile and we'll power down.
- 00 02 49 25 CC Roger, understand you're going to power down and think about it for awhile.
- 00 02 49 31 CC Gemini-5, can you get any increase on your amperage when you go to H₂ Heater?
- 00 02 49 39 C When I go to H₂ Heater, I get a short of amperage on the gage. It shows that the H₂ Heater is working, and the O₂ Heater is not working.
- 00 02 49 52 CC Gemini-5, Roger, Roger, understand.

HAWAII

- 00 02 52 15 CC Gemini-5, Hawaii CAP COM.
- 00 02 52 17 C Hello there Hawaii, Gemini-5 here.
- 00 02 52 20 CC Roger, what's your Fuel Cell O₂ tank pressure reading now?
- 00 02 52 23 P Pressure is 160 and falling.
- 00 02 52 29 CC Roger.
- 00 02 52 43 P Hey Hawaii, Gemini-5. Let me give you a status on how this came about. For the whole flight we've had the Fuel Cell O₂ is AUTO. We did notice the pressure falling prior to Carnarvon, and I held the manual heat for a little while, but we were in the process of getting the REP out and I thought that would take care of it and stopped looking at it, and then when they gave us the call over Carnarvon,

CONFIDENTIAL

CONFIDENTIAL

we noticed that we hadn't gotten any heat back; so I made a careful check of the circuit breaker, which was closed. I then checked that the fuel cell hydrogen AUTO and Manual would give an indication on the main bus amp, which it did, and the Fuel Cell AUTO and Fuel Cell Manual showed no rise in amperage whatsoever, and the conclusion that we've drawn is that we've lost the heater.

00 02 53 37 CC Roger.

00 02 54 26 CC Gemini-5, Hawaii.

00 02 54 29 P Go.

00 02 54 30 CC Okay, we'd like for you to keep a close look on that. We're going to let it go for now and let it stabilize, we hope it stabilizes out. Okay?

00 02 54 38 P All right, now what would you like us to do about the REP?

00 02 54 43 P Stand by one.

00 02 55 13 CC There's not much we can do about it right; we'd like to just take a look at it, Pete.

00 02 55 19 P Okay, it drifted behind us. It went out fairly well and then it started a fairly rapid trip behind us and we never did come very close to it.

00 02 55 32 CC Roger.

00 02 55 36 CC Have you done any maneuvering at all?

00 02 55 38 P No, we haven't touched anything in that way.

00 02 55 42 CC Roger.

00 02 55 44 P We were right on the Flight Plan up until 2:45 or so.

00 02 55 50 CC Roger.

00 02 58 20 CC Gemini-5, Hawaii.

CONFIDENTIAL

CONFIDENTIAL

31

GUAYMAS

00 03 02 08 C Houston, Gemini-5.

00 03 02 32 CC Gemini-5, Gemini-5, this is Houston here. Go ahead.

00 03 02 36 P Roger, we just wanted to establish contact. Be advised that the pressure is now 150 and falling slowly.

00 03 02 47 CC Roger, 150 and falling slowly.

00 03 02 51 P That's affirmative, and our hydrogen pressure went down to 220 and we set back into Auto Heater and that circuit's working and it's filled it back up.

00 03 03 34 CC Roger.

00 03 03 07 CC Gemini-5, Guaymas CAP COM.

00 03 03 10 C Guaymas, Gemini-5. Read you loud and clear.

00 03 03 13 CC Roger.

00 03 03 15 CC Give me a readout on your Fuel Cell O₂.

00 03 03 18 C Roger, the quantity is 97% and the pressure is 150.

00 03 03 29 CC Roger, CAP COM.

00 03 03 34 CC We're reading your tank pressure on the ground at 190.

00 03 03 39 C I understand you are reading it at 190.

00 03 03 41 CC That's affirmative.

00 03 03 43 C Okay. We've rested in the AUTO Heater position even though I can't define any change in amperage on the main bus.

00 03 03 52 CC We copied. That's okay.

00 03 03 56 C ... manual position and see if you can tell me if we are getting any rise.

00 03 04 00 CC Makes no difference.

CONFIDENTIAL

CONFIDENTIAL

00 03 04 02 CC Okay, let's go to Manual on my mark. 3, 2, 1, MARK.

00 03 04 05 C Roger, we're on Manual.

00 03 04 14 CC No, we got no change here at all on the ground. Let's go back to AUTO.

00 03 04 17 C Changing back to AUTO.

00 03 04 20 CC Other than that you're looking pretty good.

00 03 04 24 C Okay.

00 03 04 29 CC You've got your computer shut down, haven't you?

00 03 04 31 C Roger, we went through a large count down here; we're pulling about 22 amps, we have the computer off, the platform is powered down, the radar is off, the FDI's are off.

00 03 04 42 CC Roger.

00 03 05 46 CC How does that O₂ look now, how does that O₂ look now, up there?

00 03 05 47 P It's still falling; it's down to around 140 now, 142.

00 03 05 53 CC Roger.

00 03 07 57 CC How does it look now, Pete?

00 03 08 00 P ... seems to be hanging right there at 140.

00 03 08 07 CC Okay, they will be picking you up there over the Houston network here shortly. Keep a close watch on it; they'll be good readings from you.

00 03 08 14 P Okay.

PT. ARGUELLO

00 03 09 30 CC Gemini-5, Gemini-5, Houston here.

00 03 09 31 P Roger, Houston, Gemini-5 here.

CONFIDENTIAL

00 03 09 35 CC Roger, Gemini-5, this is Houston here. On T/M it looks like the actual pressure may be leveling off around 180 or so. Does it look like that on your gages?

00 03 09 43 P Okay.

00 03 09 43 C Comment on the aline problem we had.

00 03 09 44 P What's your range rate?

00 03 09 45 C To a foot and a half.

00 03 09 46 P Man, he ought to stop now. Oh, he did.

00 03 09 50 P It's holding around 140 now, Jim.

00 03 09 54 CC Okay, that's on your scale but the actual pressure is right around 180.

00 03 09 58 P I see. Okay, did you get the information on what we have done and have not done on the Flight Plan?

00 03 10 12 CC Understand. We understand that you powered down and we're not doing the REP mission any longer.

00 03 10 19 P That's affirmative. This gage is falling all on out the bottom and we decided that we were going to have to reenter pretty shortly if we lost all of that oxygen, or power down.

00 03 10 31 CC Roger, Roger, we understand, we agree.

00 03 10 34 P Okay, if it stabilizes there from I guess some heat leakage to it, does it look like we have a chance to power back up and pick up the REP flight plan?

00 03 10 50 CC It looks like we might be able to do that. And we're working on another flight plan for you to take care of that possibility.

00 03 10 57 P Thanks, Joe. We're enjoying our short vacation from the Flight Plan right now. We're ready to go with anything you ask.

00 03 11 11 CC Gemini-5, Houston. I didn't read that. Say

CONFIDENTIAL

again, please?

00 03 11 16 P This is Gemini-5. I just said we are enjoying our vacation from the Flight Plan right now and standing by.

00 03 11 25 CC Roger, Roger.

00 03 11 29 P Oh, I see the Cape down there.

00 03 11 12 CC Gemini-5, this is Houston here again. You might try orienting the adapter so that the sun is shining on it and it might increase your heat leak.

CORPUS CHRISTI

00 03 12 03 CC Gemini-5, this is Houston.

00 03 12 05 P Go ahead, Houston.

00 03 12 07 CC You might try orienting the adapter towards the sun, so that we can get whatever heat we can into the tank.

00 03 12 14 P Okay.

00 03 13 31 C Time--

00 03 13 32 P Yes, the time--

00 03 13 34 C 3:13:30.

00 03 13 35 P Oh, I got two ship wakes in sight, just as pretty as can be, down there right off the Cape.

00 03 13 37 CC Gemini-5, Houston.

00 03 13 39 C Go ahead, Houston.

00 03 13 41 CC We would like to have you proceed along in this particular configuration; as you get the Delta-P lights we would like to have you powered down to the minimum ECS condition.

00 03 13 54 C Roger.

00 03 13 59 CC This would include the ACME off, beacons off, T/M

CONFIDENTIAL

off and the DCS off.

00 03 14 08 P Roger.

BERMUDA

00 03 14 47 CC Gemini-5, Houston again.

00 03 14 49 C Go ahead, Houston.

00 03 14 52 CC You might put your T/M switches to COMMAND. That way we'll save power there, and your beacons to Adapter.

00 03 14 59 P Yes, the adapter beacon you want to go to COMMAND, is that correct?

00 03 15 02 CC Roger.

00 03 15 04 P Okay. The telemetry and the beacon are in COMMAND.

00 03 15 08 CC Thank you.

00 03 15 14 P Did you just send us a load?

00 03 15 19 CC We just sent a TX, a TX, no DCS load.

00 03 15 24 P Okay.

00 03 15 32 CC Gemini-5, Houston again. Did you cycle your circuit breakers by chance?

00 03 15 37 P That's affirmative. We cycled them a couple of times.

00 03 15 41 CC Okay.

00 03 15 52 C And here we are, pointed straight down.

00 03 16 02 P Boy, some of those clouds are pretty high, aren't they?

00 03 16 04 C Yes.

00 03 16 09 P Of course we're at a low point now; we're at 87 miles.

CONFIDENTIAL

00 03 16 10 C Yes.

00 03 16 16 P Wonder if we can see the REP back there somewhere.

00 03 16 18 C Huh!

00 03 16 21 P Hey, did you feel any move in the spacecraft?

00 03 16 23 C Uh-huh.

00 03 16 26 P Did I do it?

00 03 16 28 C Yes. Yes, it does, it moves a little bit.

00 03 16 30 P Hmm.

00 03 16 35 P You want to record all these pictures? You are, huh?

00 03 16 40 C Yes.

00 03 16 41 P Good.

00 03 16 42 C 3:16.

00 03 16 45 P I'll bring them up in a lot later.

00 03 16 57 P Aha!

00 03 17 09 CC Gemini-5, Gemini-5, this is Houston.

00 03 17 12 P Go ahead, Houston.

00 03 17 14 CC On the ground T/M it looks like the pressure is stabilized at 170 and it's held that way for about 5 minutes now.

00 03 17 22 P Okay. We're showing about 130 in here.

00 03 17 37 CC Roger, Roger.

00 03 17 45 C What odd clouds there.

00 03 20 05 CC ...

00 03 20 16 CC Gemini-5, Gemini-5, Houston.

CONFIDENTIAL

CONFIDENTIAL

37

00 03 20 26 P Go ahead, Houston. Gemini-5. We can barely read you.

00 03 20 31 CC Gemini-5, Houston here. Were your azimuth and elevation indications off, your radar operating properly?

00 03 20 38 P Affirmative.

00 03 20 40 CC Roger.

00 03 20 55 CC Roger.

00 03 20 58 P This is Gemini-5--

CARNARVON

00 03 21 51 CC Carnarvon, counting 12 on level Devil Fox 1.

00 03 21 53 ...

00 03 21 55 CC Very good, you stand by with UHF please.

00 03 21 58 P Okay. Roger.

CANTON

00 03 29 30 CC Gemini-5, Gemini-5, this is Houston here.

00 03 29 39 P ... F 1050.

00 03 29 42 CC Roger, Gemini-5, Houston here. What is your pressure reading now?

00 03 29 49 P It seems to be holding about 125, 120.

00 03 29 55 CC Roger, it's holding at 120 to 125.

00 03 29 59 P Affirmative.

00 03 30 02 CC Gemini-5, if you can recall, how much time did you get on your experiment recorder?

00 03 30 07 P Wait one, I'll have to look it up ...

00 03 30 12 CC Okay, if you've got time, fine; if not, forget it.

CONFIDENTIAL

CONFIDENTIAL

00 03 30 40 P We get 17 minutes on the recorder.

00 03 30 43 CC I didn't get that, Gemini-5.

00 03 30 47 P 17 minutes.

00 03 30 49 CC Roger, be advised that it looks like the pressure drop is tapering off. Let's just hope that it holds here about 150 or so, which is what the actual pressure is.

00 03 31 02 P Okay.

00 03 31 04 CC It looks like the rate of decrease is decreasing.

00 03 31 07 P ...

00 03 31 30 CC Gemini-5, Houston again. Be advised that we have launched the aircraft into the recovery area. We hope that we don't have to use them, but it will be a good exercise; and if we do need them, they will be there for you.

00 03 31 46 P Which recovery area did you say?

00 03 31 49 CC Into Recovery Area 4, around Hawaii.

00 03 31 53 P A-okay.

00 03 32 03 P This is Gemini-5. Do you read?

00 03 32 04 CC Roger, we read you.

00 03 32 12 ...

00 03 32 17 CC Gemini-5, Houston. You were broken up and unreadable.

00 03 32 23 P The pressure is still dropping. It is about 105.

00 03 32 31 CC Roger, understand it's still dropping and it's 145.

00 03 33 15 CC Gemini-5, Houston. We have about two more minutes on this pass and we'll just stand by in case you need anything.

CONFIDENTIAL

CONFIDENTIAL

39

TANANARIVE

00 03 45 35 CC Gemini-5, Gemini-5, this is Houston here. Do you read?

00 03 46 03 CC Gemini-5, Gemini-5, this is Houston here. Gemini-5, Houston. Do you read?

00 03 46 13 P Roger.

00 03 46 18 CC Roger, Gemini-5, this is Houston here. What is your O₂ pressure reading now?

00 03 46 29 P It's about 95 pounds.

00 03 46 34 CC Roger, understand 95. We would like to have you power down to a minimum power configuration with your UHF, your receiver on 2 coolant pumps, 1 suit fan and the DC-DC converter. We would like to have you turn all other equipment off.

00 03 47 02 C Roger.

00 03 47 19 CC Gemini-5, Gemini-5, Houston here. How is your fuel cell O₂ quantity?

CARNARVON

00 04 01 07 CC Gemini-5, Carnarvon. Have you had any Delta-P lights?

00 04 01 11 C Gemini-5, negative.

00 04 01 13 CC Roger. What's your onboard reading of the O₂ fuel cell O₂ quantity?

00 04 01 29 C It's between 85 and 90 psia. Roger, we're getting between 85 and 90 psi.

00 04 01 32 CC Roger.

00 04 01 45 CC Gemini-5, Carnarvon, say again quantity, fuel cell O₂.

00 04 02 26 CC Gemini-5, Carnarvon. Would you place your T/M Switch to COMMAND position.

CONFIDENTIAL

CONFIDENTIAL

00 04 02 30 C Roger, to COMMAND.

00 04 03 02 CC Gemini-5, Carnarvon. Would you go back to UHF Receive.

00 04 03 07 C Roger.

00 04 03 20 CC Gemini-5, Carnarvon. Flight advises that we may be lucky, just stand by; we require no acknowledgement of this transmission. We're standing by.

HAWAII

00 04 25 47 CC Gemini-5, Hawaii CAP COM. Place your T/M Switch to REAL TIME and ACQ-AID, and bring up your UHF transmitter.

00 04 26 37 CC Gemini-5, Hawaii CAP COM.

00 04 26 40 C Go ahead, Hawaii.

00 04 26 42 CC Roger, would you place your OAMS Heater circuit breaker to OFF.

00 04 26 46 C Roger, OAMS Heater circuit breaker off.

00 04 26 49 CC Roger. Would you give me a fuel cell O₂ quantity readout, please?

00 04 26 52 C Roger. Fuel cell O₂ quantity is reading about 65 quantity, 96%.

00 04 27 03 CC Roger, what about tank pressure?

00 04 27 05 C 65 psia.

00 04 27 07 CC Roger.

00 04 27 09 C Power down.

00 04 27 12 CC Gemini-5, Hawaii, you can power back down.

00 04 27 15 C Roger.

00 04 27 47 CC Gemini-5, Hawaii. The Cape advises that they'd like to perform the same tests we just performed, they'll do it over Canaveral. There's no requirement

CONFIDENTIAL

CONFIDENTIAL

41

for you to acknowledge this contact.

TEXAS

00 04 40 44 CC Gemini-5, Gemini-5, this is Houston here. Please bring your DCS receiver back up. Do not bother acknowledging.

00 04 44 33 CC Gemini-5, Gemini-5, this is Houston here. Would you bring up your UHF transmitter please.

00 04 45 09 C Roger, go ahead, this is Gemini-5.

00 04 45 11 CC Roger, stand by here a minute.

00 04 45 18 CC Gemini-5, we would like to have you verify that you turned the O₂ Heater circuit breaker off.

00 04 45 36 C No, I have the H₂ and O₂ Heater circuit breaker on. Do you want it off?

00 04 45 38 CC Okay, have you turned the switch off?

00 04 45 40 C Okay, the switches are all off, they're all in OFF.

00 04 45 43 CC Okay, they're all in OFF. What is your pressure reading right now?

00 04 45 50 C It's 60 pounds.

00 04 46 03 CC Roger, understand 60. Gemini-5, you can put your transmitter back to Standby.

00 04 49 12 CC Gemini-5, this is Houston here. Will you turn DCS circuit breaker back on now, please.

00 04 49 43 CC Gemini-5, Gemini-5, this is Houston here. We'd like to have you take and place the Tape Play-Back Switch to RESET momentarily, and then back to COMMAND. Okay, very good. You can place your DCS circuit breaker back off again.

00 04 52 23 CC Gemini-5, Gemini-5, this is Houston again transmitting to you in the blind. We would like to have you turn the power switch OFF on Section 2. I say again, turn off the power switch on Section 2. Turn off Pump A on the secondary coolant loop.

CONFIDENTIAL

CONFIDENTIAL

I say again, turn off Pump A on the secondary coolant loop.

00 04 52 59 CC Gemini-5, Gemini-5, this is Houston. I'm transmitting in the blind again. We would like to have you turn off the power switch on Section 2 and turn off Pump A on the secondary coolant loop.

00 05 07 01 P Okay, we have the REP in sight and the time--

00 05 07 03 C 5 hours and 8 minutes.

00 05 07 08 P Yes, it's 19:09:10 ... twinkling away merrily below us. Going in the same direction. ...

00 05 07 20 C What would you estimate? Several miles below us, right?

00 05 07 22 P Oh, I don't think he's too bad. Two to four miles?

00 05 07 30 C Yes, something like that.

00 05 07 32 P Out in front of us and moving faster. You're on tape.

TANANARIVE

00 05 22 17 CC Gemini-5, Gemini-5, this is Houston CAP COM transmitting in the blind. If you have had a significant pressure rise on your Fuel Cell O₂, bring up your UHF transmitter and keep us informed. If not, we'll call you over Carnarvon. Gemini-5, Gemini-5, this is Houston CAP COM transmitting in the blind. If you have had a significant pressure rise on Fuel Cell O₂ pressure, bring up your UHF transmitter and please advise us. If not, we will call you over Carnarvon. Gemini-5, Gemini-5, Houston CAP COM, I would like to reiterate that Section 2 power switch should be off. Section 2 power switch should be off. The secondary coolant loop should be off. Secondary coolant loop should be off. Houston here standing by.

00 05 31 17 C Okay, what's the time?

00 05 31 20 P Time is 19:30:32.

CONFIDENTIAL

CONFIDENTIAL

43

00 05 31 22 C 19:30:32. Just observed two micrometeorites reentering below us. We're pointed SEF and are just looking at the Pleiades right now.

00 05 33 58 P The time is 19:34:15 and the REP is right smack out in front of us on the horizon. We're trying to establish our position here. He's not lower than 3-4000 feet; matter of fact he's pretty darn close. Do you think he might hit us?

00 05 34 25 C No.

00 05 34 27 P He's right out here, though, Gordo. You can't see him?

00 05 34 29 C Yes, I see him now.

00 05 34 32 P See how close he is?

00 05 34 33 C Yes.

00 05 34 34 P What would you say he was, about 3,000 feet?

00 05 34 35 C Yes.

00 05 34 39 P Oh what a dirty shame! We should be rendezvousing with that little bugger.

CARNARVON

00 05 34 53 CC Gemini-5, Carnarvon. Would you place your Adapter C-band Switch to CONTINUOUS, and your T/M Switch to REAL TIME and ACQ-AID?

00 05 34 49 P Doesn't he look neat out there?

00 05 35 14 CC Would you bring up your UHF transmitter?

00 05 35 29 CC Gemini-5, we would like a readout of your Fuel Cell O2 Quantity and the Fuel Cell O2 Pressure.

00 05 35 39 P Roger, this is Gemini-5. The Fuel Cell Quantity is 96% and the Pressure is 60.

00 05 35 52 CC Roger. Copy 60 on Pressure and 96 on Quantity.

00 05 35 58 P Roger. Be advised that the Section 2 Power Switch

CONFIDENTIAL

CONFIDENTIAL

is off. The Secondary Coolant Loop is powered down and the REP is right out here with us about 2000 feet away.

00 05 36 08 CC Roger.

00 05 36 22 P Really be something if we run into him, won't it?

00 05 36 23 C Ha, ha!

00 05 36 29 C Succeeded in our rendezvous--

00 05 36 30 P Also, Carnarvon be advised that with our beacon off and telemetry off in that powered down configuration we were pulling 10.2 amps.

00 05 36 40 CC Roger. Copy 10.2 amps in powered down configuration.

00 05 37 01 P You see him now, Gordon?

00 05 37 03 C No.

00 05 37 05 P Oh, oh! Oh, oh!

00 05 37 07 C What?

00 05 37 10 P I saw Fuel Cell Delta P lights flicker. Almost positive I did. Well, I'll wait and see.

00 05 37 20 C That was my light there.

00 05 37 22 P Yes.

00 05 37 37 P That's my cuff, I think.

00 05 37 38 C Yes.

00 05 38 15 CC Gemini-5, Carnarvon. Okay, place your T/M Switch back to COMMAND and leave your beacon on. I'll advise you when to turn the beacon off.

00 05 38 27 P Gemini-5.

00 05 38 30 CC And you can go back to your UHF standby.

00 05 38 33 P Roger.

CONFIDENTIAL

CONFIDENTIAL

45

00 05 38 44 C Wonder if they want that left on?

00 05 38 56 C There comes the moon.

00 05 39 22 C It really doesn't look any different from up here, does it?

00 05 39 25 P No.

00 05 39 32 P Yes, that was Antares, wasn't it?

00 05 39 34 C Yes.

00 05 39 37 P Right in front of us, going under the nose now.

00 05 39 38 C Uh huh.

00 05 39 39 P That's some planet out there.

00 05 40 39 CC Gemini-5, Carnarvon. Place your Adapter C-band Switch back to COMMAND.

00 05 41 25 C Lightning flashes down there. See them?

00 05 41 29 P Oh yes.

00 05 41 37 C Yes.

00 05 42 22 C There's the east coast of Australia.

00 05 42 33 P Yes.

00 05 42 32 C Probably the northeast corner.

00 05 42 41 P Oh boy, that was a big lightning flash.

00 05 44 15 C There's Delphinus.

00 05 44 22 P Yes.

00 05 44 34 C Yes, there's REP again, right out my window this time.

00 05 44 37 P How far away is he, just in the way again?

00 05 44 40 C He's high on us.

CONFIDENTIAL

CONFIDENTIAL

00 05 44 49 P He's moving around one another, I guess.

00 05 44 51 C Oh, he doesn't look like he's very far away. I don't know; it's hard to say. Half a mile, maybe. You'll see him out your window in a second. About nose level.

00 05 45 25 C Yes, there he is. He's high on us.

00 05 46 01 C I'd say he's about 2 to 3000 feet, wouldn't you?

00 05 46 03 P Yes.

00 05 47 49 P Oh, a little sunshine.

00 05 48 15 C Particles drifting away.

00 05 48 46 C Boy, your window's really crudded over, isn't it?

00 05 48 49 P Yes. Now I can see the moon also.

00 05 49 44 C It's holding right there.

00 05 49 45 P 55, see that?

00 05 49 51 C Yes.

00 05 50 15 C Suppose they'd have the courage to run us for 8 days like this?

00 05 50 27 P Boy, I don't know.

00 05 50 39 C I kind of doubt it.

00 05 51 05 C Oh, that was Djarkarta, Makassar and ... right over the Solomon Group where we saw all those lights.

00 05 51 17 P Where?

00 05 51 22 C Over the Solomons Group, Guadalcanal and Guam and ...

00 05 51 32 P Oh yes.

00 05 51 39 C Let's see, we're on our fourth orbit when we come back over. And the fifth orbit, what is the time of 6-4, for instance?

CONFIDENTIAL

CONFIDENTIAL

47

00 05 51 53 P 6-4 would be--

00 05 51 56 C You got your little thing there. Look it up on your thing; let's see what time.

00 05 52 01 P No, I don't have any 6-4 time--yes, I do, too.

00 05 52 03 C Yes, you got it on there.

00 05 52 05 P Let's see. Nominal 6-4 times are in here. Yikes, that sun's hot! Hold on to that a second.

00 05 52 29 C Yes.

00 05 52 30 P Now stash this.

00 05 53 37 P 6-4 is 8 hours, 56 minutes, 30 seconds.

00 05 53 38 C What?

00 05 53 40 P 8 hours, 56 minutes and 30 seconds.

00 05 53 42 C Okay.

00 05 55 10 C Just cruising along with a smile on my face and a song.

00 05 55 20 P Yes, you better not go with me again, Gordo, I must be unlucky here.

00 05 55 24 C Oh, we haven't had really bad luck, not yet. You should never sneer at luck, I guess.

00 05 55 38 P No.

00 05 56 10 P I wish we could see the REP.

00 05 56 15 C Yes, well, around the other way we probably could. We're drifting right on that way. Maybe we will in a minute.

00 05 56 24 P Sure it's not at your window?

00 05 56 36 C Might be--yes. There is something really bright out there.

00 05 56 41 P Where?

CONFIDENTIAL

CONFIDENTIAL

00 05 56 46 C Floating right along behind us, slightly out to the left. Yes, there he is. There he is. You're going to see him, just a second. Look just slightly low coming through the nose on him right now. He's about 2 or 3000 feet away. See him?

00 05 57 08 P Not yet.

00 05 57 39 P Okay. The time is 19:57:55 and we have the REP in sight in daylight behind us. Probably a couple of miles.

HAWAII

00 06 01 09 CC Gemini-5, Hawaii CAP COM. Place your T/M Switch to REAL TIME & ACQ-AID and turn on your UHF transmitter. Hawaii has telemetry solid.

00 06 01 32 CC Gemini-5, Hawaii CAP COM.

00 06 01 41 P Roger, Gemini CAP COM, Hawaii CAP COM, Gemini-5 here. Over.

00 06 01 47 CC Roger. We'd like you to bring up your Section 2 Power Switch to ON position and bring up Pump A on the Secondary Coolant Loop.

00 06 02 07 P ... this is Gemini-5. Have the No. 2 Power Switch back on and notice that the A Secondary Pump back on.

00 06 02 18 CC Roger. We'd like to leave it there for the next orbit to take a look at it.

00 06 02 22 P Okay.

00 06 02 24 CC Would you cycle your Fuel Cell O₂ Heater Switch OFF and ON and then leave it back ON.

00 06 02 37 P Okay, it's been cycled and it's back on to the AUTO position.

00 06 02 44 CC Roger.

00 06 03 05 CC Gemini-5, Hawaii CAP COM. Would you cycle that Fuel Cell O₂ Heater Switch three or four times.

CONFIDENTIAL

CONFIDENTIAL

49

00 06 03 11 P Roger. Gemini-5 cycled it three or four times, and I'm cycling it now, and I get no amperage on the ammeter.

00 06 03 26 CC Roger. Would you give me a Fuel Cell O₂ Quantity and tank pressure, please?

00 06 03 34 P Roger, it's 96% and it's about--it's hanging right at 60 - it's hanging right between 55 and 60 - it's been doing that pretty steady.

00 06 03 49 CC Roger.

00 06 04 14 CC Gemini-5, we'd like you to turn the Telemetry Switch to COMMAND position and turn off your UHF transmitter. Leave both Pumps and both Coolant Loops powered up and they'll be talking to you over California.

00 06 04 28 C Roger.

CALIFORNIA

00 06 10 31 CC Gemini-5, Gemini-5, this is Houston here. We'd like to have you turn your DCS back on at this time. Gemini-5, Gemini-5, Houston. We would like to have you turn your DCS back on at this time.

00 06 13 02 CC Gemini-5, Gemini-5, this is Houston here. We'd like to have you turn on your IGS power and power up your computer at this time.

00 06 13 31 CC Gemini-5, Gemini-5, Houston here. I say again, we'd like to have you bring on your IGS power and turn your computer on at this time. We want to send up a DCS load for the computer.

00 06 14 06 P Houston, Gemini-5. IGS power is on, Comp is on, at prelaunch, and it came up okay.

00 06 14 12 CC Roger, Gemini-5, Houston here. It's nice to hear you again.

00 06 14 16 P Thank you.

00 06 14 18 CC Could you give us a Fuel Cell O₂ Pressure and Quantity readout please?

CONFIDENTIAL

CONFIDENTIAL

- 00 06 14 24 P Okay. 60 seems to be what it's going to hang in at and it's seemed to maintain that since the last read time, and we're hanging--it's dropped a little bit, it's right on 96%. It has been riding a little bit with a notch higher than that. The second Fuel Cell came back ... carrying the load okay. Everything looks real good. It keeps hanging right there at 60 psi.
- 00 06 14 59 CC Roger. Understand that you got your computer on the line okay and that you also got the second Fuel Cell on the line all right?
- 00 06 15 06 P That's affirmative. The DCS Power Circuit Breaker is ON and we're standing by for your load.
- 00 06 15 11 CC Roger.
- GUAYMAS
- 00 06 15 51 CC Gemini-5, Houston Flight.
- 00 06 15 55 P Go ahead, Houston Flight, Gemini-5 here.
- 00 06 15 58 CC Looks like we got a situation here that's stabilized, Pete, and we've been discussing the problems associated with the purge. It looks like we can go fairly long time without any purge. Secondly, it looks like we can purge with the hydrogen without any problem. In terms of the O₂ purge, we probably do an on-off purge where we purge very briefly, not drain off the pressure, and I'd like your opinion on going through another day under those circumstances?
- 00 06 16 36 P Guaymas, I am both GO here and if my feeble memory serves me right, we should, as we use O₂ Quantity, start getting a little pressure back, shouldn't we?
- 00 06 15 50 CC That's affirmative. If we can ever get the O₂ Quantity down to about 50 percent, we'll probably be in real good shape, but that's going to take a long time and we're 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 long periods, because we don't have but so much main battery.

CONFIDENTIAL

00 06 17 10 P Well, that is affirmative. We also just got your DCS loads in.

00 06 17 15 CC Very good.

00 06 17 17 CC That's a 6-4 load.

00 06 17 20 P Okay.

00 06 17 22 CC Okay, what do you think?

00 06 17 27 P Old Guaymas says we might as well try it now, Cape.

00 06 17 33 CC Okay, we'll 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 Power and turn off the Pump again.

00 06 17 47 P Will do.

00 06 17 50 CC Leave the DCS up.

00 06 17 53 P Okay, I'll put the computer OFF and leave the DCS up and secure the Number 2 Fuel Cell.

00 06 18 00 CC Roger.

TEXAS

00 06 21 37 CC Gemini-5, Gemini-5, this is Houston here. We would like to leave the DCS receiver up until further notice here. You needn't acknowledge this transmission, but advise again that we would like to leave the DCS receiver up until you're advised further.

00 06 40 08 CC Gemini-5, Gemini-5, this is Houston here. We'd like to have you bring up your UHF transmitter at this time.

00 06 40 42 C This is Gemini-5.

00 06 40 45 CC Roger, Gemini-5, this is Houston here. Can you give us your Fuel Cell O₂ Pressure and Quantity again, please?

00 06 40 54 C Roger.

CONFIDENTIAL

00 06 41 06 C Roger. Still holding at 60. Very good.

00 06 41 10 CC Roger. Understand the Pressure is still 60 psi and 96% on the Quantity.

00 06 41 16 C Roger.

00 06 41 23 CC Okay, Gemini-5, thank you, and you can put your transmitter back to Standby.

TANANARIVE

00 06 57 07 CC Gemini-5, Gemini-5, this is Houston here. Bring up your UHF transmitter. Gemini-5, Gemini-5, this is Houston here. Bring up your UHF transmitter.

00 06 58 10 CC Gemini-5, Gemini-5, Houston here. Do you read?

00 06 58 17 P Houston, Gemini-5.

00 06 58 22 CC Roger, Gemini-5, Houston here. You're coming through very garbled and weak. Can you give us your Fuel Cell O₂ Pressure and Quantity?

00 06 58 34 P ... it is holding at 60 psi and ...

00 06 58 54 CC Roger, Gemini-5. Roger, Gemini-5. Understand it's holding. You can turn your transmitter back to Standby. Thank you.

COASTAL SENTRY QUEBEC

00 07 19 28 CC Gemini-5, Gemini-5, CSQ CAP COM. Going after UHF transmitter and report Fuel Cell O₂ Pressure please. Over.

00 07 19 57 C Roger, CSQ, Gemini-5. At 96%, 60 psi and we got your DCS update. Over.

00 07 20 07 CC Roger, copy. I transmitted a Tx command to reset after Hawaii.

00 07 20 14 C Roger.

00 07 20 17 CC I'll be commanding your C-band Adapter Beacom Arm prior to LOS.

CONFIDENTIAL

CONFIDENTIAL

53

00 07 20 21 C Roger.

00 07 21 28 CC Gemini-5, CSQ CAP COM.

00 07 21 31 C Go ahead, Gemini-5.

00 07 21 33 CC Roger. We have you GO on the ground. There's nothing further at this time, you can power down UHF transmitter.

00 07 21 38 C Roger.

HAWAII

00 07 36 13 CC Gemini-5, Hawaii CAP COM. I have telemetry solid.

00 07 36 21 CC Gemini-5, Hawaii CAP COM. Would you bring up your UHF transmitter?

00 07 36 39 C Roger, Hawaii. Gemini-5.

00 07 36 43 CC Roger. We would like to perform a purge on your Fuel Cell H₂; we do not plan to purge O₂. We will not purge O₂ unless the O₂ pressure goes above 200 psi, or if there is a degradation in excess of 0.3 of a volt. Do you read?

00 07 37 00 C Roger. I understand. You want to purge H₂ but not the O₂.

00 07 37 06 CC Roger. We are standing by for you to purge both sections H₂.

00 07 37 10 P Okay. Do you want me to leave the Section 2 powered down?

00 07 37 15 CC That's affirmative.

00 07 37 16 P Okay.

00 07 37 17 CC I'm also going to copy your tape down.

00 07 37 42 CC Gemini-5, advise us when you start the purge.

00 07 37 44 P I just finished the Section 1 for 13 seconds. Stand by on my mark. Purging Section 2, MARK.

CONFIDENTIAL

CONFIDENTIAL

00 07 38 03 C Hawaii, Gemini-5. Do you have any readout on our FC O₂ down there?

00 07 38 06 CC Stand by one.

00 07 38 16 CC Gemini-5, that reading is 1. Repeat, 1.

00 07 38 20 C Roger. I suspect it is some glitch got in the gage. It was reading down at zero and bounced up to about 7 or 8 and then back down. Now it is back down to zero.

00 07 38 32 CC Gemini-5, Hawaii CAP COM. We have you GO for 18-1. We would like you to go into only Zone 1 areas. That would commit us for one day. I am standing by to update your TR for 18-1.

00 07 38 46 C Gemini-5, Roger. We will bring it on the computer.

00 07 38 57 CC Negative. You don't need the computer for TR.

00 07 39 01 CC Gemini-5, you got the valid TR time. You're in sync.

00 07 39 04 C Roger.

00 07 39 09 CC Gemini-5, we would like you to stay in the present power configuration. That is your Primary Coolant Pump on, one 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?

00 07 39 34 C That's affirmative, Gemini-5. Do you want us to keep the Section 2 powered down; is that correct?

00 07 39 37 CC That's affirmative.

00 07 39 38 C Okay.

00 07 39 40 CC And we would like to purge the H₂ in both sections about every 6 hours from now on.

00 07 39 41 C Roger.

00 07 39 46 CC Would you give me a Fuel Cell O₂ Quantity and a Fuel Cell O₂ Tank Pressure?

CONFIDENTIAL

CONFIDENTIAL

55

00 07 39 54 C Roger. Have changed 96, 60.
00 07 39 57 CC Roger.
00 07 40 33 CC Gemini-5, this is Hawaii CAP COM. I am unable to turn off your tape recorder. Request you turn it off.

GUAYMAS

00 07 46 15 CC Gemini-5, Guaymas CAP COM. If you read, place your T/M Control Switch into REAL TIME and ACQ-AID position and bring up your UHF transmitter.
00 07 46 26 CC Gemini-5, Guaymas CAP COM. Place your Real Time Pressure T/M Control Switch to REAL TIME and ACQ-AID and bring up your UHF transmitter. Over.
00 07 46 39 CC T/M solid at Guaymas.
00 07 46 45 CC Gemini-5, Guaymas CAP COM.
00 07 46 51 C Go ahead, Guaymas, Gemini-5.
00 07 46 54 CC Roger. How are you doing?
00 07 46 56 C Roger there, fine.
00 07 46 57 CC Okay. You're looking good here on the ground. I've got some info for you if you're ready to copy.
00 07 47 12 C Okay. Go ahead.
00 07 47 14 CC Okay, we want to perform a medical pass on the Pilot over the CSQ on the next revolution, acquisition time 22:52:25.
00 07 47 29 C Roger, medical pass on Pilot over the CSQ at 22:52:25.
00 07 47 36 CC Roger. Want to perform a medical pass on the Command Pilot over Hawaii, acquisition time 23:10:49.
00 07 47 51 C Roger, medical pass on Command Pilot at 22:10:49.
00 07 47 56 CC That's affirm, and confirm to me your Fuel Cell

CONFIDENTIAL

CONFIDENTIAL

O₂ Heater Switch is in the AUTO position.

- 00 07 48 05 C Roger. The Fuel Cell O₂ Switch is in the AUTO position.
- 00 07 48 10 CC Roger. Now here is the plan. Should you lose the fuel cell, we will go to the batteries and we will go all the way to the Dash-1 areas. We plan to use the Dash-1 areas, stay down at low power. We will go to the lowest power consumption as possible and go to a Dash-1 area. Do you understand that?
- 00 07 48 29 C Roger. Should I ... lose fuel cell, power down and go to the ... power and go to the next Dash-1 area.
- 00 07 48 37 CC That's affirmative.
- 00 07 48 39 CC Give me a readout of your Fuel Cell O₂ Pressure and Quantity.
- 00 07 48 48 C Roger, Quantity is 96% and 60 psia Pressure.
- 00 07 48 55 CC Roger, I copy that.
- 00 07 49 07 P Guaymas CAP COM, Gemini-5, can you read?
- 00 07 49 10 CC I read you loud and clear. Go ahead.
- 00 07 49 12 P Okay, I am talking on the lightweight headset. Be advised that earlier in the flight installing the 16mm camera, I thought I had turned off the H₂-O₂ Heater circuit breaker, because it was off; and I put it back in the ON position, and in retrospect, it's possible that the heater did burn out. That's what happened to it.
- 00 07 49 33 CC Okay, try the beginning again, Pete. I didn't read you too well in the beginning.
- 00 07 49 37 P I said that at about 00:50 elapsed time when installing the 16mm camera, I noticed that the H₂-O₂ Heater circuit breaker was off and I turned it back on again. I thought I had turned it off installing the camera, but apparently it must have blown; that must have been the heater must have shorted out.

CONFIDENTIAL

CONFIDENTIAL

57

00 07 50 00 CC Roger. We got all that. Thank you.

00 07 50 06 CC Okay, at this time you can turn your UHF transmitter down and turn your T/M Control Switch to the COMMAND position.

COASTAL SENTRY (SHIP)

00 08 53 17 CC Gemini-5, Gemini-5, CSQ CAP COM.

00 08 53 43 CC Gemini-5, Gemini-5, CSQ CAP COM.

00 08 53 51 C Roger, CSQ CAP COM. Gemini-5.

00 08 53 52 CC Gemini-5, CSQ has you GO on the ground. What is your status?

00 08 53 55 C Roger, we're GO here.

00 08 53 58 CC CSQ copy.

00 08 54 00 C Roger.

00 08 54 05 CC Would you give us a readout on your Fuel Cell O₂ Quantity, Gemini-5.

00 08 54 12 C Fuel Quantity 96% psia, pressure 60.

00 08 54 18 CC CSQ copy.

00 08 54 24 CC Gemini-5, as long as we have a valid temperature, standing by for your blood pressure.

00 08 54 28 C Roger, coming now.

00 08 54 37 CC Gemini-5, CSQ Surgeon.

00 08 54 39 C Roger.

00 08 54 40 CC Cuff is not quite full-scale.

00 08 54 44 CC Gemini-5, CSQ Surgeon. Your cuff is full-scale.

00 08 55 29 CC Gemini-5, CSQ Surgeon. We have a good blood pressure. Give me a mark when you begin exercise.

00 08 55 43 P Roger, CSQ, Gemini-5. Stand by for the exercise

CONFIDENTIAL

CONFIDENTIAL

on my mark. 3, 2, 1, MARK.

00 08 56 19 P Finish of exercise. Stand by for the blood pressure.

00 08 56 22 CC Roger.

00 08 56 34 CC Gemini-5, CSQ Surgeon. Cuff full-scale.

00 08 57 12 CC Gemini-5, CSQ Surgeon. We have a good blood pressure. Standing by for your food and water and sleep report.

00 08 57 20 C Roger.

00 08 57 37 P ... Surgeon. Command Pilot has drunk 1 pound 6 ounces of water. The Pilot drank 14 ounces of water, and we have yet to eat a big meal. We both ate the bacon squares and a little bit of the salad, and after leaving you we intend to eat our first meal.

00 08 58 03 CC Roger. I read that 1 pound 6 ounces water for Command Pilot. 14 ounces for Pilot. Both ate bacon squares. Planning to eat now.

00 08 58 13 P Gemini-5, affirmative.

00 08 58 15 CC Good show, Pete.

00 08 58 30 CC Gemini-5, we're approaching LOS CSQ. Have nothing further.

00 08 58 37 P Okay, Gemini-5.

00 09 07 42 C Okay, I want to run this tape out so I have a few comments on the stowage. Unstowed the right hand food box, and installed the red thing and removed the helmet. The helmet's in the helmet bag and the gloves are stowed and I've a neck ring on and I have wrist cuffs on. The time is 23:07:15 Zulu.

00 09 08 44 P We really are going to be hard-pressed to find room for all the rest of the stuff. No, I guess we're not, are we, Gordo? If we get that red bag up over your head and get rid of those two defecation bag pouches, then we could put in a lot in there.

CONFIDENTIAL

And we got enough food over my overhead there to keep us going for 2 or 3 days before we get into your box.

00 09 08 23 C Yes.

00 09 08 26 P Okay. That was the only comment I had. You have any comments for the tape?

00 09 08 30 C No, I don't believe so. One comment, these green stowage bags on the side are not too satisfactory. They're too hard to get in and out of.

00 09 08 40 P Yes, one of mine's coming apart already.

00 09 08 49 P Another thing was that I had a lot of trouble getting the launch day urine bag off because it got all hung up in the hose strut. The M-1 cardiovascular cuffs are still working all right so I didn't hurt it. I did get my suit all buttoned up again. Okay, tape off.

HAWAII

00 09 10 45 CC Gemini-5, Hawaii CAP COM. Bring up your UHF transmitter.

00 09 10 56 P Hello Hawaii, Gemini-5. How do you read?

00 09 11 00 CC Roger. Read you loud and clear. We're standing by for an oral temperature on the Pilot. We've got one on the Command Pilot.

00 09 11 06 P I just gave an oral - this is the Pilot - I just gave an oral temperature to the CSQ and our instructions were for the Command Pilot to give you a night pass. He's got his oral temperature probe in now.

00 09 11 18 CC Good show, Pete; you can have him start the blood pressure.

00 09 11 21 P Okay. You want a blood pressure. Here it comes.

00 09 11 25 P Have you got your temperature on him?

00 09 11 27 CC That's affirmative.

CONFIDENTIAL

00 09 11 28 P Say again.

00 09 11 29 CC That's affirmative.

00 09 11 30 P Okay.

00 09 11 35 CC I'm going to copy a tape dump.

00 09 11 42 P Okay.

00 09 12 11 CC Gemini-5, this is Hawaii Surgeon. The cuff is full-scale.

00 09 12 16 C Gemini-5.

00 09 13 12 CC We have a good blood pressure. Give me a mark when you begin your exercise.

00 09 13 16 C Roger, starting exercise now.

00 09 13 44 C Ending the exercise now.

00 09 13 59 CC Gemini-5, Flight Surgeon. Your cuff is full-scale.

00 09 14 33 CC We have a good blood pressure. Standing by for your food and water report.

00 09 14 41 C 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.

00 09 14 53 CC Roger, understand. You gave report over CSQ. You're beginning, you're going to begin Meal 1 for the day.

00 09 15 00 C That's affirmative.

00 09 15 03 CC Gemini-5, Hawaii.

00 09 15 04 CC Gemini-5, Hawaii Surgeon out.

00 09 15 05 CC Gemini-5, Hawaii CAP COM. Be advised that we will update you with your landing areas and your flight plan on your next pass over Hawaii.

00 09 15 14 C Okay. Mighty fine.

CONFIDENTIAL

CONFIDENTIAL

61

00 09 15 16 CC We'd also like to know if you've seen the flashing lights on the REP?

00 09 15 19 C Roger. That thing is right with us. It has been all along. Sitting right out in back of us.

00 09 15 24 CC Okay.

00 09 15 28 CC What do you estimate your range is?

00 09 15 30 C Well, it varies. It's cycling back and forth slightly, but it's been in as close as about 1,000 feet to us.

00 09 15 39 CC Roger.

00 09 15 49 P Hawaii, Gemini-5.

00 09 15 51 CC Go ahead.

00 09 15 52 P We've seen it both in the daytime and at night.

00 09 15 55 CC Roger.

00 09 15 59 C If I get near enough, we can see the tumble rate. See the dipole and everything on it.

00 09 16 03 CC Roger.

ROSE KNOT (SHIP)

00 09 32 50 CC Gemini-5, RKV CAP COM. Your systems are GO on the ground. You need not acknowledge.

GODDARD

00 10 06 35 CC Gemini-5, Gemini-5, Houston CAP COM. Would you turn your UHF transmitter on.

00 10 07 13 C Station calling Gemini-5. Say again please.

00 10 07 16 CC Roger, Gemini-5.

00 10 07 18 CC Gemini-5, Gemini-5, this is Houston CAP COM. How do you read? Over.

00 10 07 28 C ... Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

00 10 07 42 C Hello, this is Gemini-5.

00 10 07 46 CC Roger, Gemini-5. This is Houston. Could you give us some idea of the relative motion that you have with the REP now? Over.

00 10 07 56 P Well, good evening fellows. How are you? I was just remarking that we haven't seen it for awhile. It should have been describing a sort of a Figure 8 around us. Most of the time when we've seen it, it's been above us and on the night side. When it got fairly close and when we came out into the day-side a few orbits ago, it was quite close to us, close enough for us to see the dipole on it while it was tumbling and I haven't seen it for awhile. We're adjusting flight, of course, and we have some very good rates and we're moving around but I have not located it yet.

00 10 08 49 CC Okay, Gemini-5. 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.

00 10 09 26 C Roger. We're all set. Our power ... You want us to leave this No. 2 Fuel Cell shut down? You want us to bring it back on at this time just to put a little load on it and then take it back off again?

00 10 09 46 CC 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.

00 10 09 56 P Yes, we're just a little bit behind on that. We finished eating. Gordo's taking a breathing test right now and then he's going to go to sleep, and I'm going to take the breathing test and stay on station for 6 more hours.

00 10 10 12 CC Okay. Understand.

00 10 10 46 CC Gemini-5, Gemini-5, Houston CAP COM. On the last

CONFIDENTIAL

CONFIDENTIAL

63

night pass did you notice any diminishing intensity in the flashing light? Over.

00 10 10 57 P Not that we could tell, ..., I haven't seen it this pass though. That doesn't mean it's not out here, but it was so close to us before. Even when we couldn't see it, it would illuminate the spacecraft with the flashes and we knew it was around us all the time.

00 10 11 17 CC Roger. Understand. The spec value on the battery lifetime for the light expired about an hour, 2 hours, ago.

00 10 11 29 P Roger. Understand.

00 10 11 35 CC Gemini-5, Houston. We're about to have LOS here. We'll work up something and give you an update over Hawaii. Over.

CSQ

00 10 29 16 CC Gemini-5, CSQ has you GO on the ground and we're standing by.

{ HAWAII

00 10 44 58 CC Gemini-5, Hawaii CAP COM, bring up your UHF transmitter.

00 10 45 32 CC Gemini-5, Hawaii CAP COM, bring up your UHF transmitter.

00 10 45 37 P Roger, Hawaii. This is Gemini-5. Our transmitter's warmed up. Reading you loud and clear.

00 10 45 42 CC Roger. We're copying your dump. We have a block update for you. Ready to copy?

00 10 45 48 P Roger. Just one second. Okay, I'm ready to copy.

00 10 45 53 CC Roger, the rest of our times will be GMT and they are all Day 1.

00 10 46 03 P Okay.

00 10 46 04 CC Area 93, 03:27:11, 8 plus 54, 22 plus 00, roll left

CONFIDENTIAL

CONFIDENTIAL

51, roll right 69. Area 10 Delta, 04:20:08, 18 plus 00, 19 plus 41, roll left 51, roll right 69. Area 11 Delta.

00 10 46 51 P Come again.

00 10 46 52 CC Say again.

00 10 46 53 P Let's have that last one again.

00 10 46 56 CC Want the whole thing?

00 10 46 58 P Yes, the whole thing; we missed that.

00 10 47 00 CC Roger. Retrofire time 04:20:08, 18 plus 00, 19 plus 41, roll left 51, roll right 69.

00 10 47 22 P Roger.

00 10 47 23 CC Area 11 Delta, 05:53:56, 16 plus 24, 18 plus 06, roll left 51, roll right 69. Area 12 Delta, 07:31:45, 13 plus 24, 21 plus 55, roll left 51, roll right 69. Area 13-2, 09:07:57, 11 plus 11, 16 plus 11, roll left 51, roll right 69. Do you copy?

00 10 48 32 P Roger, we are out.

00 10 48 34 CC Roger. Be advised the weather in 11 Delta is marginal.

00 10 48 48 CC Gemini-5, Hawaii CAP COM.

00 10 48 50 P Go ahead.

00 10 48 51 CC Okay, they worked it out back at Houston; you can make it to 15-1 on your main batteries alone. Over me on your next revolution you would be GO for 15-1 with three main batteries.

00 10 49 07 P Roger. Very good.

00 10 49 09 CC Okay, on your next pass over me we'd like you to start powering up. We'd first like you to power up the attitude control system and we'd like to evaluate it. And then we plan on having you power up in increments of 1 to 1-1/2 amps. What we're

CONFIDENTIAL

looking for, we're looking for a sustained power level where the Fuel Cell O₂ Tank Pressure will stay steady.

00 10 49 33 P Okay.

00 10 49 34 CC What we'd like you to do is monitor very closely and if it starts to drop, you'll have to decrease the power consumption.

00 10 49 42 P Roger.

00 10 49 43 CC Now we're working on another Flight Plan with a possible feel for making a rendezvous with the REP. They are working on it and we'll try to update you as soon as possible.

00 10 49 53 P Okay.

00 10 49 56 CC Would you give me a Fuel Cell O₂ Quantity, please?

00 10 50 03 P Roger, Bill, just below 96 now; it looks like about 95.8, and the pressure is holding at 60.

00 10 50 15 CC Good show, Pete.

00 10 50 17 P Okay, Bill. Also like to have them consider that we put this other power - Fuel Cell back on in the pump first, as our first step up because we don't want to lose it if we get a sustained power level.

00 10 50 32 CC Okay, I'll pass that along to Flight.

00 10 50 43 P Gemini-5.

00 10 50 44 CC Go ahead.

00 10 50 45 P We're nominal orbit, right? Our Maps good on all our station acquisitions and so forth?

00 10 50 51 CC Just about, yes.

00 10 50 53 P Okay, thank you.

00 10 51 13 CC Gemini-5, Hawaii.

00 10 51 16 P Go ahead.

CONFIDENTIAL

00 10 51 17 CC Okay. Flight concurs with that idea; that's what he had in mind. Want to bring the load up to about 4 amps, then remove those items and then bring up the pump.

00 10 51 30 P I didn't quite understand that. What did you say?

00 10 51 37 CC Stand by one.

00 10 51 44 CC Okay, we'll try to get you a briefing on this thing over the RKV, Gemini-5.

00 10 51 50 P Okay. I think what you were telling me was that you want to put another 4-amp load on the line which would be the pump when we bring the other cell back on.

00 10 51 58 CC Roger, I think that's right. I wasn't too sure.

00 10 52 03 C Okay, we're happy as clams.

00 10 52 24 CC Have you seen the pod recently, Gemini-5?

ROSE KNOT (SHIP)

00 11 06 50 CC Gemini-5, RKV CAP COM, come up on UHF.

00 11 06 59 P Roger, RKV.

00 11 07 01 CC Gemini-5, RKV CAP COM. I have some Flight Plan updates for you.

00 11 07 10 P Roger, are these for experiments or just on straight Flight Plans?

00 11 07 14 CC Experiment D-4/D-7.

00 11 07 23 P Ready to copy.

00 11 07 25 CC The D-4/D-7 Cabin Light Experiment at 01 days 02 hours 05 minutes is to be deleted.

00 11 07 39 P Roger.

00 11 07 41 CC D-4/D-7: At 01 days 02 hours 20 minutes. A cryogenic gas lifetime measurement will be performed over Hawaii on the 8th orbit.

CONFIDENTIAL

CONFIDENTIAL

67

00 11 07 55 P Roger.

00 11 07 57 CC And verify that your E-S Sensor circuit breaker is closed.

00 11 08 03 P Roger, it is on.

00 11 08 07 CC The plan they have on the gradually powering back up is to gradually power back until you reach a point that is equal to the amps that are drawn by the pump in the Secondary Loop, and then power everything down and turn the pump on, bring the loop back up.

00 11 08 26 P I'm with you.

00 11 08 28 CC The things you are to power up over Hawaii on the next revolution, the AC Power Switch to ACME.

00 11 08 40 P Okay, AC Power to ACME.

00 11 08 43 CC Roger. ACME Bias Power Switch to PRIMARY.

00 11 08 47 P ACME Bias Power to PRIMARY.

00 11 08 49 CC OAMS Attitude Control Power Switch to ON.

00 11 08 59 P Go ahead.

00 11 09 00 CC And it will be in the Pulse Mode.

00 11 09 02 P Pulse Mode.

00 11 09 05 CC All systems look good on the ground. Could you give me a readout on the Fuel Cell O₂ pressure?

00 11 09 11 P Roger, wait one. Roger, it's reading just a notch; maybe I'm being hopeful; it looks like it's creeping up just a little bit over 60 psi and about 95.7.

00 11 09 36 CC Roger.

00 11 09 43 CC Gemini-5, RKV. Have you seen the REP lately?

00 11 09 47 P Sure haven't.

00 11 09 49 CC Roger, understand.

00 11 09 53 P ... now. We have some fairly good tumbling going

CONFIDENTIAL

CONFIDENTIAL

and we don't have a chance to look at too much.

00 11 10 00 CC Roger, understand.

00 11 10 26 CC Gemini-5, RKV. You can turn your UHF transmitter back to Standby. We'll stand by.

00 11 10 32 P Roger, going back to Standby. Thank you.

COASTAL SENTRY (SHIP)

00 12 05 02 CC Gemini-5, CSQ CAP COM, we have you GO on the ground. Need not acknowledge and standing by.

HAWAII

00 12 19 53 CC Gemini-5, Hawaii CAP COM. Bring up your UHF transmitter and power-down to D-4/D-7 experiment.

00 12 20 01 P Roger, we're powered down on the experiment. We just now got it.

00 12 20 07 CC Roger, we're going to scrub it. I'd like an open circuit voltage readout of Stacks 2A, 2B and 2C.

00 12 20 24 P Roger, they're clear off the peg; I can't even read them.

00 12 20 28 CC Roger.

00 12 20 34 P Now, 1A and 1B and 1C have all dropped about 0.2 of a volt.

00 12 20 42 CC What are they reading?

00 12 20 44 P They read 27.8.

00 12 20 47 CC Roger.

00 12 20 52 P We are ready to power up the ACME as instructed by RKV if you're ready.

00 12 20 58 CC Okay, we would like to do it in increments. First would you bring up the AC Power Switch to ACME.

00 12 21 05 P Roger, AC Power Switch is ACME.

CONFIDENTIAL

CONFIDENTIAL

69

00 12 21 08 CC Okay, bring up the ACME Bias Power Switch to PRIMARY.

00 12 21 14 P Roger, it's PRIMARY.

00 12 21 19 CC Are you monitoring your Fuel Cell O₂ Tank Pressure?

00 12 21 25 P Yes.

00 12 21 26 CC Okay, let's watch it close and if you see any decrease, power back down. We would like you to go to attitude mode-switch to PULSE at this time.

00 12 21 34 P Roger, it's in PULSE.

00 12 21 39 CC How about your OAMS Attitude Control Power Switch to ON?

00 12 21 44 P Okay, it's on.

00 12 21 49 CC Okay, 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.

00 12 22 06 P Okay.

00 12 22 07 CC If you don't see the REP, go ahead and stabilize in whatever attitude you like.

00 12 22 12 P All right.

00 12 22 56 P Hawaii, Gemini-5.

00 12 22 58 CC Go ahead, Gemini-5.

00 12 23 00 P Have you got any suggestions where to look for it?

00 12 23 05 CC You're closer to it than we are.

00 12 23 08 P Thanks a lot, Bill.

00 12 23 10 CC Any time, Pete.

00 12 23 20 CC Flight recommends that you look south for it, due south.

CONFIDENTIAL

CONFIDENTIAL

00 12 23 26 P Okay.

00 12 24 22 CC Would you give us the time when you power down your attitude control?

00 12 24 26 P Yes, we haven't powered it down. We're still looking for the REP.

00 12 24 38 CC Okay, you will be over the RKV in about 20 minutes, you can pass the time along to them.

00 12 24 43 P Okay.

00 12 24 48 P Don't you want us to stay in this configuration as long as the pressure doesn't drop?

00 12 24 54 CC That's negative. We want you to power down as soon as you stabilize.

00 12 24 58 P Okay.

ROSE KNOT (SHIP)

00 12 41 37 CC Gemini-5, RKV CAP COM, bring up your UHF transmitter.

00 12 41 59 CC Gemini-5, RKV CAP COM, bring up your UHF transmitter.

00 12 42 06 P RKV CAP COM, Gemini-5 here.

00 12 42 09 CC Roger, your systems are GO on the ground. We would like to have the time of your attitude control power down.

00 12 42 16 P 27:25.

00 12 42 21 CC 27:25, understand.

00 12 42 24 P That's affirmative, 02:27:25.

00 12 42 27 CC Did you see the REP at any time?

00 12 42 31 P That's negative.

00 12 42 32 CC Roger, understand. Were you able to damp out your rates pretty well?

CONFIDENTIAL

CONFIDENTIAL

71

00 12 42 37 P That's affirmative.

00 12 42 38 CC Roger, understand. You have a medical data pass on the Pilot coming up over the CSQ on this revolution, the next revolution, at a time of 03 hours, 30 minutes, 11 seconds as acquisition.

00 12 42 57 P Roger, medical data pass at 03:30:11 over the CSQ.

00 12 43 02 CC Roger. That's the acquisition at CSQ.

00 12 43 06 P Right.

00 12 43 07 CC We want to do a hydrogen purge on both sections at 2 hours, 45 minutes, 00 seconds. That's about two minutes from now.

00 12 43 22 P Roger, hydrogen purge 02:45:00.

00 12 43 25 CC Gemini-5, RKV CAP COM, they said we can go ahead with it at this time if you are ready.

00 12 43 31 P The A crossover valve is open; stand by on my mark. I'll purge Number 1-MARK.

00 12 43 39 CC Roger, we have it on the ground.

00 12 43 52 P That was terminated in 13 seconds. Stand by on my mark. MARK.

00 12 44 11 P That Number 2 was purged; crossover valve is mark.

00 12 44 28 CC Gemini-5, RKV CAP COM.

00 12 44 32 P Go ahead, RKV.

00 12 44 33 CC We had, I have a correction for you on the acquisition time at the CSQ.

00 12 44 39 P Okay, read your copy.

00 12 44 40 CC 03 hours, 38 minutes, 11 seconds.

00 12 44 48 P Okay, ACQ at the CSQ is 03 plus 38 plus 11.

00 12 44 52 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

00 12 44 57 P ... oxygen pressure.

00 12 45 02 CC Roger, I understand.

00 12 45 06 P ... pressure is 400 now. It's built up and it seemed to stabilized down right at 400.

00 12 45 12 CC Roger, understand.

00 12 45 18 CC Gemini-5, how does the other onboard systems look?

00 12 45 22 P Everything else is GO.

00 12 45 23 CC Roger.

00 12 45 33 CC Gemini-5, you can power down your UHF transmitter at a standby at this time and we'll be standing by in case you need anything.

00 12 45 41 P Roger.

COASTAL SENTRY (SHIP)

00 13 28 24 CC Gemini-5, CSQ CAP COM.

00 13 38 35 CC Gemini-5, CSQ CAP COM. Bring up your UHF transmitters.

00 13 38 47 P This is Gemini-5. Go ahead, CSQ.

00 13 38 49 CC Roger, Gemini-5. Advise that this is a UHF No. 6 pass, and verify that the Fuel Cell Panel circuit breaker is closed.

00 13 39 03 P Fuel Cell Panel circuit breaker is closed.

00 13 39 06 CC Roger. We'd like you to turn on the OAMS Heater circuit breaker, and leave it on till your RKV pass.

00 13 39 17 P Say again. You want us to leave the OAMS Heater circuit breaker on until RKV?

00 13 39 21 CC That is affirmative.

00 13 39 23 P Okay. Did you get my temperature and my mark?

00 13 39 28 CC Gemini-5, if you notice any decrease in the Fuel

CONFIDENTIAL

CONFIDENTIAL

73

Cell O₂ pressure, turn off the OAMS Heater circuit breaker. Over.

00 13 39 39 P Roger.

00 13 39 40 CC And Houston advises the EI curve of Section 1 indicates the performance is normal and Section 2 is also indicating normal from open circuit voltages. An Advise Plan is to keep all systems operating with limited power available. Do you copy?

00 13 40 03 P This is Gemini-5. We copy.

00 13 40 10 CC Gemini-5, advise we have received temperatures. Standing by for blood pressure.

00 13 40 15 C Okay. This is Gemini-5 ...

00 13 40 19 CC Say that again. You have a little background noise.

00 13 40 23 C I say I can talk better with the temperature probe out.

00 13 40 31 CC Gemini-5, CSQ Surgeon. Your cuff is full-scale.

00 13 40 51 CC Gemini-5, we have a good blood pressure. Give me a mark when you begin exercises.

00 13 40 57 C Roger. Stand by. MARK.

00 13 41 34 C ... blood pressure.

00 13 41 44 CC Gemini-5, CSQ Systems. Your cuff is full-scale.

00 13 41 50 C Gemini-5.

00 13 42 17 CC Gemini-5, pump up your cuff again. We have a telemetry problem.

00 13 42 22 C Roger.

00 13 42 60 CC Gemini-5, CSQ Surgeon. Did you have the thermometer in long enough?

00 13 43 05 C I don't know ...

00 13 43 08 CC Okay. It was climbing a little. How long did you

CONFIDENTIAL

CONFIDENTIAL

have it in, do you know?

00 13 43 13 C ...

ROSE KNOT (SHIP)

00 14 20 30 CC Gemini-5, this is RKV CAP COM. Bring up your UHF transmitter at this time.

00 14 21 07 C RKV, RKV. This is Gemini-5, Gemini-5. Go ahead.

00 14 21 13 CC Look, Gemini-5, we'd like to advise you to leave the OAMS Heater circuit breaker closed. Do you understand?

00 14 21 20 C Roger. We'll leave it on.

00 14 21 22 CC Roger. We'd like to have a food and water report on the Pilot.

00 14 21 28 P Okay. I'm in the process of eating right now, and I estimate that I haven't added up the food or water yet. I just feel that I have had over 4 pounds of water from launch. I'm on my second meal.

00 14 21 48 CC Roger. Four pounds of water and second meal.

00 14 23 19 CC Gemini-5, RKV CAP COM.

00 14 23 23 P Go ahead.

00 14 23 24 CC You can go to STANDBY on your UHF transmitter.

00 14 23 27 P Say again.

00 14 23 29 CC You can go to STANDBY on UHF transmitter.

00 14 23 33 P UHF standing by.

CSQ

00 15 12 32 C Roger, CSQ CAP COM, Gemini-5.

00 15 12 38 CC Gemini-5, CSQ CAP COM. We have you GO on the ground. Request you confirm ANTENNA SELECT Switch in the REENTRY position.

CONFIDENTIAL

CONFIDENTIAL

75

00 15 12 50 C ... antenna ... raise your adapter up.

00 15 12 52 CC Roger. Request you switch to REENTRY position.

00 15 12 59 C Roger. Antenna Switch is now on REENTRY.

00 15 13 03 CC Also, we'd like to read out the cryogenic quantities.

00 15 13 24 C Do you want us to read them out over the air?

00 15 13 30 CC Roger. We're getting them on the ground. We'll take the spacecraft readout also.

00 15 13 34 C Okay, ECS O₂ is 94, 6700.

00 15 13 41 CC Copy.

00 15 13 42 C Fuel Cell O₂ is 95% and 60 psi, and hydrogen is 100% and 435.

00 15 14 02 CC Roger. CSQ copy.

00 15 14 57 CC Gemini-5, CSQ.

00 15 15 00 C Go ahead.

00 15 15 02 CC Advise they want to do a medical data pass on the Command Pilot over the CSQ.

00 15 15 09 C Roger.

00 15 15 14 CC Correction, correction. That's over the RKV.

00 15 15 18 C Roger. RKV.

00 15 16 34 CC Gemini-5. I have RKV AOS time. Are you ready to copy?

00 15 16 41 C Roger.

00 15 16 42 CC Roger, 05:51:52.

00 15 16 50 C 05:51:52.

CONFIDENTIAL

CONFIDENTIAL

ROSE KNOT (SHIP)

00 15 52 11 CC Gemini-5, this is RKV CAP COM. Will you bring up your UHF transmitter?

00 15 53 24 C RKV CAP COM, Gemini-5.

00 15 53 27 CC Roger, Gemini-5, this is RKV CAP COM. We did not receive your oral temperature.

00 15 53 32 C Roger, I'll give it to you in a second.

00 15 53 36 CC Say again.

00 15 53 39 C Roger, I'm getting it in now.

00 15 53 40 CC Roger.

00 15 54 19 CC Gemini-5, this is RKV CAP COM. Would you skip that oral temp, and we're standing by for your blood pressure.

00 15 54 28 C Roger.

00 15 54 50 CC Gemini-5, RKV Surgeon, your blood pressure is full-scale.

00 15 55 14 CC Gemini-5, RKV Surgeon, your blood pressure is not valid. Please give us another blood pressure.

00 15 55 20 C Roger.

00 15 55 25 CC Gemini-5, your blood pressure cuff is full-scale. Hold.

00 15 55 49 CC Gemini-5, RKV Surgeon. We have a good blood pressure. Give me a mark when you begin your exercise, please.

00 15 55 55 C Roger.

00 15 56 09 C Starting exercise now.

00 15 56 42 C Exercise now, blood pressure coming down.

00 15 56 56 CC Gemini-5, your blood pressure cuff is full-scale.

CONFIDENTIAL

CONFIDENTIAL

77

00 15 57 23 C How is blood pressure?

00 15 57 24 CC It is okay. We are standing by for your food, water, and sleep report.

00 15 57 30 C Roger. The Command Pilot--this is the Command Pilot speaking--I just woke up a little bit ago. Had about two hours of sleep and we're still eating, I'm eating my first full meal, actually full meal. Just a moment, I'll give you a water report.

00 15 57 54 C The Pilot has had 4 pounds of water. The Command Pilot has had 3 pounds of water and perhaps a little more with this meal now.

00 15 58 07 CC Understand. RKV Surgeon again. What was the quality of your sleep, please, in terms of depth?

00 15 58 15 C Roger, I had two brief periods, I guess about an hour each, quite good sleep.

00 15 58 28 CC Gemini-5, this is RKV CAP COM. I would like to know if you or the Pilot have done either Sequence 1 and/or 2 of S-8 or D-13.

00 15 58 43 C Roger, we have. We have done Sequence 1 of S-8 and D-13.

00 15 58 49 CC Roger. Do you have any scores to report?

00 15 58 52 C Negative. We're putting them on the score cards and doesn't seem anything too important.

00 15 58 58 CC Roger. Understand.

00 16 00 51 CC Gemini-5, this is RKV CAP COM. You can go back to STANDBY on your UHF transmitter at this time.

GUAYMAS

00 16 12 20 CC Gemini-5, Gemini-5, this is Houston CAP COM, over.

00 16 12 28 CC Gemini-5, Gemini-5, bring your UHF up. This is Houston CAP COM; bring your UHF.

00 16 12 46 C ... Houston, Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

00 16 12 53 CC Gemini-5, I have two experiment updates and would you bring your ACME up to the Pulse Mode, please.

00 16 13 01 C Roger, I understand you want us to try out the ACME. Is that affirmative?

00 16 13 06 CC Roger.

00 16 13 14 C Houston, Gemini-5, do you get me on ...?

00 16 13 18 CC Stand by, Gemini-5.

00 16 13 38 CC Gemini-5, Houston CAP COM, do you read?

00 16 13 42 C Houston, Gemini-5. Reading you loud and clear.

00 16 13 45 CC Roger. Put your ACME Power to ACME, your ACME Bias Primary Attitude to PULSE, and OAMS Attitude Power ON. Do you copy?

00 16 13 58 C Roger.

00 16 14 00 CC Roger. Ready to copy experiments?

00 16 14 11 CC Gemini-5, are you ready to copy experiments?

00 16 14 15 C Roger, go on.

00 16 14 16 CC Roger. S-8/D-13 at 01, 06:20:00, Sequence No. 02, Cabin Lighting at 01, 06:40:00, and be advised, will pass you more data over the CSQ, which has an acquisition time of 01, 06:46:21. Do you copy?

00 16 14 54 C Say again the acquisition time. 01, 06:46 ...

00 16 14 58 CC 01, 06:46:21.

00 16 15 04 C 46:21.

00 16 15 07 CC Roger. 01 days, 06 hours, 46 minutes, 21 seconds.

00 16 15 15 C Roger.

00 16 15 19 CC And you can power down your UHF on the way. We'll give you a call at the CSQ.

00 16 15 25 C Roger.

CONFIDENTIAL

CONFIDENTIAL

79

00 16 20 53 CC Gemini-5, Gemini-5, Houston CAP COM. Would you bring your UHF back up, please.

00 16 21 08 C Houston CAP COM, Gemini-5, UHF is up.

00 16 21 13 CC Gemini-5, this is Houston CAP COM. We'd like to give you a short briefing on what we think your status is. Are you ready?

00 16 21 21 C Roger.

00 16 21 23 CC 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 if you would keep us informed on that.

00 16 21 48 C Roger, will do.

00 16 21 50 CC This Pulse Mode will give you a little something to work with there for a change.

00 16 21 55 C Roger.

00 16 21 58 CC Gemini, could you verify if your Agena Control circuit breaker is closed?

00 16 22 10 C Roger, Agena Control is closed.

00 16 22 12 CC All right, thank you.

00 16 22 34 CC Gemini-5, Houston CAP COM. If your OAMS gets sluggish, we'll 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.

00 16 22 45 C Okay.

00 16 22 56 CC Gemini-5, Houston here. You can turn your UHF transmitter off and we'll be standing by over the CSQ.

00 16 23 22 CC Gemini-5, 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.

CONFIDENTIAL

CONFIDENTIAL

COASTAL SENTRY (SHIP)

00 16 48 02 CC Gemini-5, CSQ CAP COM.

00 16 48 05 C Roger, CSQ.

00 16 48 09 CC Roger. I have a Flight Plan update for you. Are you ready to copy?

00 16 48 14 C Roger, stand by one.

00 16 48 22 C CSQ, ready for flight update.

00 16 48 25 CC Roger, Flight Plan update. Are you ready to copy?

00 16 48 38 C Affirmative, ready to copy.

00 16 48 41 CC Roger. S-6 time 01 days, 07:48:26. Sequence 08, pitch 23 degrees down, yaw 90 degrees left ... hurricane. The next one S-6, 01 days, 09:22:49. Sequence 08, pitch 19 degrees down, yaw 90 degrees left ... hurricane. Did you copy?

00 16 49 40 C Roger, we copy.

00 16 49 45 CC I have further Flight Plan update. Apollo Landmark, time 01 days, 09:27:33. Sequence 208, pitch 30 degrees down, yaw 3 degrees left. UHF Test, time 01 days, 10:49:25. Sequence 03, use Pulse Mode, no horizon scanner. Apollo Landmark, 01 days, 12:36:17. Sequence 208, pitch 30 degrees down, yaw 6 degrees left. Did you copy?

00 16 51 05 C ...

00 16 51 21 CC Roger, Gemini-5. That's all CSQ has. We're standing by.

00 16 51 25 C Roger.

HOUSTON

00 17 27 06 CC Gemini-5, RKV CAP COM.

00 17 27 14 C Roger, RKV CAP COM, Gemini-5. We're GO here.

00 17 27 18 CC Roger, have you seen the REP lately?

CONFIDENTIAL

CONFIDENTIAL

81

00 17 27 21 C Negative, we haven't seen it in quite awhile now.
00 17 27 24 CC Roger.
00 17 33 53 CC Gemini-5, RKV.
00 17 34 03 CC Gemini-5, this is RKV. You can go back to STANDBY on your UHF transmitter.

CANARY

00 17 50 02 CC Gemini-5, this is Canary CAP COM.
00 17 50 25 C Roger, Canary CAP COM, Gemini-5.
00 17 50 41 C ... Canary CAP COM, Gemini-5.
00 17 50 42 CC Roger, Gemini-5, stand by for one ...
00 17 50 58 CC Gemini-5, 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.
00 17 51 11 C Roger, understand can turn Horizon Scanners on.
00 17 51 14 CC That's affirmative.
00 17 51 16 C Roger, thank you.
00 17 51 18 CC Okay. Also have Flight Plan update for you when you're ready to copy.
00 17 51 23 C Okay.
00 17 51 25 CC Roger, we have a D-4/D-7 Sequence 421. Remarks: If towering cumulus clouds appear, make D-4/D-7 scanner without the warm-up.
00 17 51 46 C Roger, I have that.
00 17 51 49 CC Okay, and then that 01 days, 12 hours, 10 minutes, on Rev 14 at longitude 117.6 degrees west.
00 17 52 15 C Roger, could you give me that one again? I cut out on that one.

CONFIDENTIAL

CONFIDENTIAL

00 17 52 19 CC Roger, that was 01 days, 12 hours, 01 minutes. That is Rev 14, longitude 117.6 degrees west.

00 17 52 38 C Roger.

00 17 52 41 CC All right, Gemini-5, I've been advised here that I gave you an incorrect number. That was 12 hours 10 minutes.

00 17 52 53 C Roger, 12 hours 10 minutes.

00 17 52 57 CC Roger.

00 17 53 05 CC We have nothing else for you at this time. We are standing by.

00 17 53 12 C Roger, you might advise Flight Plan that Sequence 08 of S-6 we had no success on it. Over.

00 17 53 22 CC Roger.

ROSE KNOT (SHIP)

00 19 01 48 CC Gemini-5, RKV CAP COM on UHF. Bring up your UHF transmitter.

00 19 02 13 CC Gemini-5, RKV CAP COM on UHF. Bring up your UHF transmitter.

00 19 02 20 C Roger, RKV, Gemini-5. Reading you loud and clear. Over.

00 19 02 24 CC Roger. Read you loud and clear. I have some Flight Plan update for you.

00 19 02 44 C Roger. RKV, Gemini-5 ready to copy.

00 19 02 48 CC UHF Test, 1 day, 10 hours, 49 minutes, 25 seconds. Sequence 03, use Horizon Scan Mode as per nominal Flight Plan.

00 19 03 18 C Yes.

00 19 03 19 CC Roger. And when you are doing your D-4/D-7, Sequence 421, turn your OAMS Heater circuit breaker to the OFF position.

CONFIDENTIAL

00 19 03 36 C Turn my D-4/D-7, Sequence 421, to the what?

00 19 03 39 CC Turn the OAMS Heater circuit breaker to the OFF position.

00 19 03 43 C Okay.

00 19 03 47 CC The reason we are doing this is to maintain a balance of power.

00 19 03 52 C Okay. Understand.

00 19 03 59 CC Gemini-5, we would like for you to do your nominal hydrogen purge at this time on both sections; before you start, we would like a cryogenic readout on Fuel Cell hydrogen.

00 19 04 13 C Okay.

00 19 04 38 CC Gemini-5, can you give me an onboard readout on that?

00 19 04 40 C Roger. ... reading 100% on quantity and 480 on psi.

00 19 04 48 CC Roger. Could you give me a Fuel Cell O₂ at this time?

00 19 04 52 C Roger. Fuel Cell O₂ is 95% Quantity and 60 psi.

00 19 05 01 CC Roger. I'd like a stack current readout on 1A, 1B and 1C.

00 19 05 13 P Roger, RKV. Stack 1A is reading 7.0, Stack 1B is reading 6.2, Stack 1C is reading 8.3.

00 19 05 27 CC Roger.

00 19 05 29 CC You can start your hydrogen purge at this time.

00 19 05 33 P Roger. On my mark 2, 1, MARK. Section 1 purge.

00 19 05 53 CC Roger.

00 19 05 54 P My mark, Section 2, MARK.

00 19 06 11 P Okay, Section 2 purge ...

CONFIDENTIAL

00 19 06 15 CC Roger, we would like another readout on Fuel Cell hydrogen please.

00 19 06 19 P Roger. Fuel Cell hydrogen still 100% Quantity, 470 psi.

00 19 06 29 CC Roger. Understand. Could you give me the stack readouts again, please.

00 19 06 37 P Okay. 1A is reading 7.0, 1B is reading 6.5 and 1C is reading 8.3.

00 19 06 51 CC Roger. Understand. I have some landing area updates for you at this time if you would like to copy.

00 19 07 01 P Go ahead.

00 19 07 03 CC Area 14-2.

00 19 07 06 P Just one second. Okay go ahead.

00 19 07 13 CC 14-2, 01, 10:43:07, 9 plus 33, 15 plus 28, roll left 51, roll right 69.

00 19 07 51 P Roger, we have it. Go ahead.

00 19 07 53 CC Area 15-1, 01, 12:07:39, 10 plus 55, 15 plus 51, roll left 51, roll right 69.

00 19 08 22 P Okay, Gus, go ahead.

00 19 08 26 CC Area 16-1, 01, 13:42:02, 9 plus 34, 15 plus 31, roll right, roll left 51, roll right 69.

00 19 09 01 CC Area 17-1, 01, 15:16:24, 8 plus 37, 15 plus 04, roll left 51, roll right 69.

00 19 09 31 CC Area 18-1, 01, 16:50:42, 8 plus 20, 15 plus 58, roll left 51, roll right 69.

00 19 10 01 CC Area 19-4, 01, 19:40:02, 9 plus 34, 15 plus 14, roll left 51, roll right 69.

00 19 10 29 CC The weather in all these areas is good.

00 19 13 05 CC Gemini-5, Gemini -

CONFIDENTIAL

CONFIDENTIAL

85

00 19 13 37 CC Gemini-5, Gemini-5, Houston CAP COM. You can turn on your UHF transmitter. Over.

00 19 13 50 CC Roger, Gemini. How much of your PLIA's did you copy on the last pass over RKV? I'll pick it up where they left off.

00 19 14 01 C I counted 16-1 was the last one I got.

00 19 14 05 CC Roger. Okay, we'll go with 17-1. All of them are on Day 1 and the weather is good in all. Here's 17-1 if you are ready to copy.

00 19 14 18 C Okay, we're ready.

00 19 14 19 CC Roger. 17-1 is 15:16:24, 8 plus 37, 15 plus 04, roll left 51, roll right 69.

00 19 14 41 CC 18-1, 16:50:42, 08 plus 20, 15 plus 58, roll left 51, roll right 69.

00 19 15 06 CC 19-4, 19:40:02, 09 plus 34, 15 plus 14, roll left 51, roll right 69. Do you copy?

00 19 15 42 CC Gemini-5, Houston CAP COM, did you copy?

00 19 16 05 CC Gemini-5, Houston CAP COM, did you copy that?

00 19 16 25 CC Gemini-5, Houston CAP COM in the blind. If you copy, will talk to you over Canaries on the Fuel Cells and will have an O₂ purge but stand by for the discussion. Elliot will discuss it with you when we get to the Canaries.

00 19 17 01 CC Gemini-5, Houston CAP COM, do you read?

00 19 18 18 CC Gemini-5, Houston CAP COM. Can you give us your main bus voltage?

00 19 18 32 P Voltage is 26.6.

00 19 18 38 CC Roger. Understand 26.6 and did you copy the updates?

00 19 18 42 P Well, we did and we're trying to find ... we'd appreciate it if you would give it to us at the next station.

CONFIDENTIAL

CONFIDENTIAL

00 19 18 49 CC Roger. Will do it at Canaries in about five minutes.

00 19 18 54 P ...

00 19 19 04 CC Gemini-5, can you give us your main bus current?

00 19 20 01 P Okay, but what I ...

00 19 22 14 P Okay, we're on Record and the time is 09:22:45 and we're getting the pictures of the hurricane.

CANARY

00 19 23 23 CC Gemini-5, Gemini-5, Houston CAP COM.

00 19 23 40 CC Gemini-5, Gemini-5, Houston CAP COM.

00 19 24 03 P Main bus voltage 26.4, main bus current 17 amps.

00 19 24 11 CC Gemini-5, Houston CAP COM.

00 19 24 15 P Houston, Gemini-5, go ahead.

00 19 24 17 CC Roger. Can you give us an onboard reading of your main bus current and voltage, please?

00 19 24 23 P Roger. Main bus current is 16.8 and the main bus voltage is 26.2.

00 19 24 37 CC Roger. Understand 16.8 for the current, 26.2 for the voltage, and how much of the PLA's have you copies?

00 19 24 45 P You gave me 17-1 RET 400K from there on.

00 19 24 52 CC Roger. Understand. 08 plus 37, 15 plus 04, roll left 51, roll right 69. You copy?

00 19 25 07 P Roger.

00 19 25 09 CC 18-1, 16:50:42, 08 plus 20, 15 plus 58, roll left 51, roll right 69. Copy?

00 19 25 55 P Affirmative.

00 19 25 56 CC Roger. I have a quick experiment update for you.

CONFIDENTIAL

CONFIDENTIAL

87

00 19 25 59 P Shoot.

00 19 26 01 CC D-4/D-7, time 1 day, 11 hours, 32 minutes, 04 seconds, Sequence No. 412 and Sequence No. 411. Copy?

00 19 26 23 P Roger.

00 19 26 25 CC Roger. Elliot wants to talk over the Fuel Cell with you. Here he is.

00 19 26 30 CC I see you are real busy right now, Pete. Have you got a minute?

00 19 26 35 P Gordo's taking a picture here on the Apollo Landmark.

00 19 26 41 CC Are you free to talk to me?

00 19 26 43 P Go ahead and talk.

00 19 26 45 CC Okay. Electrical system, it looks like the pressure is holding. We are trying to give you back the most usable functions as quickly as we can. We are trying to approach a normal status operationally. We want you to keep monitoring the pressure. I am 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 an visual contact with it at all? We believe it is about 75 miles ahead of you.

00 19 27 27 P We haven't seen it. Both our FDI Switches are OFF.

00 19 27 32 CC Okay. We are not going to purge the oxygen at this time. We are going to look at the voltage some more on that. We're planning ahead for a ... 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?

CONFIDENTIAL

CONFIDENTIAL

00 19 28 02 P My only one was when we were going to get the other fuel cell back?

00 19 28 07 CC I'm working on it.

00 19 28 09 P Thank you, buddy.

00 19 28 11 CC See you.

00 19 28 14 P All right, good show.

00 19 28 59 P Okay, the time is ... 01 days, 09 hours, 29 minutes.

00 19 29 07 CC How about getting some sleep there, Pete?

00 19 29 09 P Apollo Landmark was covered over by clouds.

00 19 29 14 C Say again.

00 19 29 25 CC Gemini-5, Houston CAP COM, do you still read us?

00 19 29 30 P Roger, we still read you.

00 19 29 33 CC How about getting a little sleep up there?

00 19 29 38 P We've been getting some.

00 19 29 41 CC Okay.

CARNARVON

00 19 59 18 C This is Gemini-5, Carnarvon CAP COM. Bring up your UHF transmitter.

00 19 59 32 CC We would like to get a readout from you of your open circuit voltage on Stacks 2A, 2B, and 2C.

00 20 00 06 C Hello, Carnarvon, Gemini-5 here. The open circuit voltage is just off the top of my scale. It's above 33 volts.

00 20 00 15 CC Roger. Off-scale high. Be advised that they're going to command the C-band beacon on over Grand Turk for tracking and I have a Flight Plan update when you're prepared to copy.

00 20 00 35 CC Also like to verify that the MSC-1 experiment is on at this time.

CONFIDENTIAL

CONFIDENTIAL

89

00 20 00 41 C Roger. It's on.

00 20 00 43 CC Roger.

00 20 00 46 C Go ahead; ready to copy on it.

00 20 00 48 CC Roger. The D-6 time 01 day, 17 hours, 07 minutes, 04 seconds. Sequence No. 134, Load No. 09, pitch down 30 degrees, yaw right 3 degrees, speed 125. Okay, next is S-8/D-13, time 01 at 1 day, 20 hours, 34 minutes, 57 seconds, Sequence No. 03, pitch down 43 degrees, yaw right 90. Next is D-6, time 01 days, 13 plus, 58 plus 44, Sequence No. 053, Load No. 19, pitch down 30 degrees, yaw right 2 degrees. Speed is 1000 at F/4. On that previous S-8/D-13 update at 18:34:57 that time is time of closest approach. Do you copy?

00 20 02 46 C Affirmative.

00 20 02 48 CC Roger. Next is D-4/D-7. At 14 hours, 14 minutes, 00 seconds, Sequence No. 420. Next, D-4/D-7 at 14 hours, 42 minutes, 00 seconds, Sequence No. 410A. Next D-4/D-7, 14 hours, 53 minutes, 10 seconds, Sequence No. 405. Next is D-6, Delta-six, 15 hours, 33 minutes, 00 seconds, Sequence No. 053, Load No. 09, pitch down 30 degrees, yaw left 10 degrees. Speed is 125. Next is Delta-1, D-1 at 16:23:00, Sequence No. 01. Next D-4/D-7, 16 hours, 23 minutes, 00 seconds, Sequence No. 422. The last one is D-6, 16 hours, 56 minutes, 24 seconds, Sequence No. 005, Load No. 09, pitch down 30, yaw left 20, speed is 60. Do you copy?

00 20 05 10 C Roger. Give me the next to last one again, that D-4.

00 20 05 14 CC Okay. D-4/D-7. The time is 16 hours, 23 minutes, 00 seconds; Sequence No. is 442. Do you copy?

00 20 05 26 C Roger. 422.

00 20 05 28 CC Roger. Stand by for Surgeon.

00 20 05 32 CC Gemini-5, 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.

CONFIDENTIAL

CONFIDENTIAL

00 20 05 45 C Roger. We've just been catnapping about 40 minutes on and 40 minutes off and 40 minutes on and 40 minutes off.

00 20 05 54 CC Roger. You have a busy Flight Plan ahead. We recommend you try to sleep during your program sleep period if you can so as not to get behind on the fatigue curve. Carnarvon Surgeon out.

00 20 06 06 P We tried to but you guys keep giving us something to do.

00 20 06 09 CC This is Carnarvon CAP COM. We're standing by. Everything looks good on the ground.

00 20 06 16 C Okay. Check this one D-6 at 01, 13:58:44. That's mode No. 19 or 09?

00 20 06 25 CC Mode No. 19, nineteen.

00 20 06 28 C Okay. Nineteen.

00 20 49 49 CC Gemini-5, Gemini-5, Houston CAP COM. Would you go to Calibrate No. 1 for about 10 seconds? No need to acknowledge.

00 20 50 19 CC Gemini-5, Gemini-5, this is Houston CAP COM. Go to Calibrate No. 1 for 10 seconds. No need to acknowledge.

00 20 50 29 P Roger, this is Gemini-5. We're ready for our UHF Test No. 3. Over.

00 20 50 35 CC Roger. Fine. We'll pick you up over Bermuda.

00 20 50 46 CC Gemini-5, Gemini-5, Houston CAP COM. How do you read? Over.

00 20 51 42 CC Gemini-5, Gemini-5. Could you give us 10 seconds on a Calibration No. 1, please?

00 20 51 57 CC Gemini-5, Gemini-5, Houston CAP COM. Could you calibrate on No. 1 for 10 seconds, please.

00 20 52 02 P 461-912 but no audio.

00 20 52 08 P This is Gemini-5 on our UHF ground number ...

CONFIDENTIAL

CONFIDENTIAL

91

00 20 52 13 CC Roger. Understand. Would you go Calibrate No. 1 for 10 seconds, please?

00 20 52 16 P Roger. On Calibrate No. 1.

00 20 52 24 CC We got it. Thank you.

00 20 52 32 P Calibrate No. 1 off.

00 20 52 34 CC Roger. We got it. Fine. Thank you.

00 20 52 36 P Roger. This is Gemini No. 5. UHF Test No. 3.

00 20 52 47 CC Roger. Understand. UHF No. 3.

00 20 53 17 P Gemini-5 ... 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Over.

00 20 53 23 CC Roger, Gemini. Houston here. We're reading you five by.

00 20 53 29 P Roger.

00 20 53 43 P Gemini-5 ... 1, 2, 3, 4, 5, 5, 4, 3, 2, 1.

GRAND CANARY ISLANDS

00 20 58 43 CC Gemini-5, this is Canary CAP COM. You need not acknowledge. I have nothing for you this pass. We are standing by. Everything looks good from the ground.

CARNARVON

00 21 32 27 CC Gemini-5, Carnarvon CAP COM. Would you bring up your UHF transmitter.

00 21 32 38 P ---Carnarvon, Gemini-5 transmitter's up one.

00 21 32 41 CC Roger. Okay, while I talk to you a minute about an O₂ purge we want to try this pass. This applies to Section No. 1 only. We want to have the cross-over valve on and we want to proceed with the O₂ purge for 120 seconds or 2 minutes and monitor closely the following: Monitor the fuel cell O₂ pressure and the Delta P lights. If you get an indication of a decrease in O₂ pressure or light, stop the purge immediately and the ground will be monitoring the same; and if we get indications here on the ground that Delta P or a decrease

CONFIDENTIAL

CONFIDENTIAL

in the pressure, we will advise to stop the purge.

00 21 33 31 C Roger. I understand you want to do this O₂ purge as good as a D-4/D-7 experiment. Is that affirm?

00 21 35 47 C So far, everything okay. No decrease in our Fuel Cell O₂ or no Delta pressure light yet.

00 21 35 55 CC Roger, Gemini-5. We confirm on the ground with you.

00 21 36 10 C Stand by, MARK ... purged.

00 21 36 16 CC Roger. We got it.

00 21 36 18 C ... We can go back and pick up the D-4/7 if you want.

00 21 36 23 CC Roger. Go ahead, and crossover valve off.

00 21 36 30 C Roger, crossover valve's off.

00 21 38 32 P Carnarvon, Gemini-5. How much time do we have over you?

00 21 38 36 CC We've got about three minutes to go.

00 21 38 40 P Are we supposed to be passing to the north of you now?

00 21 38 45 CC Stand by one.

00 21 38 50 CC That's affirmative, Gemini-5.

00 21 38 53 P Are you guys clear down there?

00 21 39 00 CC Roger. We've got clear skies and I don't think there's hardly any spacecraft.

00 21 39 08 P Okay. We see you.

00 21 39 11 CC Very good.

00 21 39 21 P We see you and we see Perth, but I don't see Looks like it's under the clouds.

00 21 39 28 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

93

00 21 40 04 P Be advised that we're doing the D-4 Sequence 410 now.

00 21 40 11 CC Roger.

00 21 41 23 P Carnarvon, Gemini-5. Could you tell if that O₂ purge brought that voltage back up any?

00 21 41 29 CC We're looking at it now, Gemini. We had computer problem here; we're going back to look at it. We'll advise you later.

00 21 41 34 P Okay.

HOUSTON, TEXAS

00 22 14 03 CC Gemini-5, Houston CAP COM. Over.

00 22 14 16 CC Gemini-5, Houston CAP COM. Over.

00 22 14 33 CC Gemini-5, Gemini-5, Houston CAP COM. If you read this, place your Adapter C-band to CONTINUOUS and be advised you have a medical data pass on the Pilot at Canary Islands. Acquisition 01, 12:32:47.

00 22 16 15 CC Gemini-5, Houston CAP COM. Over.

00 22 16 36 CC Gemini-5, Gemini-5, Houston CAP COM. If you read, place your Adapter C-band to CONTINUOUS.

00 22 16 47 C Roger, reading you loud and clear. Over.

00 22 16 50 CC Roger. Reading you five square. Did you copy on the C-band?

00 22 16 54 C Roger. C-band the Adapter to CONTINUOUS.

00 22 16 58 CC Roger. Understand. Thank you. And be advised that the Pilot has a medical data pass over the Canaries. That your acquisition time is 12:32:47.

00 22 17 12 C Roger. 12:32:47.

00 22 17 15 CC Roger, That's today.

00 22 17 28 CC Good morning, Gordo.

CONFIDENTIAL

CONFIDENTIAL

00 22 17 29 C Good morning.

00 22 17 31 CC How're you feeling?

00 22 17 33 C Fine.

00 22 17 37 CC Talk to you about what we're going to do here with the computers and the Fuel Cell.

00 22 17 44 C Okay ...

00 22 17 47 CC Gemini-5, Houston here. Would you put your Fuel Cell O₂ Quantity on please?

00 22 17 52 C Roger. Will do.

00 22 17 58 CC 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 that the last time we had a poor telemetry readout of the numbers.

00 22 18 20 C Okay.

00 22 18 22 CC Then after we've done that and we're satisfied that-- what we'll do before we bring this 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 sights you pass over, we'll have you turn off the computer after your contacts here; and then we'll bring that second section back on the line and see how that works.

00 22 18 48 C Okay.

00 22 18 52 CC We're also trying to figure out some kind of REP exercise. We've finally gotten a vector on where the REP is and we'd like to use some of that Delta V and see if we can't let you play some games with the REP.

00 22 19 08 C We're, are you all reading some fluctuations on the common control bus down there?

CONFIDENTIAL

CONFIDENTIAL

95

00 22 19 18 CC Stand by.

00 22 19 20 C If the monitor shows any thruster firing--We haven't been firing any thrusters and about every 7 to 10 seconds it'll give quite a little jump.

00 22 19 32 CC Yes, we're reading the same thing.

00 22 19 35 C Okay.

00 22 20 12 CC Gemini-5, Houston here. We're not concerned about the voltage. It looks okay here on the ground.

00 22 20 17 C Okay, fine.

00 22 20 29 CC Hey, Gordo. This is Houston Flight.

00 22 20 36 CC Gemini-5, this is Houston Flight.

00 22 20 39 C Houston Flight, Gemini-5.

00 22 20 42 CC That O₂ purge went very well. It built the thing right up to prelaunch standards.

00 22 20 48 C Oh, very good.

CANARY ISLANDS

00 22 33 24 CC Gemini-5, this is Canary CAP COM. We're standing by for blood pressure on the Pilot.

00 22 34 10 CC Gemini-5, Canary surgeons. Your cuff is full-scale.

00 22 34 28 P Roger. We have solid C-band track.

00 22 34 31 CC Roger. Solid C-band track.

00 22 34 36 CC Gemini-5, we have a good blood pressure. Give me a mark when you begin exercise.

00 22 35 07 P Stand by; MARK.

00 22 35 41 C You got the thing on there?

00 22 35 47 CC ... blood pressure.

00 22 35 49 P Okay, ready for the blood pressure.

CONFIDENTIAL

CONFIDENTIAL

00 22 35 51 C Roger, the ... looks pretty good, it's been quite clearly.

00 22 35 54 P RCS Ring B source pressure, PCM count 150. We're still counting 19 on Fuel Cell O₂.

00 22 36 13 C Either one of the two ... here, are quite good.

00 22 36 14 CC Gemini-5, we have a good blood pressure. Standing by for your water and sleep report.

00 22 36 24 P Roger. This is Gemini-5 Pilot. Water is up around 5-1/2 pounds now total and got an hour--an hour and a half worth of sleep. I had a little catnap just a little while ago.

00 22 36 49 CC Roger, Gemini-5. Everything is looking good here on the ground. We have about two more minutes of pass so we're standing by.

00 22 36 49 C I don't know if it was that one or the other one.

00 22 36 61 C Well, they just want one picture, don't they? ...

00 22 38 56 P All right, the river just to the ...

CARNARVON

00 23 07 05 CC Gemini-5, Carnarvon CAP COM. Bring up your UHF transmitter.

00 23 07 15 P Go ahead, Carnarvon. Gemini-5 here.

00 23 07 18 CC Roger. Gemini-5. I have a briefing for you for your stateside pass this orbit.

00 23 07 26 P Okay. Is it experiments or just briefing?

00 23 07 29 CC It's a briefing on a power down and power up and loading your computer. I'll give it to you now. Starting at Guaymas with an AOS time of about 13 hours, 46 minutes, they want you to assume an attitude of 000 or 180, whichever you prefer. Turn off the OAMS line heaters, ACME and the Horizon Scanners and the C-band adapter beacon. Okay, next power up the IGS power supply and the computer in Prelaunch Mode. At Texas acquisition, which is

CONFIDENTIAL

about two minutes after Guaymas contact, they'll update you an 18-1 computer load. The ground wants to take a look at the loads on T/M, and check it, and then they'll have you power down the IGS and the computer on a ground cue. After the IGS and 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. Okay, after Section 2 is on the line, power up the ACME and Horizon Scanners. They want to complete this before Bermuda IOS to have a look at that Section 2.

00 23 09 11 P Okay. Let me see if I got all this. At Guaymas AOS, 13:46 approximately, assume a 000 or 180 attitude, turn the OAMS heater off, 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 No. 2 Fuel Cell, bring the ACME back on the line and the Horizon Scanners.

00 23 09 42 CC Okay. On that power down at Guaymas, also place the C-band adapter to COMMAND in addition to heaters, ACME and Horizon Scanners.

00 23 09 54 P Got it.

00 23 09 56 CC Okay. And on the IGS and the computer power down, wait for a ground cue.

00 23 10 02 P Okay. Now ...

00 23 10 10 CC Go ahead.

00 23 10 13 P I was just looking at the Flight Plan here. We'll have to cancel that D-6.

00 23 10 18 CC That's affirmative.

00 23 10 22 P We'll have to cancel both D-6's; no, the D-6 and the D-4. No, we might get the D-4 and D-7 at 14:16 or so, whenever that is, or 14:13.

00 23 10 32 CC Right. Your flight advised to scrub the D-6 Experiment at 13 hours, 58 minutes.

00 23 10 40 P Okay.

CONFIDENTIAL

00 23 10 41 CC Okay. We're scheduled also for an H₂ purge over this here station at this time. Would you give me a mark when you start your purge.

00 23 10 50 P Okay. Stand by.

00 23 11 02 P Stand by, purging No. 1. MARK.

00 23 11 06 P Just a second, I didn't get it.

00 23 11 09 P Stand by. MARK.

00 23 11 23 P No. 1 Section ready to purge. Complete. Stand by. MARK. No. 2 start.

00 23 11 30 CC Roger.

00 23 11 37 C No. 2 complete but ...

00 23 11 43 CC Roger.

00 23 12 00 CC Okay. Are saying looks good on the ground, Gemini.

00 23 12 03 C GO up here.

00 23 12 20 CC Gemini, Carnarvon. Do you have any comments on the procedure for the stateside pass on this power up and power down?

00 23 12 30 P That's negative. Looks pretty straight-forward.

00 23 12 33 CC Roger.

00 23 14 18 CC Gemini, this is Carnarvon standing by.

00 23 14 44 P Carnarvon ... transmit at this time. Thank you.

00 23 14 49 CC Roger, Gemini-5.

00 23 14 36 P Carnarvon ... UHF transmitter at this time. Thank you.

00 23 14 41 CC Roger, Gemini-5.

00 23 15 26 P Carnarvon, Gemini-5.

00 23 15 28 CC Go ahead.

CONFIDENTIAL

CONFIDENTIAL

99

00 23 15 33 P Be advised that we just had the Ring A RCS Heater light come on and I put the Ring A RCS heater on.

00 23 15 41 CC Roger.

GUAYMAS

00 23 46 25 CC Gemini-5, Guaymas CAP COM. Turn your T/M Control Switch to REAL TIME and ACQ-AID. Bring up your UHF transmitter.

00 23 46 35 CC T/M solid at Guaymas.

00 23 46 37 P Good morning, Guaymas, Gemini-5 here.

00 23 46 39 CC Good morning. How are you doing?

00 23 46 40 P We're GO up here. Be advised that we're in a 000-degree attitude, with the OAMS heater off, the ACME off, the C-adapters in COMMAND, scanners off, the IGS is on, and the Computer is on.

00 23 46 53 CC Okay, I'm showing you in Prelaunch Mode, showing your attitude to be 000.

00 23 46 59 P Roger.

00 23 47 07 CC And ... people say you're GO down there.

00 23 47 11 P GO up here.

HOUSTON, TEXAS

00 23 48 58 CC Gemini-5, this is Houston. Good morning.

00 23 49 03 C Good morning, Houston. Gemini-5 here.

00 23 49 06 CC How are you doing?

00 23 49 08 C Swell.

00 23 49 10 CC Good boy. We're going to be sending a computer update here as soon as we have real good solid T/M.

00 23 49 18 C Okay, we're standing by.

00 23 49 20 CC Okay.

CONFIDENTIAL

CONFIDENTIAL

00 23 49 27 P Now while we're waiting, the only thing that we've noticed, we've had the RCS radiator heater light come on twice and I've put the heater on for 3 to 4 minutes, and it's put it out.

00 23 49 37 CC Okay, have you been putting both heaters on when it comes on?

00 23 49 40 P Yes.

00 23 49 42 CC Okay.

00 23 50 04 CC Gemini-5, you can put your T/M switch to COMMAND.

00 23 50 09 C Roger, T/M to COMMAND.

00 23 51 17 CC Gemini-5, Houston here. While we're waiting to get the computer updated, GPO would like to have you record this squelch setting on your UHF and HF, and record the times that you change the squelch settings, if you change them.

00 23 51 34 P We haven't changed anything since lift-off on squelch. I just had the DCS light and pushed it down.

00 23 51 42 CC Okay. That was just a Tx we sent up. We're trying to get a readout on the load in the computer now, and then we're going to send up another one and read it out.

00 23 51 50 C Okay.

00 23 51 53 CC What are your squelch settings, Pete?

00 23 51 58 P UHF squelch setting is just a little bit between OFF and 1. Why, are we good or bad?

00 23 52 13 CC You're okay.

00 23 52 15 P Okay. Got the DCS light again.

00 23 52 19 CC Okay. That was the load coming up.

00 23 52 23 P Roger.

00 23 52 24 CC Now I want to read it out again, and then we'll

CONFIDENTIAL

CONFIDENTIAL

101

have you powered down in just a second.

00 23 52 27 P Okay.

00 23 53 34 CC Gemini-5, Houston here. You can turn your computer power off, and then turn your IGS Power off. And when you get that done, you can turn the Secondary Coolant Loop on and come on with the Section 2 Fuel Cell power. Your load was a good load there, Gemini-5.

00 23 54 00 P Roger, Houston, stand by for bring in Section 2 Power on. We've got the IGS shut off, we're over in ACME, the computer is powered down, and we're bringing the No. 2 Fuel Cell on the line.

00 23 54 14 CC All right.

00 23 54 22 P And it came on just fine.

00 23 54 24 CC Very good.

00 23 54 26 P It's reading a little low, but I think it will probably take a while.

00 23 54 30 CC All right. We want to look at it now as you go on over Bermuda, and we'll let you know how it's making out.

00 23 54 38 P Okay. Secondary A Coolant Pump is on.

00 23 54 42 CC Okay, very good. What are your readings onboard, Pete?

00 23 54 51 P Okay, I'll give you a full status here. The--oops, I got another DCS light--the reading is: 1A amps are 5, 1B is about 4.6, 1C is about 5.5, and second cell is down a little bit; it's reading 3.0, 3.0, 3.5.

00 23 55 18 CC Okay, very good.

00 23 55 20 P The main bus looks like about 11-1/2 on No. 1 and about 7.9 on No. 2.

00 23 55 29 CC Okay. Could you give us your main bus voltage also, please?

CONFIDENTIAL

CONFIDENTIAL

00 23 55 48 P Roger. Main bus voltage is 27-1/2, Squib 1 and Squib 2 are about 26, controls about 25.8.

00 23 56 06 CC All right. Have you turned your ACME and Horizon Scan back on, Gemini-5?

00 23 56 21 P No, we just brought the scanner back on and we have the ACME converter on, ACME bias power primary and we're in the Pulse Mode.

00 23 56 58 CC Okay, very good.

00 23 56 58 CC Gemini-5, the Fuel Cell 2 is just a little bit cold, and we expect that as soon as it warms up that it should come up and start taking its share of the load.

00 23 57 07 P That's what I figure. Yes, it looks good; stack voltages are higher, stack voltages are the same as No. 1 and it's beginning to pick it up; now it's up to 8.0.

00 23 57 19 CC Okay, very good.

00 23 57 37 P Probably means they can save some weight and remove the heaters.

00 23 57 40 CC Yes, looks that way, doesn't it? I didn't realize that you were a heater test pilot.

00 23 57 47 P I didn't either yesterday.

00 23 57 54 CC We sure got lot of fuel cell experts on the ground here this morning, Pete.

00 23 57 59 P I'll bet you do!

00 23 58 04 CC They had to put bars on the windows to keep them out.

00 23 58 13 CC Gemini-5, Houston Flight.

00 23 58 15 P Good morning.

00 23 58 17 CC Good morning. The morning headlines say your flight may splash down in the Pacific on the sixth orbit.

CONFIDENTIAL

CONFIDENTIAL

103

00 23 58 25 P Sorry to disappoint them. I just told Gordo a few minutes ago we'd just passed a milestone; we only had 7 more days to go.

00 23 58 37 CC Roger.

00 23 58 40 CC Pete, they've got a clock down here that gives you the time to end the mission and it's not running right now, but yesterday it said 198 hours.

00 23 58 55 CC Your wives also made the front page this morning. Very good pictures, and they look very pretty.

00 23 59 07 P Roger. Did you tell them we're doing fine and tell the doctors we're drinking lots of water? But neither one of us has been too hungry. We have had two meals, but we haven't eaten all of them.

00 23 59 27 CC How much water have you drunk, Pete? I've got notes here from Neal, that's Elliot, that says your last drink was at 01:05, 01:04.

00 23 59 40 P I've almost had 6 pounds, and Gordo has had about 6-1/2 pounds; and we're being pretty generous with the gulps.

00 23 59 50 CC Okay, you've had 6 and Gordo's had 6-1/2.

00 23 59 54 P That's good numbers.

01 00 00 02 CC Pete, Gemini-5, this is the Surgeon.

01 00 00 07 P Go ahead.

01 00 00 09 CC Pete, this is Jack. This 6 pounds and 6-1/2 - are you doing this all with gulps or do you use the water bag at all?

01 00 00 21 P Except what we put in the food.

01 00 00 24 CC Gemini-5, go to Fuel Cell H₂ Quantity Read for a minute.

01 00 00 41 CC ECS O₂ now for a minute.

01 00 00 57 CC Okay, you can put it back off.

01 00 01 37 CC Gemini-5, your fuel cells look very, very good here on the ground. We're happy with them.

01 00 01 46 P Roger.

CONFIDENTIAL

CONFIDENTIAL

CANARY ISLANDS

01 00 10 08 CC Gemini-5, this is Canary CAP COM. We have nothing for you on this pass; we are standing by.

01 00 10 17 C Roger, Canary. Gemini-5. We have something for you. At 14 we're supposed to make a D-4/420 measurement, and there's nothing around to make it on.

01 00 10 30 CC Roger, what do you want the next flight?

01 00 10 35 P I don't have any recommendations.

01 00 10 43 CC We have no recommendations for you on that.

01 00 10 49 P Keep trying.

01 00 10 59 CC What do you read on main bus and main amps?

01 00 11 04 C Okay. Main bus is reading 10.5 and main bus current is--oops, let me check it.

01 00 11 15 P Main Bus Voltage No. 1 is 27.3. Main Bus Current No. 1 is 10.5. Main Bus Current 2 is 8.

01 00 11 28 CC Roger.

01 00 11 33 P The count on the Fuel Cell O₂ is still 19.

01 00 11 39 CC Roger.

01 00 12 50 CC Gemini-5, Flight advises if you cannot do 420, you should do Sequence No. 4015.

01 00 12 59 P Roger.

01 00 13 25 P Canary, Gemini-5. Be advised that the ... will try a 4014.

01 00 13 32 CC Roger, copy 4014.

CARNARVON

01 00 42 33 C Hello, Carnarvon. Gemini-5 here.

01 00 42 35 CC Gemini-5, Carnarvon. Roger, go ahead.

CONFIDENTIAL

CONFIDENTIAL

105

01 00 42 37 C Would you take our D-4 data at this time; we are doing 410 Alpha.

01 00 42 45 CC Roger.

01 00 42 47 C Our status is GO.

01 00 42 52 CC Roger, you are GO on the ground.

01 00 43 57 C Carnarvon, Gemini-5. You getting anything on the D-4 on the ground? I don't see anything on the gage up here.

01 00 44 03 CC Say again about gage read.

01 00 44 06 C Roger. I say, are you getting any of our D-4 on the ground? I don't show any readings up here on the gage.

01 00 44 10 CC We see telemetry but we haven't been able to lock on as yet; it's very noisy.

01 00 44 19 C Okay.

CARNARVON

01 00 49 53 CC Gemini, Carnarvon. We've got about a minute to LOS. Standing by.

01 00 50 00 P Gemini-5, Roger.

01 00 50 02 CC We can't help you on that experiment data. We're recording the FM-FM telemetry but we're not reading out all the data.

01 00 50 11 P Roger.

01 00 50 14 CC Have you had any luck with the gage reading?

01 00 50 16 P Oh, maybe a little.

GUAYMAS

01 01 20 14 CC Gemini-5, Guaymas CAP COM standing by.

01 01 20 36 C Roger, Guaymas, Gemini-5. Go ahead.

CONFIDENTIAL

CONFIDENTIAL

01 01 20 40 CC Roger, we'll stand by if you need anything.

01 01 20 43 C Okay, very fine.

01 01 23 32 CC Gemini-5, Gemini-5, this is Houston here.

01 01 23 44 C You're looking mighty pretty down there, Guaymas.

01 01 23 50 CC Say again.

01 01 23 51 C You're looking mighty pretty down there. We're directly overhead.

01 01 23 54 CC Oh, it sounds like you woke up.

01 01 23 57 C We've been awake quite awhile.

01 01 24 00 CC Did you hear us when we called Pete on that position?

01 01 24 07 C I don't know whether I did or not.

01 01 24 09 CC Okay, we just wondered whether you stirred, whether or not we woke you up.

01 01 24 12 C No, that's right; we were powering up then for a prime plot ... on everything.

01 01 24 18 CC All right.

01 01 24 21 CC Gemini-5, Gemini-5, this is Houston here. How do you read?

01 01 24 30 CC Gemini-5, Gemini-5, this is Houston here. How do you read?

01 01 24 47 P Here, talk into the recorder.

01 01 24 50 P At 15:25 I'm starting a little series of pictures, going right down across Mexico.

TEXAS

01 01 24 59 CC Gemini-5, Gemini-5, Houston here. How do you read?

01 01 25 03 P Roger, Houston. Gemini-5, reading you loud and clear.

CONFIDENTIAL

CONFIDENTIAL

107

01 01 25 05 CC Roger. We're having a little trouble picking up your D-4/D-7 signals on the ground, and we'd like to check out the D-4/D-7 transmitter on the path across the States here. So we'd like to have you put the power switch ON, the IR switch ON, and the transmitter switch ON.

01 01 25 30 P Okay.

01 01 25 33 CC We would like to have you just leave them on until after you completed the D-6 over Bermuda and then turn them off when you complete the D-6.

01 01 25 42 P Okay.

01 01 25 44 CC Okay, very good. Have you had to break any of those little blue bags yet?

01 01 25 50 P That's negative.

01 01 25 53 CC Okay. How about Gordo?

01 01 25 55 P That's negative.

01 01 25 56 CC Okay, how about LIOH? Have you had any on your tie-down?

01 01 26 01 P No, no, not that we could detect.

01 01 26 04 CC Okay, very good. How's everything else going?

01 01 26 08 P Pretty good.

01 01 26 10 CC Very good.

01 01 26 11 P If we can boresite Kindley, I've got the big lens in here, and it's really fantastic.

01 01 26 16 CC What did you say, Pete?

01 01 26 18 P I said I've got the big lens in here, and I can see through it something fantastic. If I could just find the point with it.

01 01 26 28 CC How are you doing with the tracking on that? Is it pretty easy or pretty difficult?

01 01 26 33 P No, we just started. I just got it all put together.

CONFIDENTIAL

CONFIDENTIAL

01 01 26 37 CC Okay. We've got another person here who would like to talk to you for a couple of minutes.

01 01 26 44 CC 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 reports so far, it appears that you have had roughly 2 hours apiece. Is that affirm or have you had more than that?

01 01 27 09 C That's about right. Maybe a little bit of a catnap in addition to that.

01 01 27 15 CC Gordo, what seems to be bothering the sleep? Are you having trouble if the other guy is transmitting? Does this seem to be bothering the sleep?

01 01 27 23 C Flight plans haven't been arranged where one guy could sleep. It's been where both of us have been having to do some of these tasks.

01 01 27 33 CC Okay, then let's check the food parts, another area that we seem to have trouble getting straight records here. Pete said on the last pass that you have had at least parts of two meals, and I take it that's Meal A and Meal B from the first day. Now is that all you have eaten today?

01 01 27 59 C That's affirmative.

01 01 28 01 CC Okay, fine. One other question we ought to get some answers on. Are you using the exerciser for any other times than over the medical data passes? Are you using it just for general exercise?

01 01 28 16 C We didn't have time yet.

01 01 28 18 CC Okay.

01 01 28 21 CC Gee, I thought you were just loafing up there. All this comfort time to do nothing.

01 01 28 26 C Pete has to keep pumping the foot generator pretty hard.

01 01 28 32 CC We should have one aboard.

CONFIDENTIAL

CONFIDENTIAL

109

01 01 28 35 CC Gemini-5, this is Houston here.

01 01 28 39 C Go ahead.

01 01 28 40 CC Roger, you have a GO now for 33-1, and we put the 33-1 T_R time in your computer, so you're all set.

01 01 28 48 C Roger, thanks.

01 01 28 49 CC Okay, good luck on your D-6.

01 01 28 55 P Thank you.

01 01 28 59 CC Roger, and Gemini-5, we'll have a UHF-6 check now.

01 01 29 10 C Roger.

01 01 29 14 C What is it they just said?

01 01 29 16 P Live voice going out on the network.

01 01 29 17 CC How does the weather look over the States right now?

01 01 29 20 C Roger, pretty nice; the clouds are just faintly scattered.

01 01 29 26 CC Okay.

01 01 29 30 C It's pretty shiny.

01 01 29 32 CC Say again.

01 01 29 34 C It's very sunshiny.

01 01 29 36 CC Roger.

01 01 29 38 P I think we just passed Houston.

01 01 29 41 CC Where did you pass?

01 01 29 42 C Came right over Houston just momentarily ago.

01 01 29 44 CC Roger.

01 01 29 46 C I get it now.

01 01 29 47 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

01 01 29 47 C Look back at it now.

01 01 29 50 P Boy it's really clear down there! I can see all the towns and the highways and--

01 01 30 01 C Roger, we're coming in over the Cape now. We can see the Cape very clearly.

01 01 30 06 CC Can you see the pads very easy?

01 01 30 08 C Roger, we can see the pads; you can see the causeways.

01 01 30 11 CC Roger, they really stand out with the contrast.

01 01 30 14 C They sure do.

01 01 30 17 CC Have you got the D-6 equipment all set up?

01 01 30 19 P We're ready to roll.

01 01 30 24 P Now get to 30-degree pitch down. What was the time on that thing?

01 01 30 31 C Shortly.

01 01 30 32 CC Okay. How's the weather out over the Atlantic?

01 01 30 33 P 58.

01 01 30 35 C Very nice. It's light scattered clouds, quite sunshiny.

01 01 30 37 CC Okay.

01 01 30 40 P Shiny.

01 01 30 48 C I'll tell you one thing we noticed, it looks like our oxygen pressure may have gone back up just a little.

01 01 30 54 CC Okay, we've had it holding for a long time. We've had a couple of extra PCM counts now, so we're all set.

01 01 31 21 P Okay, yaw right 2 degrees.

CONFIDENTIAL

CONFIDENTIAL

111

01 01 31 26 C Okay.

01 01 31 33 C Get it all down here.

01 01 31 35 P Oh, oh! Oh, oh!

01 01 31 40 C What's the matter?

01 01 31 41 P Got the wrong lens on here.

01 01 31 43 P It won't make any difference, though.

01 01 31 55 P Oh, darn! It's the 200mm.

01 01 31 59 P Okay, can you see Bermuda out there anywhere?

01 01 32 04 P Stick your gunsight right on.

01 01 32 35 C ... there's something going on out there.

01 01 32 45 P ...

01 01 32 55 C I don't know where it is; I've been there but--

01 01 32 59 P ... southern ... No, that's a naval station.

01 01 33 14 C I don't believe that's the main island anyway, is it?

01 01 33 16 P ...

01 01 33 23 P It's not till 58; that's not right.

01 01 33 26 C No.

01 01 33 28 P What the heck is wrong with my clocks?

01 01 33 35 P Oh, I got the wrong darn figure. Wait a minute. What the heck! I got a 15:33. We just must have passed it.

01 01 33 50 C I don't know where we would have passed it.

01 01 33 52 P Yes, it must have been under that cloud.

01 01 33 57 C There it is, there it is. Yes, it's off to the left.

01 01 34 02 P Yes, you're right on it.

CONFIDENTIAL

CONFIDENTIAL

01 01 34 04 C I wonder which island it is now, I've forgotten.

01 01 34 07 P There's only one island, isn't it? Bermuda is just one island. See if you can see an airfield.

01 01 34 14 C Oh, yes. I guess those are dark clouds there.

01 01 34 19 P I guess we passed it.

01 01 34 21 C I don't think so. No, right on time. We should be on it right now.

01 01 34 26 P Yes, it should be right under us.

01 01 34 33 C I can't see anything out your window ...

01 01 34 38 P ...

01 01 34 39 C ... right under us. ... right on it, right on our yaw track, there.

01 01 34 45 C Say, I believe it was under some of those clouds back there.

01 01 34 50 P I'll tell you what; when we hit the coast of Africa, I'll try and get a picture.

01 01 34 59 P Okay, no joy.

01 01 35 02 C Don't quit just yet. We might be--

01 01 35 07 P Yes, I know ...

01 01 35 28 C You still have that RCS heater on?

01 01 35 31 P Yes. ... stay on.

01 01 35 40 C Well, they're automatic, aren't they?

01 01 35 41 P No. Oh, yes.

01 01 35 47 C I have the safety cutoff on it ...

01 01 35 50 P Yes, well ...

01 01 35 57 C There's some pretty clouds.

CONFIDENTIAL

CONFIDENTIAL

113

01 01 36 04 C Say, I don't need anything with it. I got enough bugs I can hold onto for tracking.

01 01 36 47 C That bugger really gets hot!

BERMUDA

01 01 36 58 CC Gemini-5, Gemini-5, when you have completed your D-6 experiment, you can put your power switch to OFF, your IR switch to OFF and your transmitter to OFF on your D-4/D-7 experiment.

01 01 37 14 C Roger, read that.

01 01 37 16 CC Okay, good.

01 01 37 16 C Roger, understand.

01 01 37 17 C I don't think we ought to tell ...

01 01 37 19 P Yes, tell him we--

01 01 37 21 C Oh, this is all right ...

01 01 37 28 P You ought to tell them that--

01 01 37 28 P Be advised, Houston, that we're leaving our RCS heaters ON and they're fluctuating between A and B. They seem to require heaters all the time.

01 01 37 39 CC Houston, Roger.

01 01 38 50 C Houston was just out from under that deck of clouds ... Must have entered right about San Antonio.

01 01 38 55 P Yes.

01 01 38 56 C I didn't even see it and we just practically slid clear past it.

01 01 38 59 C I started hunting back up the coastline now.

01 01 39 04 C Gee, you can really see the causeway today real nice - the Cape - the pad.

01 01 39 21 P ... yes. You forgot to turn to RECORD.

CONFIDENTIAL

CONFIDENTIAL

CANARY

01 01 42 45 CC Gemini-5, this is Canary CAP COM. I have nothing for you at this time. We are standing by.

01 01 42 54 C Gemini-5, Roger.

01 01 43 57 CC Gemini-5, this is Canary CAP COM. You will have a medical data pass on the Pilot at Carnarvon this time. We would like to have you insert the temperature probe approximately 3 minutes before Carnarvon acquisition. Carnarvon will have acquisition at 14 hours 42 minutes.

01 01 44 19 P Which were hours?

01 01 44 26 P Canary, say again acquisition time 14 hours 42 minutes.

01 01 44 31 CC That's negative. Stand by.

01 01 45 05 CC Gemini-5, that time for Carnarvon acquisition should be approximately 16 hours 17 minutes.

01 01 45 17 C Roger, 16:17.

01 01 45 20 CC That's affirmative.

KANO

01 01 50 19 CC Gemini-5, Gemini-5, this is Houston.

01 01 50 37 CC Gemini-5, Gemini-5, this is Houston here. Over.

01 01 50 42 C Roger, this is Gemini-5.

01 01 50 45 CC Roger, I have a Flight Plan update for you. Are you ready to copy?

01 01 50 52 C Go ahead whenever you want.

01 01 50 55 CC Okay. We want you to add, I say add, a Radar Test, Radar Test. The time is 01:17:04:33. I say the time again, 01:17:04:33. Sequence No. is 08, Sequence is 08. Pitch 37 down, pitch 37 down, yaw 50 right, yaw 50 right, radar to STANDBY at 16:50:00, that's radar to STANDBY at 16:50:00. Radar to ON at

CONFIDENTIAL

CONFIDENTIAL

115

17:00:00. Over.

01 01 52 11 P Roger, we got that.

01 01 52 13 CC Okay, Gemini-5, this is Houston again. We would like to have you delete Experiment D-6 at 01:17:07:04, Sequence No. 134, Mode 09.

01 01 52 37 P Okay.

01 01 52 38 CC All right.

01 01 52 48 CC And Gemini-5, this is Houston again. Be advised that the pitch and yaw angles correspond to the 01:17:04:33 time.

01 01 53 04 P Okay.

CARNARVON

01 02 17 24 CC Roger. Standing by for your blood pressure, Gemini-5.

01 02 17 40 C Roger, full-scale.

01 02 17 44 CC Roger.

01 02 17 57 CC We have a good blood pressure. Standing by for your exercise on your mark.

01 02 18 02 P Roger, MARK.

01 02 18 50 CC Observe your blood pressure cuff coming up. I need a little more pressure on that.

01 02 19 15 CC Still didn't quite get full-scale, Gemini.

01 02 19 26 CC We'll let it go at that. Stand by for CAP COM.

01 02 19 36 CC Up to full-scale now.

01 02 19 40 CC Gemini-5, Carnarvon CAP COM. We want to make a O₂ purge and an H₂ purge during this station pass on Section 2. We will observe the same items again, this time as we did last on the O₂; that is, if we have a Delta P change decrease in Fuel Cell O₂ Pressure we'll stop the O₂ purge immediately. We'll stand by for your mark when you're ready to purge your O₂.

CONFIDENTIAL

CONFIDENTIAL

01 02 20 16 P Roger, you want to purge O₂ air lines and hydrogen both, don't you?

01 02 20 18 CC That's affirmative on Section 2.

01 02 20 23 P Okay.

01 02 20 27 P Roger, starting hydrogen purge on Section 2 now.

01 02 20 49 P Way down.

01 02 20 51 CC Roger.

01 02 20 53 P Commencing oxygen purge.

01 02 20 56 CC Roger.

01 02 21 12 CC Gemini-5, Carnarvon, what we're trying to do now is set up the regular purge cycle, 6 hours on each purge cycle, 6 hours on each section, but we're going to strike over Sections 1 and 2 at three-hour intervals.

01 02 21 31 P Roger.

01 02 22 53 P Hydrogen purge complete.

01 02 22 54 CC Roger.

01 02 23 00 CC Everything looks real good on the ground. I would like that onboard ... propellant readout.

01 02 23 08 P Do you want propellant quantity?

01 02 23 11 CC Roger.

01 02 23 12 P 74 percent.

01 02 23 15 CC And the pressure.

01 02 23 20 C Pressure is 250 ...

01 02 23 27 CC Say again, Gemini-5.

01 02 23 29 C ...

01 02 23 34 CC Roger, and the temperature.

01 02 23 36 P The gage is 2250.

CONFIDENTIAL

CONFIDENTIAL

117

01 02 23 40 C Okay, that's 2250 instead of 26.

01 02 23 44 CC Right. How about temperature.

01 02 23 46 P All right, temperature.

01 02 23 54 CC Say again temperature.

01 02 23 56 C Roger, 65 degrees F.

01 02 23 59 CC Roger, be advised that the Control Center has worked up a REP experiment, so we'll go on as we planned. They are planning the burn over the States this revolution to bring down the energy. This will be done based on the time and the local horizon for attitude and the Houston CAP COM will intercept the H₂ over Canton.

01 02 24 30 C Roger, understand.

01 02 24 52 CC All systems look good on the ground.

01 02 28 40 C You might as well put that ...

01 02 29 45 C ... now.

01 02 29 52 P Okay ...

01 02 30 01 P ... purging ...

01 02 30 13 P MARK.

01 02 30 16 P Oh, darn camera! What's the matter?

01 02 30 21 P Two.

01 02 30 28 P Three.

01 02 30 30 P Get back in there.

01 02 30 35 C Backed up.

01 02 30 36 P Yes.

01 02 30 37 P Four.

01 02 30 41 P ... about this camera. It wasn't quite right. I

CONFIDENTIAL

CONFIDENTIAL

don't know. ... ask for the adapter.

01 02 30 52 P All right now, hold it on you for 2 minutes.

01 02 30 54 C Okay.

01 02 30 55 P Mark the time, 2 minutes.

01 02 30 59 P It's 34:30.

01 02 31 11 C Okay ...

01 02 31 12 P ... boy, oh boy ... water, 400 ...

01 02 31 33 C Yes, I got it.

01 02 31 35 P ... drink of water ...

01 02 32 01 P Okay, I'm wondering if the data ...

01 02 32 04 P Four more photos.

01 02 32 09 P Okay, looking real, real good. Are you ready?

01 02 32 18 C Yes.

01 02 32 19 C 1, 2, 3, 4.

01 02 32 35 C The camera is not ...

01 02 32 42 P All right, I got the recorder off.

01 02 33 06 P ... recorder off.

01 02 33 13 P ...

01 02 33 18 C Apparently, it didn't transport the film ...

01 02 33 23 P ... is bigger than heck.

01 02 33 45 C ... full,

01 02 33 47 P Yes.

01 02 33 48 C Okay.

01 02 33 54 P ...

CONFIDENTIAL

CONFIDENTIAL

119

01 02 34 16 P ... 400, back, hold ... for a few minutes ...

01 02 34 31 P ...

01 02 34 37 P 404 ...

01 02 34 57 P ... ready, got it right on there.

01 02 35 06 C Yes.

01 02 35 33 C That it?

01 02 35 34 P Yes ... IR off ... off, ... off.

01 02 35 57 P ... it's plain enough ... log yet.

01 02 36 04 C ...

01 02 36 30 P Looks good, looks clear.

01 02 39 08 CC Gemini-5, Gemini-5, this is Houston here. Over.

01 02 39 32 CC Gemini-5, Gemini-5, this is Houston here. Over.

01 02 39 37 C Roger, Houston. Gemini-5.

01 02 39 40 CC Roger, Gemini-5, this is Houston here. Be advised there will be no OAMS burns over the States. We will not attempt to rendezvous with the REP.

01 02 39 57 C Roger, understand, no rendezvous, and there will be no burn.

01 02 40 02 CC That's affirmative. Later on in the mission we expect to do some burns; we can bring the platform up and we'll run through some exercises using the fuel for that.

01 02 40 15 C Okay.

01 02 40 29 CC Gemini-5, this is Houston.

01 02 40 33 C Go ahead, this is Gemini-5.

01 02 40 36 CC Roger. For your information the REP is about 375 miles out in front of you at the present time.

01 02 40 43 C Roger.

CONFIDENTIAL

CONFIDENTIAL

01 02 40 44 CC Roger, can you still see the light?

01 02 40 50 C Not lately.

01 02 40 52 CC Okay, better take your vision test again. Would you put your ECS O₂ Heater to AUTO, please.

01 02 41 07 C ... You're fading in on your last transmission.

01 02 41 11 CC Roger, I say again, would you put your ECS O₂ Heater to AUTO? Your ECS O₂ Heater to AUTO.

01 02 41 24 C Roger, turned on ...

01 02 41 32 CC Roger. Be advised that the Flight Plan updates that you had for your pass across the States will remain the same.

01 02 41 43 C Roger. Understand.

01 02 41 45 CC Okay. We've got another 2 minutes here; I'll just stand by.

HAWAII

01 02 43 50 CC Gemini-5, this is Hawaii.

01 02 43 55 C Go ahead, Hawaii, Gemini-5.

01 02 43 57 CC We transmitted a T_x to you, we have nothing for you - the Gemini-5 is standing by.

01 02 44 03 C Roger. Thank you very much.

01 02 44 06 CC Gemini-5, this is Hawaii. Correct that, we have an update for you. Ready to copy?

01 02 44 16 C Roger.

01 02 44 19 CC Say again.

01 02 44 21 C Gemini-5 is ready to copy.

01 02 44 22 CC Roger. This is S-6 ... 01 day 17:12:00, Sequence No. 08, large star. Do you copy?

01 02 44 45 C This is Gemini-5. Affirmative.

01 02 44 55 CC Did you copy that, Gemini-5?

CONFIDENTIAL

CONFIDENTIAL

121

01 02 44 58 C Gemini-5, affirmative.
01 02 45 01 CC Roger.
01 02 45 08 CC Gemini, what's your status?
01 02 45 11 C Gemini-5, our status is Green.
01 02 45 13 CC Roger.
01 02 49 49 C Same ... is on the radar as earlier. Both range and range rate bounced from stop to stop a couple of times and then settled down on zero.

GUAYMAS

01 02 55 17 CC Gemini-5, Guaymas CAP COM standing by.
01 02 55 21 P Hello, Guaymas. Gemini-5 here.
01 02 55 24 CC How you doing?
01 02 55 25 P We're ... status is Green, I think we got some good D-4 and D-1 on the moon this last pass. And we've been taking all the gear down now. We got four pictures of the moon with each magazine - 12 pictures.
01 02 55 42 CC You say you got four pictures of the moon and what else?
01 02 55 45 P We got four pictures of the moon with each magazine. 12 pictures total.
01 02 55 51 CC Okay, I got that.
01 02 55 55 P And we've continually had these RCS heater lights come on, so we've just turned RCS heaters on and left them on.
01 02 56 01 CC Roger.
01 02 56 27 CC Gemini-5, Gemini-5, this is Houston.
01 02 56 35 CC Gemini-5, Gemini-5, Houston.
01 02 56 53 CC Gemini-5, Gemini-5, Houston.
01 02 57 06 CC Gemini-5, Gemini-5, Houston.

CONFIDENTIAL

CONFIDENTIAL

01 02 58 30 CC Gemini-5, Houston here.

01 02 58 33 P Hello, Houston. Gemini-5 coming up on El Paso.

01 02 58 37 CC Roger. Say, when you make this pass across the Cape with that Radar Test, we'd like to have you power down your horizon scanners and bring your computer up in the Catch-Up Mode.

01 02 58 54 P Okay, Houston. Put your radar to ON and we'll bring the ... Turn the scanners off and we'll bring the computer up with the Catch-Up Mode.

01 02 59 02 CC Roger. And if you have any problem with Delta P lights, we want you to turn the computer back off again, of course.

01 02 59 08 P Roger. Computer is on - would like to bring the MDIU on.

01 02 59 14 CC Well, we're trying to keep the power down here, Pete, and the only reason we're bringing the computer up is we can't get the data out of the radar unless we got the computer up.

01 02 59 26 P Okay, we just passed El Paso International ...

01 02 59 29 CC Very good.

01 02 59 31 P Boy, it's a pretty day out there; you can really see well.

01 03 00 12 CC Gemini-5, this is Houston.

01 03 00 15 P Go ahead, Houston.

01 03 00 17 CC Why don't you go ahead and power up the MDIU then? It's only a quarter of an amp and maybe you read something out on the range and range rate.

01 03 00 26 P Roger, we got a computer light on going to the Catch-up Mode.

01 03 00 30 CC Okay.

01 03 01 26 P Well, we just passed Houston a couple of seconds ago.

01 03 01 30 CC Did you see me wave?

CONFIDENTIAL

CONFIDENTIAL

123

01 03 01 32 P ... that way.
01 03 01 35 CC Okay.
01 03 01 42 CC Gemini-5, did you see the Domed Stadium when you went over?
01 03 01 46 P You could just see Galveston Bay; there are some clouds in between us and we're north of you.
01 03 01 51 CC Okay.

TEXAS

01 03 04 07 P Radar lock-on.
01 03 04 11 CC Very good, very good.
01 03 04 15 P Boy, here you go, radar lock-on at 248.66 miles.
01 03 04 20 CC Very good.
01 03 04 27 P ... locking right down there at 222.48 as we go by the Cape.
01 03 04 33 CC Thank you.
01 03 04 41 CC Do you think you can make a letdown on that?
01 03 04 44 P You bet - not only that, but I wish we hadn't had the other problem, because I think we'd have caught the REP.
01 03 04 52 CC Yes.
01 03 04 56 P Yes, we just went by the Cape, 166.92.
01 03 04 59 CC Roger.
01 03 05 10 P Closest approach is 164 miles.
01 03 05 36 CC Gemini-5, 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.
01 03 05 48 P Roger.

CONFIDENTIAL

CONFIDENTIAL

01 03 05 55 P We're still getting readout - 248 miles.

01 03 05 58 CC Roger.

01 03 06 01 P Roger ... Yes, lost lock.

01 03 06 30 CC Gemini-5, Houston. Give us a call when you get powered back down again.

01 03 06 34 P Roger. This is Gemini-5. We're powered back now, Chip.

01 03 06 38 CC Okay. Fine. Listen, for your information, we'd like to have you complete that Laredo pass on the next pass and then it's time to get some sleep. Don't you think?

01 03 06 50 P We heartily concur.

01 03 06 55 CC Oh, yawn!

01 03 06 57 P I got pretty sleepy on the last night side.

01 03 07 00 CC Roger, and if you're getting sleepy, go ahead and catnap around there.

01 03 07 04 P Say again.

01 03 07 06 CC Don't forget the good old catnaps now when you're floating around.

01 03 07 10 P Oh, yes.

01 03 07 55 CC Gemini-5, Houston here. Have the thrusters been making enough noise to keep you awake?

01 03 08 02 P No, the thing that really makes the most noise, that I was wrong and Gordo was right, is the M-1 Experiment. It keeps clicking away merrily.

01 03 08 12 CC Oh, it makes a lot of noise, huh?

01 03 08 14 P Yes, every time it cycles, the valves really "kafunk".

01 03 08 49 CC Gemini-5, the Flight Directors suggest that if you start liking the M-1 maybe it will put you to sleep.

01 03 08 56 P I like it! I like it!

CONFIDENTIAL

CONFIDENTIAL

125

01 03 09 03 CC Not that much!

CARNARVON

01 03 51 50 CC Gemini-5, Carnarvon CAP COM.

01 03 52 11 CC Gemini-5, Carnarvon CAP COM.

01 03 52 17 P Carnarvon, Gemini-5.

01 03 52 19 CC Roger. I have some PLA and CIA updates when you're prepared to copy.

01 03 52 26 P We're ready.

01 03 52 37 CC Update only the PLA's.

01 03 52 40 P Ready to copy.

01 03 52 44 CC Area 20-4, 01 day 21 hours 14 minutes 40 seconds, 8 plus 38, 15 plus 09. Roll left 51. Roll right 69. The bank angles always are roll left 51, roll right 69. Area 21-4, 1 day, 22:48:28, 8 plus 19, 15 plus 39. Area 22-3, second day, 00 hours 09 minutes 13 seconds, 09 plus 29, 15 plus 28. Area 23-3, second day, 01 hours 43 minutes 32 seconds, 8 plus 33, 14 plus 58. Area 24-3, second day, 03 hours 17 minutes 20 seconds, 8 plus 17, 15 plus 41. Do you copy?

01 03 54 57 P You mentioned that last GMTTC was 02:03:17? 20 seconds?

01 03 55 02 CC That last one, Roger, was 03 hours 17 minutes 20 seconds.

01 03 55 09 P Roger. I copy. Over.

01 03 55 17 CC Understand as agreed?

01 03 55 19 CC Roger ... from the ground.

01 03 55 56 CC Gemini-5, Carnarvon. The Areas 22-3 have marginal weather conditions. All the others, weather conditions are good.

01 03 56 11 P Roger. Understand Area 22-3 and 23-3 have marginal weather.

01 03 56 17 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

01 03 57 07 CC Gemini-5, we have nothing else. Just standing by.

01 03 57 12 P Roger, Gemini-5 ...

01 03 57 46 CC Did you turn your ACME off?

01 03 57 51 P We have completely. We're just drifting.

01 03 57 55 CC Roger.

01 03 58 37 CC Gemini, Flight advises that they have no great concern over power at this point.

01 03 58 44 P Roger.

01 04 04 01 P Under control here.

01 04 04 05 CC We heard something about locking on with the radar over the Cape. Have any success with it?

01 04 04 10 P Yes sir; worked very well.

01 04 04 14 CC Man-oh-man.

01 04 04 23 P We're real happy with the fuel cells; we think that the situation is very stable. Coolant loops are working okay in both sections. Appear to be in very good shape.

01 04 04 34 CC Roger.

01 04 04 38 P To the point where we think we can do most anything we want to at this moment.

01 04 04 40 CC Sounds good.

HAWAII

01 04 18 59 CC Gemini-5, Hawaii CAP COM.

01 04 19 05 P Go ahead, Hawaii, Gemini-5.

01 04 19 07 CC Roger, I've got a Flight Plan update for you when you're ready to copy.

01 04 19 12 P Roger when you want.

01 04 19 18 P Roger, go ahead.

CONFIDENTIAL

CONFIDENTIAL

127

01 04 19 21 CC Roger, S-7 first day 20:04:43. Sequence 03, Command Pilot only, followed immediately with a 04. That's a Sequence 04.

01 04 19 49 P Roger, that's S-7, 01:20:04:43, Command Pilot only, Sequence 03, immediately followed by a 04.

01 04 20 01 CC Roger, also a S-8/D-13. First day 18:34:38, Sequence 03, pitch down 30 degrees, yaw right 37 degrees.

01 04 20 29 P Okay, 01:18:34:38, Sequence 03 for a S-8/D-13, pitch down 30, yaw right 37.

01 04 20 41 CC Roger, we have a map update on the first day at 19:36:48, under remarks it's 128.1 degrees East on Rev 19.

01 04 21 06 CC Roger, you start your chart at the same time. It's right ascension 2 hours plus 12 minutes.

01 04 21 18 P Roger, right ascension 2 hours plus 12 minutes.

01 04 21 21 CC Roger, be advised you have a UHF-6 over the States.

01 04 21 27 P Roger, UHF-6 over the States.

01 04 26 37 P Okay, the voice tape is on and the time is 18:26:40. The photometer is installed. Let's see, ... 26:40 on Day 1. Photometer is installed in the window and calibrate position, looking at the dark hole ... window calibration.

01 04 27 17 P Okay, now.

01 04 27 25 P I am removing the photometer from the window. Of course, I'll have the sun in proper location and mark the start.

01 04 27 49 C ...

01 04 27 51 P Huh.

01 04 28 05 P See that gage moving at all, Gordo?

01 04 28 06 C Yes. ... peg to peg.

01 04 28 20 P Now how about it?

CONFIDENTIAL

CONFIDENTIAL

01 04 28 22 C No, that didn't move.

01 04 28 29 P Hey, by golly, I'll do it one more time.

01 04 28 34 P And the time at the end of that one was 18:28:45.
I'm commencing another one at 18:29:00--

01 04 28 51 P MARK.

01 04 29 05 P Now how is it?

01 04 29 15 C All right, it's okay so far.

01 04 29 17 P Is it reading some number?

01 04 29 18 C Yes.

01 04 29 25 P ...

01 04 29 37 P Mark the end at 18:29:45.

GUAYMAS

01 04 29 49 CC Gemini-5, Guaymas CAP COM.

01 04 29 57 P Go ahead, Guaymas, Gemini-5.

01 04 30 01 CC How are you doing up there?

01 04 30 02 P Doing fine.

01 04 30 08 CC Okay, we're looking pretty good here. I'll be standing by for you.

01 04 30 11 P Okay, thank you.

01 04 30 13 C Okay, thank you.

01 04 30 17 C What do we have to do this Stateside pass, now?

01 04 30 27 P Okay, we have to do this Vision Test at 34 here. So get in position right now, because we aren't too far from it.

01 04 30 51 C Okay, I'm in Mode 1.

01 04 30 56 P 34:38, okay, pitch down 30, yaw right 34, yaw right 37.

CONFIDENTIAL

CONFIDENTIAL

129

01 04 31 05 C Okay.

01 04 31 14 P 1, 2, 3, 4.

01 04 31 22 P Man, I don't think we're ever going to see it. Look at the clouds.

01 04 31 25 C Yes.

01 04 31 27 C Well, let's see.

01 04 31 34 P Holler at 34:38.

01 04 31 37 C Okay, 32 now.

01 04 31 46 P Gordo, was that Houston? We sure should see it.

01 04 31 49 C Yes.

01 04 32 15 ...

01 04 32 25 P What time?

01 04 32 27 C 33 - almost.

01 04 32 37 C Going to yaw slightly right now.

01 04 32 53 P Holler at 34.

01 04 33 15 C 34 in 20 seconds.

01 04 33 17 P Yes, I ...

01 04 33 20 C Yes.

01 04 33 22 P It's going to ...

01 04 33 25 C Yes, I'm afraid it's going to be.

01 04 33 29 P Recorder's on, coming up on 34. And I don't believe we're going to see the site. Sure ...

01 04 34 01 C 34:20. Might be lucky.

01 04 34 29 C There's the light now right down there. There they are.

CONFIDENTIAL

CONFIDENTIAL

01 04 34 39 C Nope, those are clouds, by golly. There's the tip of the light down to lead in to it.

01 04 35 03 C I'm afraid they were right there under that light, because there's the town.

01 04 35 10 P ... pretty here ...

01 04 35 22 C See the airfield right there.

01 04 35 23 P Okay, okay, get the nose further. Now, you're rolling me out of the picture; I can't see it. Roll right.

01 04 35 37 P Get a little bum dope on steering. That's causing a twist again.

01 04 35 42 C Yes.

01 04 35 46 P ... have the airfield here.

01 04 35 49 C Now you're coming around to it.

01 04 35 51 P ...

01 04 35 53 C Yes, but I think it was back in there under the clouds ... the airfield. Wasn't it?

01 04 35 58 P Yes.

01 04 36 03 C Yes. See, it's back in under that silver cloud. There.

TEXAS

01 04 36 07 P Houston, Gemini-5.

01 04 36 10 CC Go ahead.

01 04 36 12 P Yes, we seemed to have missed it. We can see Corpus all right and our yaw angles weren't too good that you gave us so that the airfield there at Laredo passed under our nose, but we'd already got by them by the time we picked up the airfield.

01 04 36 28 CC Okay, you were supposed to be quite a ways north of the thing there, Pete, and it wasn't the best pass. It was the best pass we had today.

CONFIDENTIAL

CONFIDENTIAL

131

01 04 36 39 P Okay.

01 04 36 42 CC Say, I would like some information from your Vision Test. Can you tell me what your scores were? You know, the Inside-the-Spacecraft vision test.

01 04 36 52 P Oh, well, they're stored in the Vision Tester, we took them yesterday and I'd have to get them out for you. Want me to get them out?

01 04 37 00 CC Oh no, it's not necessary right now. I'll tell you what, from now on we'd like to get back on the sleep cycle that we've got in the Flight Plan and we really want you to get to sleep now.

01 04 37 17 C Yes, we both logged a little on the last night side.

01 04 37 22 CC Say again.

01 04 37 23 P We both got some on the last night side.

01 04 37 26 CC Okay, very good.

01 04 37 37 CC Let me ask you a question. Did you pick up any good acquisition aids for that Laredo thing?

01 04 37 45 P We have Houston in sight down there, clearly.

01 04 37 46 P Loud and clear.

01 04 37 49 CC Roger.

01 04 37 53 C See it right here.

01 04 37 58 C Morgan's Point, there, coming in down there.

01 04 38 03 P Yes.

01 04 38 32 CC Gemini-5, Houston here again. We'd like a summary of your experiments which 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.

01 04 38 46 P Here, I can give it to him right now.

01 04 38 49 P I can give it to you right now.

01 04 38 52 CC Okay, if you want to do that.

CONFIDENTIAL

CONFIDENTIAL

01 04 38 55 P I'll read them down in the order that you sent them up. On the first D-4's, we deleted, both that and Hawaii.

01 04 39 05 CC Just a second, say that again.

01 04 39 06 P Two S-6's at 01:07:48 and 01:09:22.

01 04 39 11 CC Pete, stand by. Let me get the thing we read up to you.

01 04 39 17 C Look at Florida there, would you!

01 04 39 20 P Yes.

04 04 39 20 CC Okay, go ahead now.

01 04 39 22 P And we missed the first Apollo Landmark, got the UHF Test, got the second Apollo Landmark. We missed the D-5 at 01:12:10.

01 04 39 33 CC Okay.

01 04 39 35 P We missed the D-4 at 01:12:10.

01 04 39 45 CC Okay, what was the time on it again?

01 04 39 46 C There's Miami.

01 04 39 49 P 01:12:10:00.

01 04 39 55 P And we got the D-4, Sequence 411 and 412. We deleted the D-4 at 01:12:10.

01 04 40 01 CC Okay.

01 04 40 03 P We deleted the D-6 Sequence 134.

01 04 40 06 CC Roger.

01 04 40 16 P We did not do the D-4/D-7, 420, but we did get the 410A and the 405. We got the D-1 Sequence 01 and the D-4 Sequence 422.

01 04 40 38 CC Okay.

01 04 40 43 P Got the radar Sequence 8.

CONFIDENTIAL

CONFIDENTIAL

133

01 04 40 46 P We got the S-6 Sequence 8; we're standing by for the S-7. Copy?

01 04 40 59 CC Roger, you got the S-6 Sequence 8. I missed the first.

01 04 41 04 P Yes, you gave us a large storm at 01:17:12:00 to photograph and we got it.

01 04 41 11 CC Okay, that was a S-7 there, right?

01 04 41 16 P I'm sorry. I guess I copied it wrong. S-7. No, S-6.

01 04 41 25 CC Another thing here, Gemini-5.

01 04 41 27 P No, that was a S-6 ... the S-7 is a cloud top; we haven't done those yet.

01 04 41 32 CC Yes, I mis-spoke myself. We have it listed here as a D-6, and I meant to say D-6. Can you go through the first part of your thing again, S-8?

01 04 41 41 P Yes, we deleted the first D-4/D-7 at Hawaii. We got the two S-6 Sequence 8's at 01:07:48:26 and 01:09:22:49. We did not get the Apollo 208 the first time. We got the UHF check.

01 04 41 47 CC Okay.

01 04 41 49 P We got the two S-6 Sequence 8's at 01:07:48:26 and 01:09:22:49.

01 04 41 56 CC Okay.

01 04 41 57 P We did not get the Apollo 208 the first time.

01 04 42 01 CC Okay, I got that part of it, Pete. How about the S-8/D-13 at 1:06:20?

01 04 42 08 P Say again.

01 04 42 15 P Say again, Houston. Say again, Houston.

01 04 42 20 C I think you lost them.

01 04 42 20 CC Roger, how about S-8/D-13 at 1:06:20?

01 04 42 36 P Oh, the Vision Test.

CONFIDENTIAL

CONFIDENTIAL

01 04 42 37 CC Yes.

01 04 42 38 P That was in the Flight Plan?

01 04 42 40 CC Yes. Actually, we added it to the Flight Plan right there, Pete; it wasn't in the printed Flight Plan. I guess those are probably the Vision Tests that you did onboard, aren't they?

01 04 43 01 P That's affirmative. We've just done one of those. And I also did the photometer window scan for the first day. I just did that before the Laredo pass just now.

01 04 43 11 CC Okay, you did the photometer window scan, Roger.

01 04 43 14 P Yes, the first day window scan.

01 04 43 15 CC Okay.

01 04 43 17 P Now for the photographs, we've taken about 85 S-5 and S-6 pictures.

01 04 43 30 CC You say you have taken about 85 S-5 and S-6. Is that right?

01 04 43 36 P That's affirm.

01 04 43 40 P Houston, Gemini-5, do you read?

01 04 43 44 CC Roger, I'm reading you again. We had LOS there.

01 04 43 48 P Okay, let me make a suggestion; will you please be careful and send these things up to us in sequential order. We got a little fouled up. That's why we missed one or two of them.

01 04 44 56 CC Roger, I think what happened is that those last ones there came up as sort of replacements for earlier ones.

01 04 45 05 P Okay.

01 04 45 06 CC But I'll tell them to get them squared away in sequential order, Pete.

01 04 45 11 P Very good; we're sliding right down the coast of South America. Looks pretty nice out there.

CONFIDENTIAL

CONFIDENTIAL

135

01 04 45 17 CC Any clouds down there?

01 04 45 20 P Yes, quite a few big thunderstorms.

01 04 45 26 CC Understand we got a great big thunderstorm in Antigua right now.

01 04 45 34 P I think we're already by that ...

01 04 45 38 CC Yes.

01 04 45 49 P We got a picture of it, though. I did take a picture of that big thunderstorm over Antigua.

01 04 45 53 CC Okay.

01 04 45 56 P What number is it?

01 04 45 58 C Number 30-- ...

01 04 45 58 CC Say, did you pick up any good landmarks near Laredo that might help you acquire it in the next couple of days?

01 04 46 09 P There's a big lake out there. We got to get the lake shore sighted with the Laredo Air Field.

01 04 46 16 CC Okay. One thing that you might sort of keep in mind the next time you go by there and look at it; there's some roads leading out to those things that you're supposed to look at there and there's some concern that you might mistake the road for the panels, so if you see that the road is misleading, give us a call and we'll see if we can't get the thing fixed up so that it doesn't look like the panels.

01 04 46 43 P Okay. Looks like they had about as good a weather as we could expect there.

01 04 46 47 CC Okay.

01 04 46 51 C Which wasn't very good.

01 04 46 56 P You're on Picture 30-what?

01 04 46 58 C 31.

01 04 46 59 P Well, we couldn't have run into 27, 28--

CONFIDENTIAL

CONFIDENTIAL

01 04 47 01 CC Gemini-5, we'd like to have you delete the aero-med pass over Carnarvon; we'll pick it up over Hawaii.

01 04 47 03 C I took those going across Florida and--

01 04 47 08 P Okay, understand. Delete the aero-med pass over Carnarvon and pick it up at Hawaii.

01 04 47 11 CC Roger.

01 04 47 15 P Okay, that's with a--

01 04 47 17 C That was S-5 and S-6.

01 04 47 18 P Six. No.

01 04 47 21 CC And your primary O₂ pressure looks very good; we'll just leave it right in Auto Heater there.

01 04 47 26 P Okay.

01 04 47 29 P Time was ...

01 04 47 34 C All right, I just snapped off six series from Florida.

01 04 47 36 P Wait a minute. Let me get this time, and I'll come back to you.

01 04 47 41 C Okay.

01 04 47 44 P 18:44:00. Okay, U. S. pass.

01 04 47 51 C Primarily, from Florida on down through the Caribbean to Antiqua.

01 04 48 34 P ... okay.

01 04 48 36 C Okay.

01 04 48 41 P ...

01 04 48 46 C Well, I'll tell you that little nap I had on that last night side really helped.

01004 48 51 P Yes, do you want to get the crab-top specification book out? I guess that you can read up on that.

CONFIDENTIAL

CONFIDENTIAL

137

01 04 48 56 P ... looks like ...

01 04 49 00 P You've got that at 01:20:04:43. I'm supposed to go to sleep right now ...

01 04 49 22 P I'm going to try right now. Okay. One revolution ... Son of a gun, get in there.

01 04 50 10 P Okay, that's stowed. Unless something remarkable comes along like a--

01 04 50 27 C About the next thing ... come along is they'll be wanting to purge the fuel cells.

01 04 50 32 P Yes.

01 04 50 36 C I suppose that would wake you up even if I tried purging them.

01 04 50 39 P I don't think you can reach them from there.

01 04 50 41 C I kind of doubt it.

01 04 50 44 P Okay, 16mm camera set. ... you get a med pass coming up. You got the bulb; here's the exerciser.

01 04 50 53 C Oh, Pete's keen.

01 04 50 58 C I do appreciate it.

01 04 51 07 P Boy, are you going to look crusty in 8 days! He, he, he.

01 04 51 12 C You don't, ha, ha, you don't, ha, ha, look so red hot keen yourself!

01 04 51 17 P Oh, shut up!

01 04 51 27 C Ha, ha, ho, you just put--

01 04 51 38 C Experiment S-7, Cloud Top Spectrometer.

CARNARVON

01 05 27 30 CC Gemini-5, Carnarvon CAP COM.

01 05 27 40 P Go ahead, Carnarvon, Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

01 05 27 43 CC Roger, we'd like a purge on the fuel cell Section 1, the O₂ and the H₂. Exercising the same precautions on the O₂.

01 05 27 54 P All right, you want a purge on Section 1, O₂ and H₂. Right?

01 05 28 03 P Roger, stand by one.

01 05 28 05 CC Roger.

01 05 28 28 P Crossover's on.

01 05 28 30 CC Roger.

01 05 28 31 P Purging H₂ starting.

01 05 28 35 CC Roger.

01 05 28 48 P Roger, we had a fuel cell Delta P light Section 1.

01 05 28 51 CC Roger, we copied.

01 05 29 14 P Are you ready for the oxygen purge?

01 05 29 16 CC Roger, go ahead.

01 05 29 18 C Roger, oxygen purge starting now.

01 05 29 26 CC We got a Delta P light.

01 05 29 31 CC Stop the purge.

01 05 29 33 C Roger, we've stopped.

01 05 30 01 C Carnarvon, this is Gemini-5.

01 05 30 03 CC Go ahead.

01 05 30 04 C I didn't have the Crossover on; I woke up out of a sound sleep to do the cell. Let's try it again. I didn't have the Crossover open.

01 05 30 13 CC That explains it.

01 05 30 16 C Stand by.

01 05 30 19 CC MARK.

CONFIDENTIAL

CONFIDENTIAL

139

01 05 30 20 C Starting oxygen purge.

01 05 30 22 CC Roger.

01 05 30 28 C The pressure is holding good and no Delta P light.

01 05 30 31 CC Roger, we confirm.

01 05 32 11 CC Roger, we copy O₂ purge off.

01 05 32 15 P No, it's not off. Just 3 seconds, 2, 1, MARK.
That's 2 minutes.

01 05 32 20 P Well, what I'm going to do is give you the shot of hydrogen with the Crossover open and then another little squirt of oxygen to set the regulators correctly, because I didn't do it to hydrogen with the Crossover open either.

01 05 32 36 CC Roger.

01 05 32 38 C Okay, starting the hydrogen now.

01 05 32 41 CC Roger.

01 05 32 58 C I got 10 seconds of oxygen now to set the regulator. Starting the oxygen purge now.

01 05 33 14 CC Gemini-5, Roger. After our LOS will you place your T/M switch to STANDBY 1.

01 05 33 26 C ... purge is finished and Crossover is OFF.

01 05 33 31 CC Roger, would you place your Tape Playback Switch to recycle to the RESET position.

HAWAII

01 05 49 28 CC Gemini-5, Gemini-5, this is Houston.

01 05 50 47 CC Gemini-5, Gemini-5, this is Houston here. Over.

01 05 51 14 CC Gemini-5, Gemini-5, this is Houston here. Over.

01 05 53 23 CC Gemini-5, Gemini-5, this is Houston here.

01 05 53 29 C Go ahead, this is Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

01 05 53 33 CC Roger, Gemini-5, Houston here. We were trying to get you earlier. I just want to check out the Wheeling voice loop. Now we've taken care of the situation.

01 05 53 42 C Okay.

01 05 53 44 CC Roger. How do you read us through the Wheeling?

01 05 53 48 CC Gemini-5, this is Hawaii.

01 05 53 50 C Roger, Hawaii, Gemini-5.

01 05 53 52 CC Roger. We have your temperature. Standing by for your blood pressure.

01 05 53 55 C Okay, serving blood pressure now.

01 05 54 10 CC Gemini-5, this is Hawaii Surgeon. Your cuff is full-scale.

01 05 54 46 CC We have a good blood pressure. Give me a mark when you begin your exercise.

01 05 54 51 C Roger, starting exercise now.

01 05 55 29 C Ending exercise now, sending blood pressure now.

01 05 55 33 CC Roger.

01 05 55 40 CC Cuff is full-scale.

01 05 56 13 CC Real fine blood pressure that time. Standing by for your water and sleep report.

01 05 56 20 C Okay. One moment. Roger on the water. Command Pilot has drunk 1 ounce over 7 pounds and the Pilot has drunk not quite 7, 1 ounce over 6 pounds.

01 05 57 05 CC Understand, 1 ounce plus 7 for Command Pilot, 1 ounce plus 6 pounds for Pilot. How about sleep report?

01 05 57 12 C Roger, the Pilot has been asleep here on and off. He's gotten a couple of real naps here, I think. I had about 45 minutes of sleep on the ... previous night time. 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

CONFIDENTIAL

CONFIDENTIAL

141

actuating.

01 05 57 44 CC Roger, understand Pilot's M-1 cuffs are actuating but not insulating.

01 05 57 49 C That's affirmative.

01 05 57 52 CC Thank you, Gemini-5, Hawaii Surgeon out.

01 05 57 55 C Roger.

01 05 00 46 C That will be 01:20:01. Experiment will be starting in 3 minutes.

01 06 01 48 C Large mass of cumulo mixed with cirrus clouds above. Quite heavy swirl in them, and I am taking the first photograph at 01:20:02:30.

01 06 02 19 C LOS made at 18.

01 06 02 31 C That was made 14.

01 06 02 58 C Here comes some slightly heavier cumulus clouds, thicker.

01 06 03 07 C 20:03:30, first picture at 18.

01 06 03 38 C Second picture at 14.

01 06 03 46 C Now.

01 06 04 02 C ... was about 30 to 40 degrees and zero yaw.

01 06 04 08 P The time is 02:03:55 on the first day, night pass, and I believe we're over Africa, blunt end forward. I observe the large red meteor entering on a westerly heading below us.

GUAYMAS

01 06 04 08 CC Gemini-5, Guaymas CAP COM.

01 06 04 14 C Guaymas, Gemini-5.

01 05 04 16 CC Okay. How are you going?

01 06 04 18 C ... very well.

CONFIDENTIAL

CONFIDENTIAL

01 06 04 21 CC Okay. You're looking real good here on the ground.

01 06 04 25 C Okay. Just finished S-7 Cloud Top Spectrometer Experiment.

01 06 04 33 CC Roger, finished S-7. Any reports?

01 06 04 39 C ... I think I got what they wanted with the Cloud Top Spectrometer.

01 06 04 44 CC Roger.

01 06 05 06 CC Okay, you're looking good here. If you need anything, I'll be standing by.

01 06 05 10 C Okay, mighty fine. Thank you.

01 06 08 25 C Looks like mighty good fishing weather down there.

01 06 08 27 CC Say again.

01 06 08 28 C Looks like mighty good fishing weather down there.

01 06 08 31 CC Really beautiful; haven't had much of a chance to do any fishing though.

01 06 08 36 C Just passed right overhead; looks real good.

01 06 08 41 CC We've had some beautiful weather since we've been here. You ought to come down and give it a try.

01 06 09 05 C Yes, I'd like that.

01 06 10 19 CC Gemini-5, Gemini-5, Houston here.

01 06 10 23 C Houston, Gemini-5.

01 05 10 26 CC Have you completed that S-7 experiment?

01 06 10 28 C Affirmative.

01 06 10 29 CC Okay. I've got a couple questions here on what you've accomplished earlier. I'd like to know if you did the Cabin Lighting Survey that we think you had scheduled for 01:06:40:00. I also have a question on two D-6 experiments. One was supposed to have been done at 01:15:33:00. The other was

CONFIDENTIAL

CONFIDENTIAL

143

scheduled for 01:16:56:24. We'd just like to know whether you did these or not.

01 06 11 11 C We haven't done the Cabin Lighting Survey. Just a minute, let me get the log book on D-6.

01 06 11 16 CC Okay. I'm not even sure that we got that message to you, to do the lighting survey.'

01 06 11 35 C The D-6 we tried; the target was obscured by the clouds.

01 06 11 38 CC Okay. What time was that, Gordo?

01 06 11 41 C 33:00 Sequence 053.

01 06 11 45 CC Okay, how about the one at 01:16:56:24?

01 06 11 58 C ... recheck here.

01 06 12 00 CC Okay.

01 06 12 25 C ... that was the one; you delayed it.

01 06 12 28 CC Okay, so we didn't do that one either. Okay, we're just trying to get squared away exactly what you had done.

COASTAL SENTRY QUEBEC

01 07 11 44 CC Gemini-5, CSQ CAP COM.

01 07 11 48 C Go ahead, CSQ CAP COM, Gemini-5.

01 07 11 51 CC Roger. We have you GO on the ground and we'd like to get a ground readout of your cryogenic quantities. Would you go to your switch position, please?

01 07 11 58 C Okay, sure will. We'll go ... going through them now.

01 07 12 59 CC Gemini-5, CSQ has a Flight Plan update. Are you ready to copy?

01 07 13 03 C Roger. Go ahead.

01 07 13 04 CC Roger. MSC-1 time 1 day, 21:52:00. Sequence No. 02. End time 1 day, 22:44:00. Cabin lighting 1 day,

CONFIDENTIAL

CONFIDENTIAL

23:00:00. Booster illumination check, time 1 day,
 23:32:00. The last two items only if it does not
 interrupt the Pilot's sleep. Do you copy?

01 07 14 06 C Roger, I ...
 01 07 14 12 CC CSQ has nothing further; we're standing by.
 01 07 14 16 C Okay, fine. Thank you.

HAWAII

01 07 29 06 CC Gemini-5, Hawaii CAP COM.
 01 07 29 11 C All right, Hawaii. Gemini-5.
 01 07 29 13 CC Roger. We've got your data from the ground. We're
 copying your tape dump.
 01 07 29 18 C Roger.
 01 07 30 05 CC Gemini-5, Hawaii CAP COM. We're standing by.
 01 07 30 10 C Roger. Everything's GO up here.
 01 07 30 13 CC Roger.

GUAYMAS

01 07 38 53 CC Gemini-5, Guaymas CAP COM.
 01 07 38 59 C Roger, Guaymas, this is Gemini-5.
 01 07 39 01 CC Okay, how are you doing up there?
 01 07 39 03 C Roger, mighty fine.
 01 07 39 04 CC Okay, you're looking real good here on the ground.
 We'd like you to turn the ECS O₂ Heater Switch to
 the OFF position.
 01 07 39 11 C Roger, ECS O₂ Heater to OFF.
 01 07 39 13 CC Roger.
 01 07 39 16 C It's OFF.

CONFIDENTIAL

CONFIDENTIAL

145

01 07 39 18 CC All right.

01 07 39 25 CC Are you all squared away; do you need anything at all?

01 07 39 29 C No, I don't believe so. I believe I'm in pretty good shape.

01 07 39 33 CC Okay.

01 07 39 34 C Thank you.

COASTAL SENTRY QUEBEC

01 08 44 26 CC Gemini-5, CSQ CAP COM.

01 08 44 41 P Good morning, CSQ CAP COM. Gemini-5 here.

01 08 44 44 CC Roger, Gemini-5, CSQ. You're scheduled for a Fuel Cell Section 2 Purge over this site. That's 13 seconds on Hydrogen, 2 minutes Oxygen.

01 08 44 55 P Roger.

01 08 44 58 P ... Gemini-5 is GO. The Command Pilot has commenced his 6-hour sleep period.

01 08 45 05 CC Say again the last.

01 08 45 07 P Roger, the Command Pilot has commenced his sleep period.

01 08 45 11 CC Roger, copy.

01 08 45 19 P Gemini-5 on hydrogen purge.

01 08 45 21 P MARK.

01 08 45 36 P Hydrogen purge complete. Gemini-5 ... O₂ purge.

01 08 45 45 C MARK.

01 08 47 50 C CSQ, Gemini-5. Fuel Cell O₂ purge complete and no trouble.

01 08 47 56 CC Roger, copy. We would like the condition of your M-1 Experiment equipment.

CONFIDENTIAL

CONFIDENTIAL

01 08 48 03 P Okay. I got it running again ... the problem. With the extension to the suit, the--the spool on the Bio-Med plug had come loose and we repaired it and it's operating again.

01 08 48 17 CC Roger, copy. Also like the amount of D-4/D-7 tape used.

01 08 48 23 P Roger, wait one.

01 08 48 41 P We used 31 minutes and 12 seconds.

01 08 48 45 CC Copy.

01 08 48 47 CC ... like to know your intentions on the sleep cycle. They'd like you to use the nominal and ... D-13 and M-9 Experiments.

01 08 49 02 P Be advised that the Pilot slept the short rest period fully and that the Command Pilot has commenced his 6 hours sleep period on schedule.

01 08 49 15 CC Roger, copy.

01 08 49 48 CC Gemini-5, CSQ has nothing further. We're about one minute to LOS and we're standing by.

01 08 49 55 P Gemini-5 reads you.

01 08 50 50 CC Gemini-5, CSQ.

01 08 50 53 P Go ahead.

01 08 50 54 CC Roger. You have a critical tape dump over Hawaii and advise your lighting experiment should be performed heads up.

01 08 51 01 P Roger.

HAWAII

01 09 03 30 CC Gemini-5, this is Hawaii.

01 09 03 35 P Hello, Hawaii, Gemini-5. Go ahead.

01 09 03 37 CC Roger. I have a tracking pass update when you're ready to copy.

CONFIDENTIAL

CONFIDENTIAL

147

01 09 03 43 P Roger, wait one.

01 09 03 59 CC Roger.

01 09 04 08 CC Gemini-5, this is Hawaii. Map update 2:00:05, 59 degrees East, copy?

01 09 04 30 P Roger. Understand map update 02:00:05, 59 degrees East.

01 09 04 38 CC Roger. Star update, 2:00:05, 2 hours 4 minutes 40 seconds. Do you copy?

01 09 04 56 P Star 02:00:05, 2 hours 4 minutes 40 seconds.

01 09 05 03 CC Roger.

01 09 05 06 P Did you get the tape dump okay?

01 09 05 09 CC That's affirmative.

01 09 06 30 CC Gemini-5, this is Hawaii. We're standing by.

01 09 06 34 P Roger, Gemini-5 is Green up here.

01 09 06 37 CC Roger.

01 09 06 45 P One thing, Hawaii, it looks like our hydrogen pressure is building up. It's ... the point of fanning or getting close to it. Can you check on that?

01 09 06 56 CC Roger, Gemini-5.

01 09 07 32 CC Gemini-5, can you get me a readout? We hold 275 pounds.

01 09 07 40 P Okay. I read up here that my quantity is 95% and the pressure is 630.

01 09 07 55 CC Roger, 630, 85%.

01 09 08 12 P The percentage was 95%.

01 09 08 20 P Did you copy, Hawaii?

01 09 08 23 CC Gemini-5, this is Hawaii, say again.

01 09 08 25 P I said the quantity was 95%.

CONFIDENTIAL

CONFIDENTIAL

01 09 08 29 CC Roger. Understand.

01 09 08 49 CC Gemini-5, can you get me a Cabin Light Survey?

01 09 08 53 CC Disregard, Gemini-5.

01 09 08 56 P Okay, I'm in the process of doing it now.

01 09 08 58 CC Roger.

01 09 09 12 CC Gemini-5, that pressure buildup looks like about nominal.

ROSE KNOT VICTOR

01 09 24 34 CC Gemini-5, RKV CAP COM. We have nothing for you this pass. We'll be standing by if you need us.

01 09 24 41 P Roger, RKV. Gemini-5 here. Be advised that we're going to skip the Thruster Illumination Check. The Pilot is eating, the Command Pilot is sleeping.

01 09 24 49 CC Roger. Understand.

COASTAL SENTRY QUEBEC

01 10 20 36 CC CSQ on the ground, we have nothing for you this pass. Standing by.

01 10 20 59 P CSQ, Gemini-5. Roger.

01 10 21 09 P CSQ, Gemini-5. Our status is Green.

01 10 21 13 CC CSQ, copy.

01 10 36 08 P Going to Horizon Scan Mode at this time, and the time is 00:37:30, second day. The Horizon Scan Mode is chattering and we're having daytime with a high sun. We have some pretty large buildups on our right, and I suspect the horizon scanner ... The time is 02 days 01 hours 10 minutes 10 seconds. Observing some very large thunderstorms and lightning flashes and--

HAWAII

01 10 39 01 CC Gemini-5, Hawaii CAP COM.

01 10 39 06 P Go ahead, Hawaii. Gemini-5 here.

CONFIDENTIAL

CONFIDENTIAL

149

01 10 39 08 CC Roger, Gemini-5. All systems are Green. We'd like you to cycle your Quantity Read Switch and give us readouts.

01 10 39 15 P Okay. We're Green up here.

01 10 39 19 CC Roger.

01 10 39 23 P Okay. ECS O₂ is 92% and that's reading 770.

01 10 39 37 CC Roger.

01 10 39 40 P Fuel Cell O₂ is 94% and that's hanging right in there at 60.

01 10 39 47 CC Roger.

01 10 39 51 P And hydrogen is 96, and it reads 650.

01 10 39 59 CC Roger, understand. Gordo still sleeping?

01 10 40 05 P He just woke up.

01 10 40 08 CC Pass along our congratulations. He just passed his old record.

01 10 40 15 P Great minds work in the same circle. I have a note here in the Flight Plan to remind him congratulations.

01 10 40 23 CC Not supposed to be talking, Pete. We'll see you tomorrow.

01 10 40 33 P Roger, see you tomorrow.

01 10 40 42 CC You'll have a UHF Type 6 over the RKV.

01 10 41 17 CC We'd like to remind you that you'll get your block updates over the RKV; also, in addition to that, UHF Type 6.

01 10 41 24 P Roger. Understand UHF-6 and block updates over RKV. Standing by.

01 10 41 30 CC Roger.

01 10 43 09 C Hawaii, Gemini-5.

01 10 43 12 CC Go ahead.

CONFIDENTIAL

CONFIDENTIAL

01 10 43 14 P GMT time hack, please.

01 10 43 26 CC Roger, I'll give you a time hack at 43:20. Stand by. I'll give you one at 43:30. Or do you want it at an even minute?

01 10 43 28 P Give me on the even minute.

01 10 43 29 CC Roger, I'll give it to you on 44:00.

01 10 43 52 CC Gemini-5, Hawaii. Do you read?

01 10 43 54 P Go ahead.

01 10 43 57 CC Stand by. 3, 2, 1.

01 10 44 00 CC MARK.

ROSE KNOT VICTOR

01 10 58 20 CC Gemini-5, Gemini-5, this is RKV CAP COM. Over.

01 10 58 24 P RKV CAP COM, Gemini-5. You are coming in weak.

01 10 58 29 CC Roger, Gemini-5.

01 10 58 36 CC Gemini, Gemini-5, this is RKV CAP COM. We have your systems GO on the ground. We have some PLA updates for you. Acknowledge when ready to copy.

01 10 58 49 P RKV, updates ...

01 10 58 53 CC Gemini-5, this is RKV for a short count. 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. How do you read?

01 10 59 10 P ... GO up here.

01 10 59 12 CC Roger. Are you ready to copy?

01 10 59 14 P Ready to copy.

01 10 59 17 CC Area 25 Delta, 04:09:27, 18 plus 56, 23 plus 17. Roll left 51, roll right 69. Area 26 Delta, 04:44:32, 16 plus 53, 21 plus 13. Roll left 51, roll right 69. Area 27 Delta, 07:25:03, 13 plus 38, 18 plus 07. Roll left 51, roll right 69. Area 28-2, 08:58:17, 11 plus 42, 16 plus 23. Roll left 51, roll right 69. Area 29-2, 10:33:39, 9 plus 57,

CONFIDENTIAL

CONFIDENTIAL

151

15 plus 27. Roll left 51, roll right 69.

01 11 01 41 P Okay. Give me Area 25 Delta again.

01 11 01 44 CC Roger, Area 25 Delta, 04:09:27, 18 plus 56, 23 plus 17. Roll left 51, roll right 69.

01 11 02 08 P Okay. This is Gemini-5 here; we got them all.

01 11 02 10 CC Roger, the weather in 26 Delta and 27 Delta is marginal. All other areas are good.

01 11 02 21 P Roger. 26, 27 Delta marginal. Over.

01 11 02 23 CC That's affirmative.

01 11 02 36 CC Gemini-5, this is RKV CAP COM. Is the Command Pilot sleeping at this time?

01 11 02 40 P He woke up a few minutes ago and he's gone back to sleep again.

01 11 02 44 CC Roger. When he wakes up, we'd like to pass on our congratulations to Gordo for surpassing his previous flight record.

01 11 02 52 P Sure will. Have a note of it from Flight Command.

01 11 02 55 CC Roger.

01 11 03 45 P RKV, Gemini-5.

01 11 03 47 CC Roger, go ahead Gemini-5. This is RKV.

01 11 03 49 P How's the weather down there?

01 11 03 51 CC Well, we're rocking and rolling.

01 11 03 53 P What is your position off Lima?

01 11 03 56 CC Our position off Lima. We're at 21 South 85.

01 11 04 04 P Roger.

01 11 04 08 CC We're about 700 miles off the coast at the present time. We've got someone on deck trying to find you.

CONFIDENTIAL

CONFIDENTIAL

01 11 04 15 P Okay. We hit sunset awhile back. There is no sun shining on the spacecraft right now, so I doubt if you can see it. They did say they saw us one pass over Carnarvon.

01 11 04 27 CC Roger, we saw you last night.

01 11 04 29 P Oh, you did?

01 11 04 30 CC Affirmative.

01 11 12 29 P The time is now 13 minutes 20 seconds on the same night. Photographing with the 16mm camera the lightning flashes. I also noticed some ... meteorites may show on the film.

01 11 37 24 P Getting the sunrise on the Cape on Day 2, 01:37:02. Sunrise ...

COASTAL SENTRY QUEBEC

01 11 55 59 P Gemini-5, CSQ CAP COM.

01 11 56 22 P CSQ, CSQ, Gemini-5 here. Go ahead.

01 11 56 25 CC Roger, Gemini-5. Would like to advise you that Pilot has an aero-med pass at the RKV, and acquisition time RKV 02:33:28. Do you copy?

01 11 56 48 P Say again the time please.

01 11 56 50 CC 02:33:28.

01 11 56 58 P Okay, 02:33:28, medical data pass on the Pilot.

01 11 57 04 CC Roger, we have you GO on the ground and we would like the Fuel Cell Purge Section 1, times nominal.

01 11 57 13 P Roger, you want us to purge over you.

01 11 57 17 CC Say again.

01 11 57 19 P You want us to purge over you?

01 11 57 20 CC That's affirmative.

01 11 57 22 P Section 1. Is that correct?

CONFIDENTIAL

CONFIDENTIAL

153

01 11 57 24 CC Section 1, that's affirmative.
01 11 57 40 P Okay. Stand by for hydrogen purge on my mark.
01 11 57 43 P MARK.
01 11 57 59 P Hydrogen purge complete. Going to oxygen purge on my mark.
01 11 58 13 P Purging oxygen. MARK.

ROSE KNOT VICTOR

01 12 33 55 CC Gemini-5, Gemini-5, RKV CAP COM. We have a good oral temperature.
01 12 34 06 P Roger, RKV. Stand by for blood pressure.
01 12 34 08 CC Roger. I'd like to ask you how the fuel cell purge is or how it went over CSQ.
01 12 34 13 P Went just fine.
01 12 34 15 CC Roger. Understand. Standing by for your blood pressure.
01 12 34 31 CC Gemini-5, this is RKV Surgeon. Your cuff is full-scale. Give me a mark when you begin your exercise.
01 12 34 48 CC Gemini-5, RKV Surgeon, do you read?
01 12 34 52 P Reading loud and clear at this spot.
01 12 35 08 P Stand by for the exercise on my mark.
01 12 35 12 P MARK.
01 12 35 45 P Stand by for ...
01 12 36 00 CC Gemini-5, your blood pressure cuff is now full-scale.
01 12 36 31 CC Flight, Gemini-5. We have a good blood pressure and are standing by for your food, water, and sleep report.
01 12 36 38 P Roger. ...
01 12 36 55 P ... Pilot's total water intake ... 3 ...

CONFIDENTIAL

CONFIDENTIAL

01 12 37 01 CC Say that again, Gemini-5.

01 12 37 03 P Roger. The Command Pilot's total water intake 10 pounds 3 ounces.

01 12 37 09 CC I read 10 pounds 3 ounces.

01 12 37 12 P Roger. The Pilot's water intake 9 pounds 7 ounces.

01 12 37 17 CC Roger, I read 9 pounds 7 ounces.

01 12 37 28 P Pilot just ate Day 2, Meal A, 3 ... chicken sandwiches. He ate up the brownies.

01 12 37 39 CC Say again on the brownies.

01 12 37 41 P Probably half of them.

01 12 37 47 CC Gemini-5, on the water, can you tell us something about the taste of the water you're drinking, please?

01 12 37 53 P Tastes very good.

01 12 37 55 CC Thank you.

01 12 38 04 CC Can you give us sleep report, please?

01 12 38 07 P Roger. The Command Pilot has been sleeping most of the sleep period. He's woken up for 10 or 15 minutes twice; otherwise everything is going fine. The pilot got more than the 2-hour nap period allotted ...

01 12 38 27 CC More than a 2-hour nap period, is that correct?

01 12 38 31 P That's affirmative.

01 12 38 32 CC Roger.

01 12 38 34 CC Gemini-5, RKV CAP COM. We'd like for you to keep the error scores for both you and the Command Pilot on the S-8 Experiment while you have the tester out. You understand?

01 12 38 49 P Yes, we'll record the scores on the S-8 and we'll send them at the end of the day.

01 12 38 54 CC Roger. We'd like to have a report over this station on the next pass.

CONFIDENTIAL

CONFIDENTIAL

155

01 12 38 59 P Okay.

01 12 39 00 CC Roger. We'd also like to get a wet bulb and dry bulb reading from you at this time.

01 12 39 06 P We don't have that. Will have to give it to you next time.

01 12 39 09 CC Roger.

01 12 39 13 P ... my temperature got down to 46, so we actually heated it back up again ... cold.

01 12 39 27 CC Say again, Gemini-5.

01 12 39 29 P I say with two coolant loops running, our suit temperature got down to 46 in the full cold position, so we warmed it up a little bit.

01 12 39 36 CC Roger. Understand. Do you have a recording on the last wet and dry bulb reading?

01 12 39 42 P We haven't taken any.

01 12 39 44 CC Roger. We'll stand by for the next time.

01 12 39 46 P Okay.

01 12 49 00 P The time is Day 2, 02:50:45. I just passed Montevideo, South America, and I heard a pretty good gig on the canopy over my head like we might have gotten struck by a micrometeorite. Out.

COASTAL SENTRY QUEBEC

01 13 30 22 CC Gemini-5, Gemini-5, CSQ.

01 13 30 27 P Come in, CSQ, Gemini-5 here.

01 13 30 29 CC Roger, we have you GO on the ground and I have an update for you. Ready to copy?

01 13 30 34 P Roger. We're GO up here. What kind of an update is it?

01 13 30 38 CC I have a map update and a star update.

01 13 30 41 P Okay. Wait one.

CONFIDENTIAL

CONFIDENTIAL

01 13 31 02 P Go ahead. Ready to copy.

01 13 31 04 CC Roger. Map update, time 02 days, 03:33:15. Longitude 9 degrees West, Rev 25, Star update, time 02 days, 04:33:15. Remarks, 02:01:33.

01 13 31 52 P Roger, CSQ, we copy.

01 13 31 58 CC CSQ has nothing further, standing by.

01 13 32 01 P Roger. We're on the Flight Plan; we're in the process of trying to see if we can do the Vision Test at this time.

CANTON

01 13 45 43 CC Gemini-5, Gemini-5, Houston CAP COM, over.

01 13 45 48 P Hello, Houston, Gemini-5. Go ahead.

01 13 45 51 CC Roger, Pete. I've got some updates on primary landing areas. Are you ready to copy?

01 13 45 58 P No, wait one.

01 13 46 13 P Ready to copy.

01 13 46 15 CC Roger. Area 27, Charlie 1, second day, 05:15:22, 25 plus 18, 31 plus 11. Roll left 51 degrees, roll right 69 degrees. Weather is good.

01 13 46 51 CC Area 26, C-2, second day, 06:53:01, 23 plus 48, 29 plus 58. Roll left 51 degrees, roll right 69 degrees. Weather good. These areas replace 26 Delta and 27 Delta.

01 13 47 38 P Roger, copied and understand replaced 26 and 27 Delta.

01 13 47 44 CC Roger. These are both Area 26; however, they are about one revolution apart. We changed revolutions right between the two areas.

01 13 47 53 P Okay.

01 13 47 54 CC Could I get a rundown from you on the spacecraft systems as you see them now?

CONFIDENTIAL

CONFIDENTIAL

157

01 13 48 01 P All systems are Green. We just took the cabin temperature reading of 72 with a 58 wet bulb for a 56% cabin. It's dry as a bone in here.

01 13 48 13 CC Understand. 72 degrees, 58 degrees wet bulb.

01 13 48 19 P Affirmative.

01 13 48 27 P I also show that our oxygen pressure is building up. I'm reading about 80 now.

01 13 48 34 CC Understand you are reading 80 on the oxygen pressure. That's Fuel Cell, right?

01 13 48 39 P That's affirmative.

01 13 48 42 CC Roger. I have an ECOM system status for you.

01 13 48 49 P Go ahead.

01 13 48 51 CC Roger. Your ECS O₂ pressure has been holding steady at 930 psi. Fuel Cell H₂ pressure is continuing to rise and we expect to start venting at a GET of 46 hours. That's about 9 hours from now. The Cape advises us that this valve relieves at 345 plus or minus 4 psi.

01 13 49 31 P Roger.

01 13 49 33 CC Your coolant loop temperatures have leveled out good. All of your instrumentation voltages are steady and nominal. Fuel Cell O₂ pressure is steady and rising, but on a slow basis. Fuel cells are producing on an adequate basis for crew consumption. The quantity in Tank A is presently 34.4 pounds. Over.

01 13 50 08 P Pressure indicated 34.4 pounds.

01 13 50 14 CC Okay. Your G&C systems are all looking very good. The OAMS fuel remaining is 131 pounds, and the OAMS oxidizer remaining is 190 pounds. Over.

01 13 50 33 P Roger, understand 131 for the fuel and 190 for the oxidizer.

01 13 50 37 CC That's affirmative.

01 13 50 40 P Do you have any idea what sort of maneuvering they're

CONFIDENTIAL

CONFIDENTIAL

going to have us do later?

- 01 13 50 46 CC Say again.
- 01 13 50 48 P Do you have any idea what they have in store for us later in the way of maneuvers?
- 01 13 50 53 CC Roger. When I came to work this morning, we were trying to work up this plan to tape the REP's, but it looks like a little marginal on the data we had from NORAD to catch them in six revolutions, and it might be sacrificing a few other things. What we have in mind for you tomorrow is to go through a rendezvous sequence, sort of a rehearsal for the ground track people on GT-6. It'll involve a height-adjust maneuver over the States, and apogee burn following that, and shortly after that you'll have a plane change maneuver. Then there'll be one more maneuver in the vicinity of apogee; it'll be an NSR or co-elliptic maneuver. Over.
- 01 13 51 47 P Okay.
- 01 13 51 49 CC And the total of these will be about 60 to 65 feet per second.
- 01 13 51 54 P Roger, understand 60 to 65 feet per second.
- 01 13 51 58 CC We'll be doing these only if we can make use of the platform computer, so that we can get the readouts from you after you make the maneuver.
- 01 13 52 10 P Understand.
- 01 13 52 13 CC We're also working on a little bit more sophisticated radar test as you pass on your closest pass over the Cape tomorrow. It'll involve going into the Rendezvous Mode and switching back out and back in again. We want to get some 2-point radar comparisons. We'll also try and work in some base motions tests. It'll kind of depend pretty much on how close the range is on your closest pass over there. The radar data that we got today enthused the people quite a bit. We'd like to get a little bit more.
- 01 13 52 54 P Yes, we were quite impressed too. We got the ... range with it.

CONFIDENTIAL

CONFIDENTIAL

159

01 13 53 00 CC Roger, be advised that Gordo has a medical pass at the RKV at 04:08:48.

01 13 53 20 P ...

01 13 53 21 CC Okay.

ROSE KNOT VICTOR

01 14 09 28 CC Gemini-5, RKV CAP COM.

01 14 09 34 P RKV, Gemini-5, come in.

01 14 09 41 CC We're standing by for your temperature at this time.

01 14 09 44 P Command Pilot has temperature probe in his mouth. Are you receiving it?

01 14 09 47 CC Roger, stand by.

01 14 10 02 CC Roger, we're standing by; maybe it's going to come up.

01 14 10 27 CC Gemini-5, RKV CAP COM. We have your oral temperatures. Stand by for the surgeon.

01 14 10 40 CC Gemini-5, Gemini-5, this is RKV Surgeon. We do not have a valid blood pressure. Will you repeat it please.

01 14 11 03 CC Gemini-5, your cuff is full-scale. Give me a mark when you begin exercise, please.

01 14 11 21 C Could I use--that blood pressure any good?

01 14 11 44 P Roger, starting exercise now.

01 14 12 39 CC Getting blood pressure now.

01 14 13 09 CC Your cuff is full-scale. We have a good blood pressure. Standing by for your food and sleep reports.

01 14 13 18 P Roger. Command Pilot just got up from about the greatest portion of 6 hours of sleep. Food, Command Pilot is eating now, the Pilot has had another meal, has already made his food report, or that may help.

CONFIDENTIAL

CONFIDENTIAL

We have a report for you on the Visibility Test. Yesterday the Command Pilot had 12 wrong, Pilot had 8 wrong. Today the Command Pilot had 9 wrong, the Pilot had 7 wrong. On the inside experiment the Command Pilot had 93 degrees, the Pilot had 100 degrees.

01 14 14 20 CC Gemini-5, are either of you experiencing any irritation or discomfort in your throat or chest?

01 14 14 28 C Negative.

01 14 14 31 CC Good. Do you have any other medical symptoms at all at this time?

01 14 14 42 C Negative.

01 14 15 17 CC Gemini-5, RKV CAP COM.

01 14 15 22 C Go ahead, RKV.

01 14 15 23 CC I would like for you to repeat the scores on S-8 for today.

01 14 15 31 C Roger. S-8 for today. Command Pilot 9, Pilot 7.

01 14 15 41 CC Roger, copy 5 and 7.

01 14 15 45 C Negative, 9 and 7.

01 14 15 50 CC I would like to know the position of the OAMS Heater Circuit Breaker at this time.

01 14 15 58 C OAMS Heater Circuit Breaker is on.

01 14 16 01 CC Roger, we would like for you to leave it at that position.

01 14 16 05 C Roger.

01 14 16 09 CC All systems look good on the ground. We don't have anything else for you this pass.

COASTAL SENTRY QUEBEC

01 15 03 40 C ... Gemini-5, CSQ CAP COM.

01 15 03 44 C ... CSQ, Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

161

01 15 03 47 CC Roger, on this pass we would like a Fuel Cell Section O₂ Purge, and a cryogenic readout of all quantities.

01 15 03 56 C Okay.

01 15 03 57 CC We'd also like you to open your OAMS Heater circuit breaker.

01 15 04 02 C ... you want the OAMS Heater circuit breaker open?

01 15 04 06 CC That is affirmative.

01 15 04 09 C Okay.

01 15 04 11 CC And CSQ has you GO on the ground.

01 15 04 15 C Say again, CSQ.

01 15 04 16 CC We have you GO on the ground.

01 15 04 19 C All right, ...

01 15 05 36 P CSQ, this is the Pilot ...

01 15 05 46 P Be advised the hydrogen purge. MARK.

01 15 06 06 C Stand by for O₂.

01 15 06 13 P CSQ, you reading that? Gemini-5.

01 15 06 28 CC Gemini-5, CSQ, say again please.

01 15 06 30 C Roger, we've purged the hydrogen; we're purging oxygen now.

01 15 06 34 CC Roger, we copy.

01 15 06 44 C Fuel Cell O₂ quantity is 94%.

01 15 06 50 CC Copying.

01 15 06 51 P Oxygen about 96%, pressure is about 80 psia. Several things purging, I'll get the other two.

01 15 07 21 P All the Heater Circuit Breakers are off.

01 15 07 23 CC CSQ, copy.

CONFIDENTIAL

CONFIDENTIAL

01 15 07 31 C CSQ, Gemini-5, why do you want us to turn them off?

01 15 07 38 CC Say again.

01 15 07 40 C Why do you want the OAMS Heaters off?

01 15 07 41 CC Houston advised they wanted them off. They didn't get a reading from them. Also, Houston advised delete S-7 on Revs 25 and 26. Do you copy?

01 15 08 01 C Roger, S-7 on 25, 26.

01 15 08 11 C O₂ Purge complete.

01 15 08 14 CC CSQ, copy.

01 15 08 40 CC Gemini-5, CSQ, we'd like you to go through this switch position on that cryogenic quantity again, please.

01 15 08 49 C Roger, Fuel Cell Hydrogen, 95% and 710 psia. Fuel Cell O₂, 94% and 80 psia. ECS O₂, 91% and 770 psia.

01 15 09 23 CC CSQ, copy.

01 15 09 48 CC Gemini-5, CSQ, about one minute to LOS and we have nothing further.

01 15 09 54 C Roger, thank you.

ROSE KNOT VICTOR

01 15 44 01 CC Gemini-5, RKV CAP COM.

01 15 44 08 C Go ahead, RKV CAP COM. Gemini-5.

01 15 44 11 CC I have the Flight Plan update for you at this time.

01 15 44 15 C Okay, go ahead.

01 15 44 18 CC Title is D-2. The time is the second day, 06:38:19. Sequence No. 146. Pitch up 34 degrees. Yaw right 40 degrees, right to left.

01 15 45 00 C Okay.

01 15 45 02 CC I have another one. MSC-1 second day, 07:45:00.

CONFIDENTIAL

CONFIDENTIAL

163

Sequence No. 03 as per nominal Flight Plan.

01 15 45 30 C Okay.

01 15 45 31 CC I would also like to get a food report from you after you finished the meal you were eating as you passed over the last time.

01 15 45 40 C Roger, I ate the rehydratables, about half of the bite size.

01 15 45 45 CC Roger. You look real good here on the ground.

01 15 45 51 C Roger, feel real good.

01 15 45 52 CC Very good.

01 15 46 10 CC Gemini-5, RKV CAP COM. Which meal was this that you were eating?

01 15 46 17 C This was Day 2, Meal A.

01 15 46 20 CC Day 2, Meal A. Roger.

01 15 46 25 C Affirmative.

01 15 47 34 CC Gemini-5, RKV CAP COM.

01 15 47 36 C Go ahead, RKV.

01 15 47 39 CC We have nothing else for you this time; we'll be standing by till our LOS.

01 15 47 41 C Okay. Fine, thank you.

01 15 49 41 CC Gemini-5, RKV Surgeon.

01 15 49 44 C Roger, RKV Surgeon, go ahead.

01 15 49 46 CC Could you verify the food that you've eaten for us, you say you ate some of Day 2, Meal A?

01 15 49 54 C That's affirmative. I didn't eat last night before going to sleep. I was scheduled to eat when I got up today. The Pilot ate at that time, that same meal at that time, before I went to sleep.

CONFIDENTIAL

CONFIDENTIAL

01 15 50 06 CC So in total, how much approximately Day 2, Meal A, have you eaten?

01 15 50 11 C About three-fourths of it.

01 15 50 13 CC Fine, thank you.

ROSE KNOT VICTOR

01 17 21 17 CC Gemini-5, RKV CAP COM.

01 17 21 24 C Go ahead, RKV, Gemini-5.

01 17 21 27 CC Roger. Your ... all systems look good on the ground.

01 17 21 36 CC Gemini-5, RKV CAP COM. We would like for you to put your Telemetry Calibration Switch to the No. 1 position.

01 17 21 46 C Roger. T/M Calibrate ...

01 17 21 53 C T/M Calibrate going to No. 1 now.

01 17 22 01 CC Roger. Hold it there for a moment.

01 17 22 04 C Roger.

01 17 22 13 CC Gemini-5, RKV. We'd like for you to go to Position No. 2 at this time.

01 17 22 17 C Roger. Going to Calibrate No. 2.

01 17 22 50 CC Gemini-5, RKV CAP COM. You can turn the Calibrate Switch to the OFF position.

01 17 22 55 C Okay, it's off.

01 17 24 33 CC Gemini-5, RKV CAP COM. We have nothing else for you this pass; we'll be standing by.

01 17 24 38 C Okay, fine, thank you.

01 17 24 41 CC Roger.

01 17 24 55 C Tell Houston that Experiment D-2 Sequence No. 146 we were unable to complete, over.

01 17 25 05 CC Roger. Understand D-2, Sequence No. 146 was unable to complete.

CONFIDENTIAL

CONFIDENTIAL

165

01 17 25 09 C Roger.

01 17 25 11 C Thank you.

01 17 25 12 CC Roger.

CANARY ISLANDS

01 17 40 47 CC Gemini-5, this is Canary CAP COM.

01 17 40 50 C Roger, Canary, Gemini-5.

01 17 40 53 CC Roger. We're expecting a fuel cell purge from you on Section 1. That's both hydrogen and oxygen.

01 17 41 03 C Roger. Section 1, hydrogen and oxygen purge.

01 17 41 09 CC That's affirmative.

01 17 41 11 C Roger, stand by one.

01 17 42 53 CC Gemini-5, Canaries, have you started your purge as yet?

01 17 42 58 C Roger. We have Crossover Switch on now; we're getting ready to start.

01 17 43 03 CC Roger.

01 17 43 09 C Tank 1 hydrogen now. Tank 1 hydrogen ON. Reading 91% quantity on hydrogen, going to ... oxygen now.

01 17 43 36 C Just a minute and I'll give you my--MARK.

01 17 43 58 C Quantity is running roughly 88%. And pressure is still on.

01 17 44 19 CC Roger, Gemini-5. It's looking good on your purge.

01 17 44 22 C Roger. Everything looks good here.

01 17 44 39 C Canary, can you find out from Houston where they want us to turn our OAMS Heater on?

01 17 44 49 CC Just stand by one.

01 17 44 50 C Okay.

CONFIDENTIAL

CONFIDENTIAL

01 17 45 24 CC Flight advises that the reason for turning the OAMS Heater off was that the temperature was ample and they wanted to conserve on power.

01 17 45 32 C Okay ...

01 17 45 42 C Oxygen is off on Section 1.

01 17 45 45 CC Roger. Thank you. Everything still looks good here from the ground.

01 17 45 51 C Okay ...

01 17 45 53 CC We'll have a Flight Plan update for you.

01 17 45 56 C Roger.

01 17 45 58 CC Are you ready to copy?

01 17 46 01 C Roger. Go ahead.

01 17 46 03 CC Okay, it'll be a UHF Test at 10 hours 39 minutes 40 seconds, Sequence No. 04; there will be a Delta T minus 5 minutes and 10 seconds. Do you copy?

01 17 46 27 C Roger. Got that.

01 17 46 30 CC Okay. We've got about 30 seconds left of pass time here.

01 17 46 34 C Roger. Okay, we got that.

01 17 46 39 CC Okay, you're looking good.

01 17 46 40 C Roger, thank you.

ROSE KNOT VICTOR

01 18 55 05 CC Gemini-5, RKV CAP COM.

01 18 55 12 P RKV CAP COM, this is Gemini-5.

01 18 55 15 CC Roger. All systems look good on the ground. I have a pass update for you.

01 18 55 20 P Let me know when you're ready to go.

01 18 55 21 CC Roger, okay. The time of the map update is the

CONFIDENTIAL

CONFIDENTIAL

167

second day, 07:31:56, 54 plus 6 degrees West longitude, Rev 27.

01 18 55 54 P All right, anything else?

01 18 56 03 CC Roger. We don't have anything else for you this pass. We'll be standing by in case you need us.

01 18 56 09 P Okay.

01 18 56 15 P After this stage ... turn the circuit breaker back on now and ...

01 18 56 25 CC Roger, we copied. Thank you.

01 19 05 59 CC Gemini-5, Houston CAP COM, over.

01 19 06 08 P Roger, Houston, Gemini-5.

01 19 06 09 CC Roger. Got a couple of questions concerning your food and water. Can we assume you have eaten Meal A, B and C of Day 1? Have you completed those?

01 19 06 22 P We ate a portion of it. I'd say about two-thirds of our ...

01 19 06 29 CC That's two-thirds of those three meals. Is that right?

01 19 06 33 P No, we only had the two meals per Day 1. But Day 2 we have eaten Meal A, about three-fourths of it, for Day 2.

01 19 06 46 CC Roger, understand. Okay, and then does your water report include the water you've used to reconstitute the foods?

01 19 06 57 P Affirmative.

01 19 06 58 CC Very well, thank you.

01 19 06 59 P Roger.

CANARY

01 19 15 03 CC Gemini-5, this is Canary CAP COM. We have nothing for you this pass. We are standing by.

CONFIDENTIAL

CONFIDENTIAL

01 19 15 09 P Roger, Canary. Everything is GO here.

01 19 15 13 CC Roger. Everything looks good here.

CARNARVON

01 19 50 33 CC Gemini-5, Carnarvon CAP COM.

01 19 50 40 P Okay, Carnarvon, Gemini-5.

01 19 50 43 CC Roger, you look good on the ground. I've got some PLA updates for you when you're ready to copy.

01 19 50 52 P Roger, stand by one.

01 19 50 54 CC Roger.

01 19 51 18 P Okay, go ahead.

01 19 51 22 CC Roger, Area 30-1, Area 30-1, all these times are the second day. 11 hours 56 minutes 49 seconds, 11 plus 48, 16 plus 29, roll left 51, roll right 69. All the bank angles are the same. Area 31-1, 13 hours 32 minutes 46 seconds, 9 plus 53, 15 plus 18. Area 32-1, 15 hours 07 minutes 20 seconds, 8 plus 43, 14 plus 56. Area 33-1, 16 hours 41 minutes 10 seconds, 8 plus 11, 15 plus 22. Area 34-1, 19 hours 30 minutes 09 seconds, 9 plus 56, 17 plus 09. The weather is good in all of these PLA's. Do you copy?

01 19 53 28 P That's affirmative.

01 19 53 38 CC Okay, everything looks good here. We're standing by.

01 19 53 44 P Roger ... thanks.

01 20 36 10 CC Gemini-5, Gemini-5, Houston CAP COM, over.

01 20 36 33 CC Gemini-5, Gemini-5, Houston CAP COM.

01 20 36 40 P Good morning, Houston CAP COM, Gemini-5 here. Go ahead.

01 20 36 45 CC Roger, Gemini-5. You're looking good here on the ground. Be advised that there's a medical data pass on the Pilot at Canaries with an acquisition time of 10:49:29. You copy?

CONFIDENTIAL

01 20 37 00 P Affirmative.

01 20 37 01 CC And we got a couple of questions here for you; Elliot'll ask you.

01 20 37 08 CC Pete, we're 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'd like to know if you saw cool IR indications on the OAMS meter.

01 20 37 29 P Yes, I think I did, Elliot, and 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'll discuss when we get back.

01 20 37 51 CC Roger. Then you'd say you think you got some data on it, but you don't know just how much.

01 20 37 56 P I think we did, and I don't know how much.

01 20 38 00 CC Okay. 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.

01 20 38 14 P Okay.

01 20 38 18 CC They have a question here for you on the secondary scanner. Did you have problems with the primary?

01 20 38 24 P 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 cloud coverage - more than we'd seen before - and it seems to be firing the thrusters quite a bit, so I just took a look at the secondary and left it there ...

01 20 38 43 CC Okay, well I guess we're about to lose you now.

01 20 38 54 P Okay, I'm commencing the UHF Test No. 4 at this time.

01 20 39 02 CC I reckon.

01 20 39 23 C Commence UHF Test No. 4 at 10:39:40. UHF Test

CONFIDENTIAL

No. 4 complete at 10:44:50.

CANARY

01 20 50 09 CC Gemini-5, this is Canary CAP COM. We have a good oral temperature. Would you insert the--or pump up the blood pressure.

01 20 50 30 CC Gemini-5, Canary Surgeon. Your cuff is full-scale. We have a good blood pressure. Give me a mark when you begin exercise.

01 20 51 10 P Stand by. MARK.

01 20 51 54 CC Gemini-5, Canary Surgeon. Your cuff is full-scale.

01 20 52 23 CC We have a good blood pressure, standing by for a water and sleep report.

01 20 52 30 P Roger. The Command Pilot is taking his 2-hour nap period now. The Pilot slept about 4 hours and 45 minutes worth of a 6-hour period, very soundly, and I'll get you a water in just a second. Okay. Total for water for today on the Command Pilot is 12 pounds and on the Pilot 11 pounds 3 ounces.

01 20 53 08 CC Roger. We would also like to find out if you have completely eaten Meal A and B for Day 1.

01 20 53 19 P No, we left a fair amount of that, and we're just getting ready to eat - let me see if I can find it - just getting ready to eat Day 2, Meal C.

01 20 53 51 CC Roger, Canary Surgeon out.

01 20 54 00 CC Gemini-5, 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 are showing that you have Fuel Cell H₂ Quantity Read on.

01 20 54 14 P Yes, that's affirmative, standing by waiting to see if it's going to vent.

01 20 54 19 CC Roger.

01 20 54 22 P What do you show pressure on the ground?

CONFIDENTIAL

CONFIDENTIAL

171

01 20 54 30 CC Roger, we are reading 360 psi on the ground.
01 20 54 36 P Okay, my scale is sitting right below 800.
01 20 54 42 CC Roger.
01 20 54 43 P 795.
01 20 54 53 CC Flight advises that they believe that it has been venting off and on for the last 3 hours.
01 20 55 00 P Okay, Roger. Thank you. I can't seem to pick it up on this gage.
01 20 55 07 CC Roger.

CARNARVON

01 21 04 01 CC Gemini-5, Carnarvon CAP COM.
01 21 04 06 P Go ahead, Carnarvon, Gemini-5 here. Ready to copy updates.
01 21 04 08 CC Okay, I'm awaiting Flight Plan update. It hasn't arrived yet. But we will pass on this information to you. This pass over the States will update you on a rendezvous plan into a phantom Agena orbit. They've got four burns over 3 or 4 hours and the info will be relayed to you over the States.
01 21 04 38 P Okay. As I understand it we're not going to have this D-6 over Laredo and Bermuda. Is that correct?
01 21 04 49 CC I'll check on that. Stand by.
01 21 05 42 CC Gemini, Carnarvon, will be no D-6 experiments over the States this pass.
01 21 05 49 P Okay. Gemini-5 standing by, waiting for the State-side information.
01 21 06 37 CC How are you feeling after getting some sleep?
01 21 06 40 P Just fine; always did feel fine.
01 21 06 42 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

01 21 06 46 P On that last pass, we just about could see Carnarvon. Looks like it was right at the edge of the clouds; seems to be dark now.

01 21 06 54 CC Roger, we've got a light overcast.

01 21 06 59 P And I can see just west of here of Carnarvon.

01 21 10 39 CC Gemini-5, Carnarvon. I've got one item on the flight update.

01 21 10 49 P Go ahead.

01 21 10 51 CC D-2, Delta 2, second day, 12 hours 56 minutes 40 seconds, Sequence No. 142, Mode 01, pitch up 14 degrees, yaw left 37, remarks are as follows: Left to right, speed 125. Use the D-4/D-7 Mode 414 with this test.

01 21 11 49 P Okay. Understand D-2 12:56:40, a 142 sequence, Mode 01, pitch up 14, yaw left 37, left to right, speed 125, use D-4/D-7 Mode 414.

01 21 12 06 CC Affirmative. We've got about 30 seconds to LOS. Standing by.

01 21 12 16 P Roger.

HOUSTON, TEXAS

01 22 06 39 CC Gemini-5, Gemini-5, Houston CAP COM.

01 22 06 44 P Hello, Houston CAP COM, Gemini-5. Go ahead.

01 22 06 48 CC Roger. We have continuation of your Flight Plan and it's a lengthy one. It'll take us probably about 8 or 10 minutes to read it up. I'll release the key after each update and if you have a question, come back at me right then. Okay?

01 22 07 03 P Okay. Give it to me by the times and I'll have to turn the pages too, so take it slow.

01 22 07 08 CC Okay. It's sequentially all the way. It includes all your experiments plus the maneuvers for this phantom rendezvous. Copy?

CONFIDENTIAL

CONFIDENTIAL

173

01 22 07 19 P Roger.

01 22 07 20 CC Okay, all set to copy?

01 22 07 23 P Roger. All set to go.

01 22 07 26 CC Roger. 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?

01 22 07 42 P Roger. Power up 13:00 for UHF 1.

01 22 07 45 CC Roger. D-1, 13:10:00. Sequence No. 02. Remarks, Venus. Speed 30.

01 22 08 02 P D-1. Say again the sequence.

01 22 08 07 CC 02.

01 22 08 08 P Okay. 13:00:00, Sequence No. 02, Venus.

01 22 08 14 CC Roger. Speed 30.

01 22 08 23 P Okay.

01 22 08 25 CC D-1. 13:20:00. Sequence No. 03. Alpha Centauri, Speed 60.

01 22 08 52 P Okay.

01 22 08 53 CC D-6. 13:41:46. Sequence No. 012. Mode 019. Pitch 30 degrees down. Yaw 02 degrees right. Speed 1000. S-4.

01 22 09 30 P Roger.

01 22 09 32 CC UHF Test. 13:47:05. Sequence No. 01. Pitch 20 up. Roll Zero. Yaw 13 left.

01 22 10 03 P Give me that one again, please.

01 22 10 06 CC Roger. UHF Test. 13:47:05. Sequence No. 01. Pitch 20 up. Roll Zero. Yaw 14 left.

01 22 10 31 P Okay.

01 22 10 33 CC S-5 and S-6. 14:01:00. During African pass.

CONFIDENTIAL

CONFIDENTIAL

01 22 10 46 P Say the remarks.

01 22 10 48 CC That's during the African pass.

01 22 11 01 P Go ahead.

01 22 11 02 CC Okay, back up one on your UHF Test that you just copied. Have a Delta T of 6 plus 42.

01 22 11 15 P Roger. Delta T, 6 plus 42.

01 22 11 17 CC Roger. Okay, next test. D-4/D-7. 14:04:00. Sequence No. 420. Over Kano.

01 22 11 40 P Roger.

01 22 11 41 CC S-1. 14:26:12. Remarks are sunset time.

01 22 11 57 P Roger.

01 22 11 59 CC Then power up. This is for UHF No. 2. 14:40:00. And that's to power up your platform.

01 22 12 15 P That's the time to power it up or the time of the test?

01 22 12 18 CC That is the time to power up the platform.

01 22 12 21 P Roger.

01 22 12 23 CC D-6. 15:16:59. Sequence No. 20. Mode 09. Pitch 30 down. Yaw 09 right.

01 22 12 45 P ... the pitch faded.

01 22 12 47 CC Pitch 30 down.

01 22 12 52 P Faded 30 down.

01 22 12 54 CC Speed 60 on that last one.

01 22 13 02 CC Speed 60.

01 22 13 04 CC UHF Test. 15:21:19. Sequence No. 02. Delta T, 6 plus 43. Pitch 0. Roll 139 left. Yaw Zero.

01 22 13 36 P Roger.

CONFIDENTIAL

CONFIDENTIAL

175

01 22 13 39 CC S-6. 15:45:00. Sequence No. 07. No remarks.

01 22 13 52 P Roger.

01 22 13 55 CC Maneuver. This is a preparation for your maneuvers.
15:50:00. Platform on Cage BEF.

01 22 14 16 P 15:50:00. Platform Cage BEF?

01 22 14 21 CC That's affirmative. Next one is another maneuver.
16:15:00. Aline BEF. Rate gyros on.

01 22 14 45 P Roger.

01 22 14 46 CC Next one is another maneuver preparation. 16:45:00.
Computer ON. Address 25 90201.

01 22 15 08 P Roger. Computer ON. Address 25 90201.

01 22 15 13 CC That's affirmative. The next one is apogee adjust.
16:50:17. Translate forward to zero the IVI's.

01 22 15 31 P Let me have that time again.

01 22 15 33 CC 16:50:17.

01 22 15 48 CC ... 49. Sequence No. 134. Mode 09. Pitch 30 down.
Yaw zero degrees. Speed 125.

01 22 16 09 P Roger. Say again the time.

01 22 16 11 CC 16:56:49.

01 22 16 16 P Okay.

01 22 16 17 CC Next one is a maneuver preparation. 17:20:00. Aline
platform SEF. Computer ON. Address 25 00158.

01 22 16 46 P Okay. Maneuver preparation. 17:20:00. Aline plat-
form SEF. Computer 25 00158.

01 22 16 54 CC That's affirmative. Next is phase adjust. 17:34:58.
Translate forward to zero the IVI's.

01 22 17 17 P What kind of a maneuver was it?

01 22 17 19 CC That's your phase adjust.

CONFIDENTIAL

CONFIDENTIAL

01 22 17 31 P Go ahead.

01 22 17 34 CC D-4/D-7. 17:42:00. Sequence No. 410 Bravo and 407. Over Carnarvon.

01 22 18 02 P Go ahead.

01 22 18 03 CC Another maneuver preparation. 17:50:00. Aline platform SEF. Computer ON. Address 27 00150. Yaw 90 left.

01 22 18 32 P Maneuver preparation. 17:50:00. Aline platform SEF. Address 27 00150. Yaw left 90.

01 22 18 43 CC That's affirmative. The next one is a plane maneuver. 18:06:50. Translate forward to zero the IVI's.

01 22 19 09 P Okay. Go ahead.

01 22 19 12 CC Okay. We have about three 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. And 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.

01 22 19 39 P Okay.

01 22 19 41 CC And then you can turn your platform off after each UHF test, but I think you'll see that in the sequence. And platform on during all the simulated maneuvers and rendezvous exercises.

01 22 19 56 P Okay. ...

01 22 20 07 CC Gemini-5, I think we have LOS. If you copy, we'll pick you up over the Canaries.

CANARY ISLAND

01 22 24 27 CC This is Canary CAP COM.

01 22 24 29 P Go ahead, Canary. Gemini-5 here.

01 22 24 31 CC Roger. We're expecting a purge on Section 2 of

CONFIDENTIAL

CONFIDENTIAL

177

the fuel cell on this pass. We would like to get a quantity readout before we start the purges.

01 22 24 44 P Roger. Fuel cell O₂ is 93% and about 80 psia.

01 22 24 55 P Fuel cell hydrogen is 93% and showing 800 psia.

01 22 25 11 CC Gemini-5, they want to get the Flight Plan updates completed prior to the purge.

01 22 25 19 P Okay. Go ahead, update.

01 22 25 23 CC Gemini-5, Houston CAP COM. Do you read?

01 22 25 26 P Go ahead.

01 22 25 28 CC Roger. We'll pick up where we left off on the maneuvers. You ready to copy?

01 22 25 32 P Yes, I got 18:06:50 planar maneuver.

01 22 25 36 CC Roger. Affirmative. The next one is S-8/D-13. 18:24:58. Sequence No. 03. Pitch 30 down. Yaw 08 right.

01 22 26 01 P Roger.

01 22 26 02 CC Next is a maneuver preparation. 18:50:00. Aline platform SEF. Computer ON. Address 25 00164.

01 22 26 25 P Roger, 18:50:00. Aline platform SEF. Computer ON, 25 00164.

01 22 26 34 CC That's affirmative. Next one is reverse coelliptic. 19:04:18. Translate forward to zero the IVI's.

01 22 27 04 P Roger.

01 22 27 04 CC And there's a correction on your UHF Test No. 1, which was at 13:47:05. If you go back to it, I'll pass you the correction.

01 22 27 15 P Go ahead.

01 22 27 16 CC It's pitch 90 up vice 20 up.

01 22 27 23 P Roger, pitch up 90 degrees.

CONFIDENTIAL

CONFIDENTIAL

01 22 27 26 CC That's affirmative. And did you copy the rest of the instructions relative to keeping the power down and powering off after the UHF tests?

01 22 27 35 P Yes. With initial platform power up you want 1300. Right?

01 22 27 43 CC That's affirmative.

01 22 27 46 P Okay, we got it. I don't know whether we'll get it all done or not.

01 22 27 50 CC Well, give it a try; and be advised, do not use the aft-firing thrusters at any time. Copy?

01 22 27 58 CC Forward firing thrusters.

01 22 28 00 P Thrust the firing thrusters?

01 22 28 02 CC No, that's negative. Do not use the forward firing thrusters at any time. Forward.

01 22 28 07 P Roger. Do not use the forward firing thrusters.

01 22 28 18 CC This is because we don't want to use the oxygen in the fuel cell oxygen tanks.

01 22 28 24 P Okay.

01 22 28 25 CC We don't want to disturb it. And all the thrusting will be done with the aft-firing thrusters.

01 22 28 31 P Roger.

01 22 28 34 CC Okay. And then observe the fuel cell O₂ pressure and don't let it drop much at the high power loads when you're all powered up and thrusting.

01 22 28 43 P Okay.

01 22 28 47 P Canary, stand by for the H₂ purge commencing right now on Section 2.

01 22 29 05 P Purge complete. Going to O₂.

01 22 29 09 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

179

01 22 29 32 CC 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.

01 22 29 45 P Roger. We have a minute and 20 seconds to go and everything looks fine.

01 22 29 49 CC Roger. Everything's looked good here so far.

KANO, NIGERIA

01 22 32 53 CC Gemini-5, Gemini-5, Houston here.

01 22 33 05 C Go ahead, Houston. Gemini-5.

01 22 33 08 CC Roger, Gemini-5. This is Houston here. The reason that we do not want you to use your forward firing thrusters has to do with the condition of the oxygen in your fuel cell oxygen tank. We believe that the oxygen is in two phases in the tank and that we are actually getting LOX again, liquid oxygen, to the heat exchanger, and we are then converting it to gaseous oxygen and then into the fuel cell. We don't want to disturb the position of the LOX within the oxygen tanks. I say again, we do not want to disturb the position of the liquid oxygen within the oxygen tanks; therefore, we can use only the aft-firing and lateral-firing thrusters and we do not want to use the forward-firing thrusters. Did you get that?

01 22 34 35 CC Gemini-5, Gemini-5, Houston here.

01 22 34 39 C Say again; you faded out for a while there.

01 22 34 44 CC Roger. I'll say again, we have about enough time for one more long transmission here. We think that the oxygen in the fuel cell oxygen tank is in two phases, two phases, gaseous and liquid. We think that the liquid oxygen is going to the heat exchanger and being converted to gaseous oxygen there. We do not want to disturb the relative position of the liquids and gases in the fuel cell oxygen tank. Therefore, we do not want to use the forward-firing thrusters. We do want to use the aft-firing thrusters. Over.

CONFIDENTIAL

CONFIDENTIAL

01 22 35 40 C Okay. We got that.

01 22 35 42 CC Okay. Very good.

TANANARIVE

01 22 46 36 CC Gemini-5, Gemini-5, this is Houston.

01 22 46 43 C Go ahead, Houston. Gemini-5.

01 22 46 46 CC Roger. We have a medical data pass over Carnarvon 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 data pass over Carnarvon and we'll do it over Canaries.

01 22 47 15 C Scrub medical data pass.

01 22 47 20 CC Gemini-5, Gemini-5. This is Houston here. That is correct. Scrub the medical data pass over Carnarvon and we will pick it up over Canaries.

01 22 47 36 C Okay. Now could you get a verification on the cylinder speed of the D-2 experiment coming up.

01 22 47 47 CC The speed of the D-2 is 1/125.

01 22 47 54 C At what f-stop?

01 22 47 59 CC Say again, please.

01 22 48 04 C At what f-stop? Over.

01 22 48 52 CC Gemini-5, Gemini-5, this is Houston here.

01 22 49 05 C Go ahead, Houston. Gemini-5.

01 22 49 08 CC Roger. That is taken with the Questar lens.

01 22 49 20 C Roger.

CARNARVON, AUSTRALIA

01 22 59 02 CC Gemini-5, Carnarvon.

01 22 59 05 C Go ahead, Carnarvon, Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

181

01 22 59 06 CC Roger. Would you give me a readout on your squib bus No. 2 loads.

01 22 59 18 C Roger, just a minute.

01 22 59 25 P Roger, it's reading 26.0.

01 22 59 26 CC Roger.

01 22 59 37 CC Flight would like you to think about the maneuvers that were updated to you, and if you have any comments they'll discuss them with you over the States this pass.

01 22 59 46 C Okay.

01 23 00 22 P Okay, this is a D-1. It's a planet and we're using film 8443. We're taking the pictures at 13:00:00.

01 23 06 15 CC Gemini, Carnarvon. We have about a minute to LOS. Standing by.

01 23 06 20 C Roger, Carnarvon. Thank you.

01 23 33 19 P Okay. For the voice tape: D-1, Alpha Centauri, Day 02, 13:20:00, completed at 13:23:00, four pictures film 3401, speed 1/60.

01 23 23 41 P Tracked with the periscope.

GUAYMAS

01 23 37 12 CC Gemini-5, Guaymas CAP COM standing by.

01 23 37 24 C You might pass on to Houston that the Command Pilot's reticle has burned out.

01 23 37 30 CC Okay. I'm reading you very poorly. Could just about hear you, Gordo. Try it again.

01 23 37 35 C Roger. The Command Pilot's reticle, sight reticle, has burned out. That will affect some of the experiments.

01 23 37 44 CC Okay. I got that.

01 23 38 02 CC Have you tried switching to your second element?

CONFIDENTIAL

CONFIDENTIAL

01 23 38 10 C Roger. I've tried all the elements.

01 23 38 14 CC Roger. Do you need any other information?

01 23 38 19 C Negative. I don't believe so.

01 23 38 21 CC Okay. We'll just stand by here.

01 23 39 39 CC Okay. You're looking real good here on the ground.

01 23 39 42 C Roger, thank you.

HOUSTON

01 23 43 01 CC Gemini-5, Houston here standing by.

01 23 43 05 C Roger, Houston. Gemini-5. We've burned out the sight reticle ...

01 23 43 17 C You might have a little talk with the flight planning people. They're filling us just a little bit too full. We can't get the equipment put together and torn apart in the time they're putting these things together.

01 23 43 29 CC Okay, Gordo, I'll take a check on that.

01 23 43 34 CC Let me ask you one thing; have you tried all the combinations of cords and utility outlets that go along with this flight just in case it's not the sight and it's one of the cords instead?

01 23 43 44 C Roger.

01 23 43 45 CC Okay. I sort of suspected you had.

01 23 43 55 CC I think one of the flight planning problems, Gordo, is that we're not blessed with too--the weather is not too good today. So they're trying to stick them in where they've got good weather, and I think it's putting a bunch of them together.

01 23 44 06 C Yes, well, some of these like on the high side there were just bang, bang, bang right together, and we just can't do them that close together. It's rather poor planning.

CONFIDENTIAL

01 23 44 14 CC Okay.

01 23 44 15 P And we've got to watch these lens changes. We've got every piece of gear in the spacecraft floating around in here trying to keep up with it.

01 23 44 23 CC Roger, Roger.

01 23 44 47 CC Hey, hey, Pete. Gemini-5, Houston here. Why don't you make a few comments for the better sex.

01 23 45 00 C Hello there. We just passed over Tampico, New Mexico.

01 23 45 10 CC Pete, Pete, Jane's up here. Why don't you say something.

01 23 45 12 P Hello there. How's all the boys doing?

01 23 45 17 CC She says fine.

01 23 45 20 P That's good. We just passed Monterey, which seemed to be under the overcast. And I tried to get the air-ground done at Tampico and I got one quick picture of it.

01 23 45 29 CC Okay.

01 23 45 30 CC Say, listen, you know you might be sort of thinking about that Laredo pass and what the weather is and whether you think you can hack that. It looks like you've already gone by that area, but if it looks too cloudy up there, why don't you let us know.

01 23 45 44 C Okay.

01 23 45 59 C We may not get this UHF Test either because we never did get the platform fully alined before the D-6 ...

01 23 46 09 CC Okay. Understand you're not going to be able to do the UHF Test. Is that correct?

01 23 46 13 C We'll give it a try here. We're trying to get back in here and get the platform alined a little bit anyhow just so we can do it.

01 23 46 19 CC Okay.

CONFIDENTIAL

01 23 46 34 CC Gemini-5, 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 get through, come back down; and if you've got 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.

01 23 47 09 C We'll throw it in here real quick; just one second till it gets caged.

01 23 47 15 CC Roger.

BERMUDA

01 23 48 27 P Okay. We're commencing the UHF Test now. We're in the process of pitching up through 40 degrees and we're on the reentry antenna.

01 23 48 37 CC Roger.

01 23 48 46 P Okay. Shifting to Adapter.

01 23 49 06 P Okay. Shifting back to Reentry. And we're right at the top now.

01 23 49 07 P Okay, shifting back to Reentry. And we're right at the top now.

01 23 49 26 C Yawing left 14 degrees.

01 23 49 29 P Okay. Shifting back to the Adapter.

01 23 49 48 P Shifting back to Reentry. Anybody want to say anything to us?

01 23 49 55 CC Negative.

01 23 49 57 P Okay. Again on Reentry.

01 23 50 01 CC T/M again on Reentry.

01 23 50 02 P Okay, shifting back to Adapter.

01 23 50 19 P Shifting back to Reentry.

CONFIDENTIAL

CONFIDENTIAL

185

01 23 50 46 P Okay, shifting to Adapter. I'm keying for 10 seconds.

01 23 51 02 P Okay. We're still on Adapter, holding attitude well.

01 23 51 10 P Okay, shifting to Reentry.

01 23 51 26 P Okay, shift to Adapter.

01 23 51 48 P Shifting to Reentry. I'm keying for 10 seconds.

01 23 52 02 P Back to Reentry.

01 23 52 07 P Shifting to Adapter.

01 23 52 26 P Shifting back to Reentry.

01 23 52 43 C We ought to be long past it by now.

01 23 52 44 C Not yet, unkeying mike for 10 seconds, shifted to Adapter. Keying the mike again. Shifted to Reentry. Shifted to Adapter ...

01 23 52 46 P Not yet. I'm keying the mike for 10 seconds, shifting to Adapter. 6 minutes 42 ... passed.

01 23 52 58 P Keying the mike again.

01 23 53 12 P Shifting to Reentry.

01 23 53 29 P Shifted to Adapter. No, I'll do it on this next one.

01 23 53 46 P End of UHF Test No. 1.

CANARY

01 23 58 20 CC Gemini-5, this is Canary CAP COM.

01 23 58 28 P Hello, Canary, Gemini-5, go.

01 23 58 27 CC Roger, we're expecting a blood pressure and a medical pulse on the Command Pilot. We would like

CONFIDENTIAL

CONFIDENTIAL

to do a Fuel Cell Section 1 Purge with the Pilot.

01 23 58 43 C Roger. The Command Pilot is getting secured right now, and I'll start a fuel cell purge on the No. 1 section, crossover valves open.

01 23 58 54 CC Roger, would you give us a reading on the Fuel Cell Hydrogen, quantity reading.

01 23 59 02 P Fuel Cell Hydrogen 92%, 780.

01 23 59 08 CC Roger, would you give us Fuel Cell O₂ now.

01 23 59 11 P 93% and 80 psi.

01 23 59 21 CC Stand by for the hydrogen purge on my mark. MARK.

01 23 59 38 P Hydrogen purge complete. Stand by for Fuel Cell O₂ Purge in 15 seconds.

02 00 00 02 P Stand by. MARK.

02 00 00 24 CC Roger.

02 00 00 25 CC Gemini-5, Canary Surgeon.

02 00 00 29 P Go ahead, Surgeon.

02 00 00 30 CC You're having trouble with this blood pressure cuff. Let's forget it and go on to the exercise.

02 00 00 36 P Roger.

02 00 00 46 P Gemini-5 to Canary Surgeon. You've got your cuff to full-scale and now it's bleeding off satisfactorily.

02 00 01 06 P One minute to purge complete.

02 00 01 10 CC We have a good blood pressure. Give me a mark when you start your exercise.

02 00 01 14 P Starting exercise now.

02 00 01 45 CC That's fine, it looks like he had quite a little problem getting the ...

CONFIDENTIAL

CONFIDENTIAL

187

02 00 01 49 P Beginning the exercise now.

01 00 01 54 CC Sending the blood pressure now.

01 00 02 06 CC Your cuff is full-scale.

02 00 02 08 P Fuel Cell O₂ Purge complete, crossover valve closed.

02 00 02 11 CC Roger, would you give us a reading, a quantity reading on Fuel Cell H₂.

02 00 02 31 CC Roger, Gemini-5, would you give us a reading, quantity reading on Fuel Cell H₂ please?

02 00 02 37 CC We have a good blood pressure. Standing by for your water and sleep report.

02 00 02 54 P Roger, on the sleep, we both slept, the Pilot slept for about a full 6 hours last night. The Command Pilot, at the same time, slept for a good 3 hours. Just a minute and I'll get you the water report, here.

02 00 03 12 CC Would you switch Fuel Cell Quantity Read to Fuel Cell H₂ please?

02 00 03 28 CC Quantity Read to ECS O₂ please.

02 00 03 30 C Roger, as of right now the Command Pilot has drunk 11 pounds of water. And the Pilot has drunk 10 pounds 3 ounces.

02 00 03 51 CC Gemini-5, Canary Surgeon. Understand 11 pounds, Command Pilot, and 10 pounds 3 ounces, Pilot. Give me an indication of the degree of depth of sleep for the Command Pilot.

02 00 04 02 P Pretty deep.

02 00 04 03 CC Roger, Canary station out.

02 00 04 06 CC You can switch your ... Roger. Everything looked good during that pass. Things look good here in Houston.

02 00 04 19 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

02 00 07 34 P Commence D-4/D-7, 420 sequence, just slightly past Kano.

02 00 07 46 P Now pitch back up again to the horizon.

02 00 08 14 P Now, do you want to try and get this zodiacal light thing out of the way or not?

02 00 08 19 C We're stomping right onto it right now, aren't we?

02 00 08 24 P Yes.

02 00 08 26 C Well, let's try it later. I thought we were supposed to do that later on in the mission. Let's do it later. Maybe we won't get to it.

02 00 08 36 P You don't have a gun sight, so we're going to have to just guess at it, anyhow.

02 00 08 58 C I'm trying to stay off the clouds here ...

02 00 09 02 P Okay, might as well stop that, that's good enough.

02 00 09 10 P Have we gotten back up to the horizon yet?

02 00 09 12 C Not quite.

02 00 09 29 P We over water or Africa?

02 00 09 31 C We're over Africa.

02 00 09 34 P Kano still should be getting ...

02 00 09 36 C Yes.

02 00 09 38 C Okay, back up to the horizon.

02 00 09 41 P All right. Completed the D-4/D-7 420 at 14:10:00.

CONFIDENTIAL

CONFIDENTIAL

189

CARNARVON

02 00 35 18 CC Gemini-5, Carnarvon. We have nothing for you this pass; standing by.

02 00 35 24 C All right, Carnarvon, thanks.

02 00 35 36 C Would you notify Houston we're going to save the Zodiacal Light Experiment until a later time?

02 00 35 42 CC Say again the experiment.

02 00 35 44 C Zodiacal Light.

02 00 35 45 CC Roger.

02 00 35 50 C That's the S-1 Experiment.

02 00 35 59 CC Flight says okay.

02 00 36 00 C All right.

02 00 36 18 CC Gemini, Carnarvon. Flight advises that if you feel you're too busy on any of these and want to drop it, to go ahead and drop it, and they'll reschedule.

02 00 36 26 C Okay, thank you.

02 00 40 37 CC Please stand by your platform power-up for UHF check.

02 00 40 43 P Gemini-5.

02 00 40 58 P Roger, Platform is starting to warm up.

02 00 41 00 CC Roger.

02 00 54 18 CC Gemini-5, Gemini-5, this is Houston here. Over.

02 00 54 24 C Go ahead, Houston, Gemini-5.

02 00 54 26 CC Roger, Gemini-5, this is Houston. I've got a couple of messages for you. I want to brief you a little on this rendezvous, what we're planning on doing.

02 00 54 38 C Say again.

CONFIDENTIAL

CONFIDENTIAL

02 00 54 41 CC Roger, I have some messages for you, and I want to brief you on what we're going to do during the rendezvous.

02 00 54 52 C Okay, go ahead.

02 00 54 55 CC All right. The weather for your D-6 over Waco is about 5/10 cloud coverage. You might keep that in mind and if you see you can't make it with that type of cloud coverage to just skip it. But we do want to advise you that there will be about 5/10 coverage. Do you understand?

02 00 55 25 C ...

02 00 55 27 CC Okay, I'd like to talk about the reticle now. Do you have the rheostat that was added to the reticle to help dim it?

02 00 55 40 C Yes sir, I haven't been using it.

02 00 55 44 CC Okay. It's not plugged in then. Is that correct?

02 00 55 48 C No, I haven't been using the rheostat.

02 00 55 54 CC Okay, we thought that if you had the rheostat plugged in that that might have been what failed. We wanted you to take it out. If you don't have it in, I guess we don't have to worry about that.

02 00 56 13 CC Gemini-5, Houston here again. We would like to have you bring your computer on at about 15:14 in the Prelaunch Mode so that we can update your 33-1 times.

02 00 56 30 C Okay, computer on in Prelaunch at 15:20.

02 00 56 34 CC Negative, 15:14. That's 15:14:00. Gemini-5, Houston here. I'll say the computer-on time again. It's second day; it's 15:14:00.

02 00 57 04 C Roger, it's 15:14:00.

02 00 57 08 CC Roger, now on the rendezvous it's going to start at 02:16:50:17. That will be your first burn. It'll take about 1 hour and 15 minutes to complete the entire rendezvous. There will be the four maneuvers

CONFIDENTIAL

that we pointed out earlier. We want you, when you start the rendezvous, when you put your computer on for the first time, we'd like to have you leave it on. Your first two updates for the computer will be done through the DCS, and any changes will be updated to you via voice at a later time. Your second two maneuvers will be sent up to you by voice, and we want you to put them in through the MDIU. That way we can exercise the ground and also the MDIU. Do you understand?

02 00 58 40 CC Gemini-5, did you get that on the rendezvous?

02 00 58 43 C Roger, we got that.

02 00 58 46 CC Okay, very good.

02 00 58 47 CC Dr. Berry would like to talk to you for a minute or two.

02 00 58 53 CC Good morning, Gordo.

02 00 58 57 CC Gordon, we're trying to follow this sleep and food pretty closely down here, and we're having some trouble getting straight from the records that we have, what you have there. We talked to Elliot about this and what first we got you down for, roughly about 13 hours of sleep in your case. Are you having any real feeling of fatigue, either you or Pete, today?

02 00 59 25 C Berry, we're well rested, we both slept all night last night.

02 00 59 29 CC Very good, very good. Gordon, are you doing any extra exercise?

02 00 59 47 CC Gemini-5, Gemini-5, this is Houston Surgeon, do you read?

02 00 59 51 C Yes, we read you.

02 00 59 53 CC Right, Gordon, are you doing any extra exercising other than those programmed on the passes?

02 01 00 20 CC Gemini-5, this is Houston Surgeon.

CONFIDENTIAL

02 01 00 24 C Go ahead.

02 01 00 27 CC Gordon, did you read - we would like to know if you are doing any extra exercises other than just the pulls that are associated with a data pass.

02 01 00 36 C Affirmative.

02 01 00 38 CC Very good.

02 01 00 40 CC Okay on the food list, Gordon, we have down that you have, are down to Meal B, Meal B on Day 2, which would mean according to the packaging and stowage list that you have complete portions of four meals, four meals. Is that affirm?

02 01 01 04 C Yes.

02 01 01 25 CC Gemini-5, this is Houston Surgeon. Do you read?

02 01 01 28 C Yes, are you reading us?

02 01 01 40 CC Gemini-5, this is Houston Surgeon. We are not reading you.

02 01 01 46 C Roger ...

GUAYMAS

02 01 11 04 CC Gemini-5, Guaymas CAP COM.

02 01 11 07 P 5 here.

02 01 11 08 CC How are you doing?

02 01 11 11 P ... platform ...

02 01 11 17 CC Roger, we want you to turn your C-Adapter Beacon to the CONTINUOUS position at this time. We want you to leave it on during all the maneuvers, just leave it in that position.

02 01 11 26 P C-Adapter CONTINUOUS.

02 01 11 28 CC Okay, we do not want you to power down fuel cell Section No. 1.

CONFIDENTIAL

CONFIDENTIAL

193

02 01 11 34 P No, we won't.

02 01 11 36 CC Okay. Turn the computer on at 15:14:00.

02 01 11 41 P Roger, give us a mark.

02 01 11 44 CC Okay. I'll give you a mark. We want it at Pre-launch Mode at that time. You got about 3 minutes.

02 01 11 52 P How about a GMT time hack?

02 01 11 53 CC Okay, coming up on 15:12 on my mark: 3, 2, 1,

02 01 12 00 CC MARK.

02 01 12 02 P Okay.

02 01 12 07 CC Did you get it or do you want me to give you one at 13?

02 01 12 11 P I'd like another one at 13.

02 01 12 12 CC Okay. On my mark it will be 15:13:00. You got about 40 seconds.

02 01 12 52 CC Stand by - 3, 2, 1,

02 01 13 00 CC MARK.

02 01 13 12 CC Okay. Did you get that?

02 01 13 15 P That's affirmative.

02 01 13 19 CC All right.

02 01 13 56 CC Okay, turn the computer on to the Prelaunch Mode at this time.

02 01 14 01 P Computer on.

02 01 16 32 CC Gemini-5, this is Houston CAP COM here. Do not bother answering this message. We just wanted to tell you we're sending up a DCS load.

02 01 17 04 CC Gemini-5, this is Houston here. Do not acknowledge this message. Be advised you have a GO for 47-1 and we're sending up the TR's and the retro loads for

CONFIDENTIAL

CONFIDENTIAL

your computer. So you'll be getting some DCS lights.

02 01 17 21 P Gemini-5, Roger.

02 01 18 22 CC Gemini-5, Houston here. When you get through with your D-6, why don't you give us a call? We've got a couple of messages.

02 01 18 28 C Okay.

02 01 18 34 C Waco was under the clouds. We did look at Dallas, Dallas airport, there.

02 01 18 41 CC Okay. So you did Dallas instead of Waco. Right?

02 01 18 44 C Affirmative.

02 01 18 45 CC Okay, are you all done?

02 01 18 53 CC Gemini-5, Houston. Have you completed your pass there?

02 01 18 57 C Roger.

02 01 19 00 CC Okay. We've got a couple of messages for you. We would like to have you turn your computer off at this time. Just power the computer down normally.

02 01 19 10 C Roger, computer's off.

02 01 19 12 CC We would like to have you leave your platform on after your UHF Test. Rather than powering it down, we'd like to have you leave the platform on throughout the rendezvous from this point on.

02 01 19 25 C Okay.

02 01 19 27 CC The roll angle for the UHF Test has been changed from 139 to 132. So your new roll angle should be 132, I say again, 132 degrees roll left.

02 01 19 48 C 132 degrees roll left.

02 01 19 51 CC Roger.

02 01 19 53 CC And you got your GO for 47-1, right?

CONFIDENTIAL

CONFIDENTIAL

195

02 01 19 58 P Roger.

02 01 19 59 CC Okay. If you have time you could give us your GO/NO-GO information, and if not we'll just skip it here.

02 01 22 05 P Commencing a UHF Test No. 2 at this time on Reentry. Shifting to Adapter. Shifting to Reentry.

02 01 22 11 P Beginning UHF Test No. 2 at this time on Reentry.

02 01 22 23 P Shifting to Adapter.

02 01 22 45 P Shifting to Reentry.

02 01 22 59 P Unkeyed for 10 second bursts. Shifting to Adapter.

02 01 23 09 P Shifting to Adapter.

02 01 23 23 P Shifting to Reentry.

02 01 23 38 P Shifting to Adapter.

02 01 23 50 P Shifting to Reentry.

02 01 23 59 P I'm keying for 10 seconds.

02 01 24 09 P Shifted to Adapter.

02 01 24 23 P Shifting to Reentry.

02 01 24 33 P Giving Bermuda a test count: 1, 2, 3, 4, 5, 4, 3, 2, 1.

02 01 24 43 P Shifting to Adapter. Giving Bermuda a test count: 1, 2, 3, 4, 5, 4, 3, 2, 1.

02 01 24 59 P I'm keying for 10 seconds.

02 01 25 09 P Shifting to Reentry.

02 01 25 26 P Shifting to Adapter.

02 01 25 45 P Shifting to Reentry.

02 01 25 55 P Gemini-5's unkeying for 10 seconds.

CONFIDENTIAL

CONFIDENTIAL

02 01 26 09 P Gemini-5's back on Adapter.
 02 01 26 26 P Gemini-5 shifting to Reentry.
 02 01 26 43 P Gemini-5 shifting to Adapter.
 02 01 26 55 P Gemini-5 has completed UHF Test No. 2 at 15:27:00.

BERMUDA

02 01 27 17 CC You sure do talk a lot.
 02 01 27 21 P Say again.
 02 01 27 22 CC I said you sure do talk a lot.
 02 01 27 25 P What did I say?
 02 01 27 27 CC Shifting antennas.
 02 01 27 32 P What do you want me to do, sing you a song?
 02 01 27 35 CC Think you can?
 02 01 27 40 C He sings off key.
 02 01 27 42 P Over the ocean, over the blue, here's Gemini-5 singing to you.
 02 01 27 50 CC Stand by, go on back to talking.
 02 01 27 55 P That's a good deal.
 02 01 27 58 CC Get you a job with the Houston Astros.
 02 01 41 21 C Continuous ...
 02 01 41 23 P I'm sorry; it's an S-6 Sequence No. 7 which is--

TANANARIVE

02 01 54 31 CC Gemini-5, Gemini-5, this is Houston here. Over.
 02 01 55 15 CC Gemini-5, Gemini-5, this is Houston here. Over.
 02 01 56 48 CC Gemini-5, Gemini-5, Houston here. Over.

CONFIDENTIAL

CONFIDENTIAL

197

CARNARVON

02 02 07 48 CC Gemini-5, Carnarvon CAP COM.

02 02 07 52 C Go ahead, Carnarvon, Gemini-5.

02 02 07 54 CC Does the Pilot have the Oral ... now for a medical data pass this trip?

02 02 08 01 C I'm counting up now.

02 02 08 34 C Blood pressure is ...

02 02 08 36 CC Your cuff is full-scale.

02 02 09 14 CC Gemini-5, Carnarvon Surgeon. We have a good blood pressure, and we have a good oral count. Standing by for exercise on your mark.

02 02 09 39 C Stand by.

02 02 09 41 C MARK.

02 02 10 22 CC Your count is full-scale?

02 02 10 52 CC And we have a good second blood pressure. I assume you neither had any sleep since your last report, but I will take a water update if you have it.

02 02 11 04 C All right.

02 02 11 33 CC Gemini-5, Carnarvon Surgeon. Standing by for your water report.

02 02 11 38 C Roger, we don't have any further water report since we gave one at MCC.

02 02 11 44 CC Roger.

02 02 11 48 CC Gemini-5, Carnarvon CAP COM. What is your status for Area 47-1?

02 02 11 54 C ... GO.

02 02 11 56 CC Roger, you're going to ground; I'll update your TR clock for a 47-1.

CONFIDENTIAL

CONFIDENTIAL

02 02 12 02 C Okay.

02 02 12 14 P Carnarvon, are you ready to copy readouts for the 47-1 ... ?

02 02 12 23 CC Roger, go ahead.

02 02 12 24 P 1A read 7 amps, 1B read 7, 1C read 8, 2A read 6.5, 2B read 6.0, 2C read 6.9, main bus voltage 26.2; RCS A pressure 290, temp 70, Ring B 280, temp 60, left Secondary 02--5400, right Secondary 02--5250.

02 02 13 05 CC Roger, I copy.

02 02 13 11 P And that data was read passing the East Coast at about ...

02 02 13 25 CC You said you read that data on the East Coast.

02 02 13 28 P I said I'd give you time for that data in just a second.

02 02 13 31 CC Roger.

02 02 13 37 P That was read about 15:18:00.

02 02 13 45 CC Roger.

02 02 14 03 CC Roger, I'm transmitting your TR.

02 02 14 08 P Roger.

02 02 14 10 CC You've got it for 47-1.

02 02 14 12 P ... , we received it.

02 02 14 30 CC Gemini-5, Carnarvon CAP COM. Stand by for Carnarvon Surgeon.

02 02 14 36 CC Gemini-5, Carnarvon Surgeon. We're still trying to get a precise handle on your food consumption. Would you confirm for us that Command Pilot and Pilot both had three meals on Day 1, over.

02 02 14 54 C You know, the MCC Surgeon just queried us on this last time over the States, and we gave him a great detailed report. Maybe he hasn't gotten the word

CONFIDENTIAL

CONFIDENTIAL

199

out yet, huh?

02 02 15 07 CC That's a negative; Flight says that they did not get it.

02 02 15 15 C Ask him to ask the surgeon back there.

02 02 15 20 CC Say again.

02 02 15 23 CC Gemini-5, Carnarvon CAP COM. Gordo, they had trouble receiving through Canton when you were giving that report. Now ask him for it again.

02 02 15 37 C We've had four meals to date, and we're on Meal 2C. We had two meals on first day and two yesterday, and we're not eating all of it; and we feel fine but we just don't need all of it.

02 02 16 12 CC Gemini, Carnarvon CAP COM. We're standing by.

02 02 16 17 C All right, did you get that report on the food?

02 02 16 20 CC Roger. Loud and clear.

HAWAII

02 02 34 40 CC Gemini.

02 02 34 47 P Go ahead, Hawaii, this is Gemini-5.

02 02 35 08 P Hawaii, Gemini-5. You calling?

02 02 35 11 CC Stand by, Gemini-5.

02 02 35 31 CC Gemini-5, this is Hawaii. I have a maneuver update for you.

02 02 35 36 P Go ahead.

02 02 35 37 CC Are you standing by to copy?

02 02 35 40 P Affirmative.

02 02 35 44 CC Roger, the GETD is 50:49:56, the burn is 21.1 feet per second, Delta T 28 seconds, Core 25 90211, Core 26 all zeros, Core 27 all zeros.

CONFIDENTIAL

CONFIDENTIAL

02 02 36 23 P Roger, give me the time of the burn again, please.

02 02 36 25 CC The time of the burn, correction to the time of the burn, is 49, break, it's 50:49:57.

02 02 36 36 P That's the GET, how about the GMT?

02 02 36 46 CC That GMT is 16:49:57.

02 02 36 56 CC Did you copy, Gemini-5?

02 02 36 58 P Roger, 16:49:57.

02 02 37 01 CC Roger.

02 02 37 03 P Did you want us to insert that to computer?

02 02 37 05 CC That's affirmative. I can't update you with my load down here.

02 02 37 11 P Say again.

02 02 37 12 CC That's affirmative.

02 02 37 20 CC Gemini-5, that's affirmative: just put it in the MDIU.

02 02 37 24 P Gemini-5, Roger.

02 02 37 38 CC Gemini-5, this is Hawaii. Is the computer on yet? What time do you intend to turn it on?

02 02 37 44 P Well, we have a Flight Plan time of 16:45:00 but I think we'll bring it on early.

02 02 37 50 CC Roger, understand.

02 02 37 53 C Computer on at this time.

02 02 37 55 CC Roger.

02 02 38 19 CC Gemini-5, are you ready to do your first burn?

02 02 38 27 P That's affirmative.

02 02 38 28 CC Roger, we have you GO on the ground.

CONFIDENTIAL

CONFIDENTIAL

201

02 02 38 33 P GO up here.

02 02 38 34 CC Roger.

02 02 38 45 CC Gemini-5, let us know when you can insert into the computer. We need a summary.

02 02 38 58 P Roger, I'm inserting at this time.

02 02 39 00 CC Roger.

02 02 39 18 P The computer is loaded.

02 02 39 20 CC Roger, understand.

02 02 40 27 CC Gemini-5, Hawaii. We have you about minus 1 minute. Standing by.

02 02 40 37 P Minus 1 minute. We're not going to burn in 1 minute, Ed. 16:49:57.

02 02 40 43 CC Roger, Gemini-5, I had LOS minus 1 minute; that was my error.

02 02 40 50 P Roger.

GUAYMAS

02 02 46 03 CC Gemini-5, Guaymas CAP COM.

02 02 46 06 C Gemini-5 here.

02 02 46 07 CC Okay, how are you doing?

02 02 46 09 C Roger, we're standing by to burn.

02 02 46 10 CC Okay, you're looking good here on the ground for your burn. Do you need any more information?

02 02 46 15 C Negative.

02 02 46 16 CC Okay, I'd like a mark at the start and the end of your burn.

02 02 46 19 C Roger.

02 02 46 20 CC Okay.

CONFIDENTIAL

CONFIDENTIAL

02 02 46 22 CC Want to make a GET time hack?

02 02 46 25 C Okay.

02 02 46 26 CC Okay, on my mark it will be 46, it will be 50:46:40; you got about 8 seconds.

02 02 46 37 CC 3, 2, 1,

02 02 46 40 CC MARK.

02 02 46 43 C Okay.

02 02 46 44 CC Okay, very good.

02 02 46 57 CC Okay, they'd like to make a UHF 6 on this pass.

02 02 47 02 C Roger.

02 02 47 42 CC Sure you got Prelaunch Mode; is that affirm?

02 02 47 45 C That's affirm; I was checking the accelerometer by us here and I have a little drift, so I'm waiting to the last minute to go to Catch Up.

02 02 47 52 CC Okay.

02 02 48 12 CC You didn't catch up now, right?

02 02 48 14 C That's affirm.

02 02 48 15 CC Okay.

02 02 49 52 C 5, 4, 3, 2, 1,

02 02 49 57 C Burn.

02 02 49 59 CC Copy.

02 02 50 27 C End of burn.

02 02 50 28 CC Okay, I got all that.

02 02 50 30 CC Give me your IVI readouts; start at the end.

02 02 50 37 P Roger, they're all zeros.

02 02 50 40 CC Okay, before and after, right?

CONFIDENTIAL

CONFIDENTIAL

203

02 02 50 45 CC ...
02 02 50 48 P Right on the money.
02 02 50 49 CC Okay, what thruster has he used?
02 02 50 53 P Aft firing thrusters.
02 02 50 54 CC Okay, very good.
02 02 51 02 CC Attitudes look real solid right here on the ground.
02 02 51 06 P Roger.

CORPUS CHRISTI

02 02 51 41 CC Gemini-5, Houston CAP COM.
02 02 51 44 C Roger, Houston, Gemini-5. Burn is complete.
02 02 51 47 CC Roger, would you read out 80, 81 and 82 for us please?
02 02 51 50 C Roger.
02 02 51 52 P ... 80 was 00004.
02 02 51 59 CC Roger.
02 02 52 15 P And 81 was zero and 82 was zero.
02 02 52 20 CC Roger, thank you.
02 02 52 23 P I take that back; 82 was 00007.
02 02 52 28 CC Okay, four zeros and a 7.
02 02 52 37 C Okay, we're swinging her into 000, getting ready for the D-6 sequence 134,165,649. Is that time still good?
02 02 52 47 CC 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 destroyer will be somewhat behind.
02 02 53 02 C Roger.

CONFIDENTIAL

CONFIDENTIAL

02 02 53 30 P ... , we got a real good look at Houston today.

02 02 53 35 CC Roger, is it raining down here?

02 02 53 38 P Yes, we could see Clear Lake, and the ... Lake.

02 02 53 45 CC How about the Center, could you see the Center?

02 02 53 48 P There's a cloud right there some place over you, I think. I can't quite make it out.

02 02 54 03 P I see a big, long, white trail of smoke down the center of the bay though.

02 02 54 07 CC Roger.

02 02 54 28 CC Gemini-5, Houston here. We would like to send up your DCS load now for your next maneuver, any time you're ready.

02 02 54 34 C Roger, would you wait one?

02 02 54 54 C Okay, you can send it up any time.

02 02 54 56 CC Roger. I understand you're ready now.

02 02 55 43 CC Gemini-5, Houston here. You needn't answer this transmission but we sent the DCS load and we'll give you an update based on U.S. tracking over Ascension.

02 02 55 57 CC White Sands confirms your maneuver. We've gotten their tracking already.

02 02 56 17 C We've got the ships in sight and we're pitching on them now.

02 02 57 19 C Houston, Gemini-5. We didn't get him. It's pretty hard to--.

02 02 57 21 P There he is! There he is!

02 02 57 23 C We have a ship wake in sight.

02 02 57 26 CC Okay. Go ahead and do it on that then. The ship-- the target that you're looking for should have a pair of wakes. He should have the destroyer guard

CONFIDENTIAL

out there with him.

02 02 57 48 P Unfortunately, without the gunsight, the field of view on the scope and the camera are too small and I can't find him in it.

02 02 57 58 CC Roger. I'm sure the water complicates it because one piece of water looks like another piece.

02 02 58 05 P Yes. Well, it's amazing how well I can see through this Questar lens, but I just can't get it off the track with it because the field of view is too narrow.

02 02 58 19 CC How about the four-power telescope, Pete?

02 02 58 21 P Our field of view is too narrow on it.

02 02 58 24 CC Okay. Listen, I've got an update for you on the time of this ...

02 02 58 27 P ... sight so Gordo can stick it right on him and then I'd have it.

02 02 58 30 CC Roger. I've got an updated time for your next maneuver.

02 02 58 37 P Say again.

02 02 58 38 CC I have an updated time for your next maneuver. Are you ready to copy?

02 02 58 49 C We're ready to copy, Houston, Go ahead.

02 02 58 51 CC Okay. It's 02:17:34:35. I say again, 02:17:34:35.

02 02 59 05 C Roger, and you have loaded this in the computer. Is that correct?

02 02 59 08 CC We have loaded the Delta V in the computer. We have to relay the times by voice.

02 02 59 15 C Roger, I understand that, but you have loaded the maneuver load.

02 02 59 19 CC Roger. It's been loaded and verified and we'll check the U.S. tracking data and give you any

CONFIDENTIAL

further updates that are necessary over Ascension.

02 02 59 30 C Roger.

02 02 59 46 CC Gemini-5, Houston.

02 02 59 49 C Go ahead, Gemini-5.

02 02 59 51 CC We have a Section 2 purge at this time also. Will you be able to handle that?

02 02 59 59 C Over Center, right now.

02 03 00 01 CC Right now.

02 03 00 02 C Okay.

02 03 00 04 CC Pretty busy, isn't it?

02 03 00 06 C Fairly. Stand by for hydrogen purge mark.

02 03 00 12 CC Roger.

02 03 00 28 C Hydrogen purge complete. Stand by for O2 purge on my mark. MARK.

02 03 02 36 C O2 purge is complete.

TANANARIVE

02 03 11 50 CC Gemini-5, Gemini-5, Houston here.

02 03 11 55 P Roger, Houston, Gemini-5 here.

02 03 11 57 CC Roger. We have your maneuver update. Are you ready to copy?

02 03 12 03 P Yes.

02 03 12 05 CC Roger. The GMT of burn is 02:17:34:31. That's 02:17:34:31. Delta V, 15.2, 15.2. The burn time is 20, 20 that is. Pitch is 0, yaw is 0, aft firing thrusters Address 25 00152. I say again Address 25 is 00152. Address 26 is all zeros. Address 27 is all zeros.

02 03 13 01 P Understood time of burn 02:17:34:31, Delta V 15.2

CONFIDENTIAL

CONFIDENTIAL

207

Time of burn 20 seconds. Address 25 00152. 26,
27 all zeros.

02 03 13 21 CC Gemini-5, Gemini-5, Houston here. That is correct.
We would like to have you attempt to burn out the
residuals that you have in Addresses 80, 81 and 82
on all the rest of the maneuvers.

02 03 13 35 P Roger.

02 03 34 03 P Voice recorder is on. Preparing to burn at 17:34:31.

02 03 34 06 C Thruster switch is ON.

02 03 34 08 P Okay, you're in ORB RATE, your thruster's ON, Start
Comp button is pushed, IVI's are correct, Address
80 here--you count down to the burn.

02 03 34 20 C Okay.

02 03 34 25 C 5, 4, 3, 2, 1, burning.

02 03 34 35 C 14, 13, 12--

02 03 34 39 P You should quit at 51 if it's not down.

02 03 34 41 C 9, 8, 7, 6, 5, 4, 3, 2, 1.

02 03 34 51 P Okay.

02 03 34 59 P Okay, Address 80 was 0. Address 81 is 0.6 so you'll
have to take that out.

02 03 35 13 C Okay, that would be where?

02 03 35 15 P Wait one--182 and that's ... right.

02 03 35 23 C Right? Okay?

02 03 35 25 P Go ahead.

02 03 35 27 C Okay.

02 03 35 32 P Another little squirt.

02 03 35 42 P Another little squirt.

CONFIDENTIAL

CONFIDENTIAL

02 03 35 49 P Whoops, the other way, back the other way.

02 03 35 54 P Okay.

02 03 35 58 C We're adding some on now.

02 03 36 01 P Okay, that's good enough. Call it zero.

02 03 36 10 P One foot down.

02 03 36 18 P No, that's 1 foot ...

02 03 36 30 P Okay.

02 03 36 34 P One more time.

02 03 36 42 P Got it.

02 03 36 58 C ... canted thrusters there. You want to take that out?

02 03 37 03 P Yes. Don't fire ... before it's supposed too. We'll make the recommendation that you don't burn in Platform, because that's very sloppy.

02 03 37 46 C Yes.

02 03 37 49 P ... we can hold it in Rate Command much more accurately than we did in the last burn.

02 03 41 42 P Comment for the tape: For rendezvous mission at night looking out the window with the computer on, the Start Comp light is way, way too bright.

CARNARVON

02 03 42 41 CC Gemini-5, Carnarvon CAP COM.

02 03 42 44 P Gemini-5, go ahead.

02 03 42 45 CC Roger. Would you give me time of your burn and the readouts of core 80, 81 and 82?

02 03 42 52 P Roger. The time of burn was 17:34:31 and that 81 and 82 were zero, but in getting them to zero, we wound up with a half a foot more burn. We burned 15.7.

CONFIDENTIAL

CONFIDENTIAL

209

02 03 43 17 CC Okay. What was 80? 15.7?

02 03 43 21 P No. 80 was minus 0005.

02 03 43 29 CC Roger.

02 03 43 31 P Okay, the reason for that was we burned in the Platform Mode to see how well it would do, and it's a little sloppy. We got some up, down, and left and right in which we had to take out.

02 03 43 44 CC Roger, understand.

02 03 43 47 P Next time we'll burn the Rate Command.

02 03 43 50 CC Did you say next time you'll try Rate Command?

02 03 43 52 P Yes, we did that before and that's much better than this Platform Mode.

02 03 43 56 CC Roger. Okay, I've got an update for your next maneuver, your next plane change.

02 03 44 06 P Okay, ready to copy.

02 03 44 08 CC Okay. Time we'll burn is 18 hours 06 minutes 26 seconds. The Delta V is 14.6. The time of burn, Delta T, is 19 seconds. Pitch zero, yaw minus 90. Aft thrusters Core 25 all zeros, Core 26 all zeros, Core 27 00146. This is Maneuver No. 3 ... You copy?

02 03 45 11 P That's affirmative.

02 03 45 13 CC Roger.

02 03 45 17 CC Okay. We've had some trouble with your tape counts below the tape dumps. At this time we'd like for you to switch your DC-to-DC Converter to SECONDARY.

02 03 45 32 P Roger. DC-to-DC Converter to SECONDARY.

02 03 45 36 CC Roger. And leave it in that position. They'll take a tape dump over the States this pass and evaluate it and see if it helps.

02 03 45 44 P Roger. Be advised that at the gunsight, or the sight, we're unable to view the D-4. We will get

CONFIDENTIAL

CONFIDENTIAL

the D-4 410 Bravo; we will get the 407 if we have time.

02 03 46 00 CC Did you say you would get 410 Bravo?

02 03 46 03 P No, we can't get that one. We've been trying with the telescope over here but we haven't been successful. And we'll do 407 if possible.

02 03 46 13 CC Roger.

02 03 46 26 CC Gemini-5, Carnarvon. Could you give us an estimate on how much you used the lateral thrusters?

02 03 46 36 P We took 1 foot down out, and I think it was 0.4 foot right.

02 03 46 44 CC Roger.

02 03 49 07 C ...

02 03 49 09 P Yes. I got the recorder on. I want to talk about this D-4/D-7. We couldn't do 410 at 17:42:00, and with the maneuver updates coming in over Carnarvon we did not have the time to do 407, which we would have been able to do. And so far they have really been crowding us on getting this stuff done, unstowed, get the spacecraft in the right position at the right time, and so forth. We're just not doing as good a job as if we weren't so rushed.

02 04 00 40 P Take off. The right attitude thruster in the Pulse Mode seems to double blip real easily. We might look into that when we get back. That's the roll right attitude thrusters, thrusters--

HAWAII

02 04 08 58 CC Gemini-5, Hawaii CAP COM.

02 04 09 00 C Say it, Hawaii, Gemini-5.

02 04 09 03 CC Roger, we didn't copy an oral temperature. We'd like a blood pressure, please.

02 04 09 07 C Roger. We're busy with the burner right now. You'll just have to wait a minute.

CONFIDENTIAL

CONFIDENTIAL

211

02 04 09 11 CC Roger.

02 04 09 12 C Burn.

02 04 09 38 C Hawaii, Gemini-5.

02 04 09 39 CC Go ahead.

02 04 09 41 C Roger. Address 80 on the burn read zero, or read minus 00004, 81 read 00002, 82 read 00002. We did not take out either 81 or 82 because we did not want to add any more forward, aftward, firing component to the Address 80. See we can't fire out forward firing thrusters.

02 04 10 12 CC Roger, understand.

02 04 10 19 CC What was the time of the burn?

02 04 10 22 C 18:06:26.

02 04 10 27 C Roger.

02 04 10 40 CC I've got some Flight Plan updates for you whenever you're ready to copy.

02 04 10 51 P I'm ready to copy. Oral temperature's going in to the Command Pilot.

02 04 10 55 CC Roger. The title is Map the second day 17:56:54. Longitude 145.0 East. Stand by one, Gemini-5.

02 04 11 22 P What revolution is that?

02 04 11 25 CC REVOLUTION 33.

02 04 11 29 P Okay, ready for the start.

02 04 11 55 CC 505 Sequence No. 03, pitch 30 degrees down, yaw right 14. This is an update of the previous information we passed you.

02 04 12 11 P That time was 18:25:35?

02 04 12 14 CC 05.

02 04 12 16 P Roger. 18:25:05.

CONFIDENTIAL

CONFIDENTIAL

02 04 12 20 CC How were your attitudes during the burn?

02 04 12 22 p They looked like they were right on, and we were in Rate Command. I don't know where the little bit got in. We held it pretty good.

02 04 12 33 CC We'd like to know what your attitudes were when you made your readouts on 80, 81 and 82.

02 04 12 39 P They were on minus 90-00.

02 04 12 44 CC Roger.

02 04 12 46 P That's minus 90 yaw.

02 04 12 48 Roger.

02 04 13 06 CC Gemini-5, Hawaii Surgeon. See your attempts at blood pressures are all invalid. Are you having a problem with the blood pressure apparatus?

02 04 13 14 P Yes. We just had the O-ring fail on it. We've got some more in here. We'll have to skip it this pass. If we get another one on, we'll do it later.

02 04 13 21 CC Roger. Then can you give me a water report? I copied your food and sleep report over Carnarvon last time, so if you give me information on water, that will be sufficient.

02 04 13 29 P We were both up to 12 pounds.

02 04 13 32 CC Roger.

02 04 14 03 CC You ready to copy another Flight Plan update?

02 04 14 06 P Roger.

02 04 14 08 CC S-7 second day 21:26:49, Sequence No. 03, pitch 90 degrees down, tropical storm.

02 04 14 27 P Roger. S-7 at 21:26:49, Sequence No. 03, pitch down 90 degrees, tropical storm. Roger.

02 04 14 36 CC Roger. Another S-7. Second day 21:33:02, Sequence No. 03.

CONFIDENTIAL

CONFIDENTIAL

213

02 04 14 50 P Do you read Gemini-5, Hawaii?
GUAYMAS

02 04 20 26 CC Gemini-5, Guaymas CAP COM.

02 04 20 29 P Say it, Guaymas, Gemini-5 here.

02 04 20 31 CC Okay. You're looking real good down here. How are you doing?

02 04 20 34 P GO up here.

02 04 20 36 CC Okay. Well let's check that last S-7 update you were given your Flight Plan by Hawaii. Let's make sure you got it all. You got your book out?

02 04 20 49 P Yes.

02 04 20 50 CC Okay. It's S-7, 02:21:33:02. 03. Pitch 90 degrees down, tropical storm, and both of the S-7's you were given over Hawaii are for one astro only.

02 04 21 13 P Roger. Is there two of them? One at 21:26:49?

02 04 21 17 CC That's affirm.

02 04 21 18 P What was the other time, please?

02 04 21 20 CC Okay. The first one was 21:26:49. The second one was 21:33:02.

02 04 21 34 P Roger.

02 04 21 35 CC Okay.

02 04 21 41 P Okay. We're pitched down 30 and we're about to yaw right 14 degrees, and I hope we can pick up Laredo.

02 04 21 49 CC Okay.

TEXAS

02 04 27 26 P Houston, Gemini-5.

02 04 27 30 CC Go ahead, Gemini-5, this is Houston here.

CONFIDENTIAL

CONFIDENTIAL

02 04 27 33 P Yes. Gordo spotted ... I never did pick up. The weather was loud and clear there, and I just didn't see it.

02 04 27 43 CC Okay. There's still, like I said yesterday, there aren't a lot of contrasting landmarks. Did you get any of the readings?

02 04 27 50 P No.

02 04 27 52 CC Was that negative?

02 04 27 54 P That's right. That's negative. We got the spot pinned down, but, boy, it sure is hard to see it.

02 04 27 59 C You might tell them I can see the figures on the squares. I didn't try taking 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.

02 04 28 12 CC Okay.

02 04 28 19 C You might also tell them it's just like we suspected from the airplane; they increase and decrease with light angle.

02 04 28 29 CC Okay. Your visibility of the target varies with your light angle. Is that correct?

02 04 28 34 C Of the figure inside the target.

02 04 28 36 CC Right. I have some information here for you, Gemini-5.

02 04 28 47 P Roger, go ahead.

02 04 28 49 CC 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.

02 04 29 02 P Roger, go ahead.

02 04 29 04 CC Roger. The GMT of burn is 02:19:03:41. That's 02:19:03:41. Delta V is 19.8. That's 19.8. With

CONFIDENTIAL

a burn time of 25, burn time of 25 seconds. Your pitch angle is minus 14.5. That's minus 14.5. Yaw is zero, thrusters are aft. Address 25 is 00192. That's Address 25 00192. Address 26 is 00050. I say Address 26 again is 00050. Address 27 is all zeros. That's all.

02 04 30 07 P Roger, GMT in burn 02:19:03:41. Delta V 19.8, 25 seconds. Pitch down 14.5, 00 on the yaw. 25,00192; 26,00050; 27,0000.

02 04 30 24 CC Roger.

02 04 30 28 P We got a real good look at Florida and Cuba and the Bahamas today.

02 04 30 35 CC Gemini-5, Houston here. Say again; you were pretty garbled that time.

02 04 30 39 P Roger. I say we're getting a good look at Florida and the Bahamas and Cuba today.

02 04 30 44 CC Roger.

02 04 30 48 CC Gemini-5. Also be advised that we will update this data I just gave you over Ascension based on U.S. tracking.

02 04 30 55 P Roger.

02 04 31 25 CC Gemini-5, this is Houston here again. You needn't acknowledge this, but be advised there's going to be an S-6 Experiment coming up before that S-7 that you were just updated on, so be prepared to put it in your Flight Plan ahead of the S-7.

02 04 31 38 P Roger.

02 04 31 45 CC Another comment here, Gemini-5, from Houston. I think that we may have a way for you to use your reticle. If you get time along the way here, you might check to see that your utility light works. And if it doesn't, let us know and we'll describe how to dismantle the reticle so that you can use your utility light.

02 04 32 10 P Roger. The utility light does work.

CONFIDENTIAL

- 02 04 32 13 CC Okay, very good. While we have a couple of minutes here maybe we can talk about it right now. If you ... there are a couple of screws up on top of the sight just underneath the loose part that you screw into the window. If you take those two screws out, the light comes off. And you may be able to fix your utility light up on the top to shine down through the filter there and onto the glass and you should have an image presented there that should be alined exactly the way the normal reticle was.
- 02 04 32 46 P Roger. We'll give it a go this evening.
- 02 04 32 50 CC Yes. It takes a little while. There's two screws that you have to take off to get the light off and then there are a couple other screws that you need to take off to get the cord off. But if you get those off, you may be able to fix the light with some tape or something to shine down through the upper portion.
- 02 04 33 09 P Okay.
- 02 04 33 26 CC Got another question here, Gemini-5. We're scheduling a couple experiments when somebody's going to be sleeping. We'd like to know if the thrusters have been keeping you awake. Because if they have, we'll eliminate some of those experiments.
- 02 04 33 39 P So far they haven't. On the launch sleep periods we were both pretty tired and we just slept right through it.
- 02 04 33 46 CC Okay. We'll go ahead and schedule experiments during that time for one man and if the thrusters bother you, just knock off the experiments and let us know about it.
- 02 04 33 55 P Okay.
- 02 04 33 56 C Okay, there's only one thing that interrupts sleep and that is these fuel cell purges. I can't get to the fuel cell switches from here. And Pete has to do all the purging.
- 02 04 34 06 CC Okay, Gordo, we'll try to take that into account and maybe we can rearrange the purge cycles here

CONFIDENTIAL

CONFIDENTIAL

217

so that we can let Pete sleep for the long periods.

02 04 34 14 P Either that, or why don't we try one one time and see if we can't purge both of them at one time to get back on the 6-hour cycle.

02 04 34 22 CC Okay, we'll look into that here.

02 04 34 25 P Very good.

02 04 46 01 CC Gemini-5, Gemini-5, this is Houston here, over.

02 04 46 08 P Go ahead, Houston, Gemini-5 here.

02 04 46 10 CC Roger, Gemini-5, Houston here. I have your reverse coelliptic maneuver update for you. Are you ready to copy?

02 04 46 20 P Ready to copy.

02 04 46 22 CC Roger. Your GMT of burn 02:19:04:04. I say again, 02:19:04:04. Delta V 17.3. I say again, 17.3. Burn time is 22. Burn time 22. Pitch angle negative 15.8, negative 15.8. Yaw is 0, thrusters aft. Address 25 00167. I say again, Address 25 is 00167. Address 26 00047. I say again, Address 26 is 00047. Address 27 is all zeros. Over.

02 04 47 22 C This is Gemini-5. Time of burn 02:19:04:04, Delta V 17.3, 22 seconds. Minus 15.8 pitch, 00 yaw, aft-firing thrusters, 25 00167, 26 00047, Address 27, 5 ...

02 04 47 46 CC Roger, Address 27 was all zeros. Thank you. Also, we would like to have you do a purge on only one section, Section No. 2, after you complete your reverse coelliptic. We're investigating the possibility of purging both sections at that time but we won't know for quite some time yet.

02 04 48 12 C Purge Section 2 after reverse coelliptic.

02 04 48 15 CC Roger.

02 05 03 28 P Okay, the time for the tape is 19:03:30. Preparing for the reverse coelliptic burn at 19:04:04.

CONFIDENTIAL

CONFIDENTIAL

02 05 03 34 C 30 seconds.
02 05 03 40 P IVI's maneuver controller ON.
02 05 03 47 C 17 feet forward, huh?
02 05 03 49 P 17 feet forward.
02 05 03 52 C Okay.
02 05 03 53 P That's what it says.
02 05 03 57 C Maneuver controller's ON.
02 05 03 01 C 4, 3, 2, 1, thrusting.
02 05 04 25 P One, stop.

TANANARIVE

02 05 04 32 CC Gemini-5, Gemini-5, this is Houston here, over.
02 05 04 33 P Okay, get it forward just a notch.
02 05 04 40 P Okay, just one second.
02 05 04 41 C Hello, Houston, Gemini-5.
02 05 04 44 CC Roger, Gemini-5, this is Houston here. Can you give us your residuals in 80, 81 and 82?
02 05 04 47 P Another--just a squirt.
02 05 04 55 P Address 80 is 00001.
02 05 04 57 P Address 80 is 00001.
02 05 05 09 P Address 81 is 00001.
02 05 05 21 P Address 82 is 00002.
02 05 05 29 CC Roger, understand. Roger. We got that. I won't bother repeating it. Be advised that we want you to purge both sections. I say again, both sections right after the coelliptic burn, and then we want you to get to sleep. Over.

CONFIDENTIAL

CONFIDENTIAL

219

02 05 05 54 P You're unreadable. I thought you said to purge both sections. Is that correct?

02 05 06 03 CC Roger. That is affirmative. Purge both sections before powering down. Then we want the Pilot to get to sleep.

02 05 06 16 P Roger, understand. Purge them before powering down; Pilot go to sleep.

02 05 06 22 CC Affirmative. Be advised that we're going to slip the sleep periods approximately 1 hour so that you'll still get the same amount of sleep; we'll just start an hour later.

02 05 06 41 C ...

02 05 06 42 P You're unreadable. I can hear you talking about something about sleep, but you're unreadable. Pass it up to the next station.

02 05 06 51 CC Gemini-5, Gemini-5, Houston here. You're unreadable. We've gotten the important messages across.

02 05 06 52 P Give it to us at Carnarvon.

02 05 07 11 C Okay, maneuver controller is OFF and STOWED.

02 05 07 13 P Okay, go back to 000.

02 05 07 18 P I'm going to power you down ... purge the fuel cells.

02 05 07 23 C Okay.

02 05 07 25 P All right. Put the gage ON. Here come the ...

02 05 07 30 P All right. Let me mark it ON. On the recorder the time is 19:10:00. I'm going to purge both sections of the fuel cell.

02 05 13 30 P Okay, the time is Day 2, 19:15:00. Fuel cell purge complete on both fuel cells for the first time. We're sort of back in normal operation on the fuel cell.

02 05 17 59 P Okay, the time is 19:18:00. We have powered back down to approximately 18-19 amp consumption. Bias power is primary, DC power is ACME, ACME horizon

CONFIDENTIAL

CONFIDENTIAL

scanner is secondary, and we're in Horizon Scan Mode after our purge. OAMS fuel onboard reading 42%.

HAWAII

02 05 44 13 CC Gemini-5, Gemini-5, this is Hawaii.

02 05 44 21 C Go ahead, Hawaii, Gemini-5.

02 05 44 23 CC Roger. I have a Flight Plan update for you when you're ready to copy.

02 05 44 29 C Roger, go ahead.

02 05 44 31 CC Roger. S-6, second day, 20:00:00. Sequence 05. Houston area. Command Pilot only.

02 05 44 55 C Roger.

02 05 44 58 CC Roger, Gemini-5. I have nothing for you. Hawaii is standing by.

02 05 45 03 C Roger. Thank you very much.

02 05 45 21 CC Gemini-5, this is Hawaii. Could I get an onboard OAMS propellant quantity readout?

02 05 45 29 C Roger. 42%.

02 05 45 31 CC Roger. Thank you.

02 05 45 40 C How about relaying a little information back to the surgeon at MCC.

02 05 45 45 CC Go ahead.

02 05 45 57 C We finally figured out why he's so confused over our food. The reason is that we started eating the first day on the food that was stored in our foot well areas for launch. And this started us off wrong then on our sequencing numbers, so that we're just now getting to Day 1 meals that were stored in the aft locker.

02 05 46 18 CC Roger. We'll relay it to them.

02 05 46 22 C We have been eating ample and not feeling at all hungry.

CONFIDENTIAL

CONFIDENTIAL

221

02 05 46 28 CC Roger, understand.

02 05 46 44 CC Gemini, how did the purge go?

02 05 46 46 C Roger, purge went very well. No problems at all on it.

02 05 46 52 CC Roger.

02 05 47 08 CC Was that both sections, Gemini?

02 05 47 10 C Roger. Both sections.

02 05 47 12 CC Roger.

02 05 47 25 CC Gemini, did you fix the O-ring blood pressure bulb?

02 05 47 29 C That's affirmative.

02 05 47 31 CC Roger.

GUAYMAS

02 05 54 24 CC Gemini-5, Guaymas CAP COM. You're looking good on the ground. We have nothing for you; standing by.

02 05 54 29 C Roger, Guaymas. Fine up here.

TEXAS

02 05 58 06 CC Gemini-5, Gemini-5. This is Houston.

02 05 58 11 C ... Gemini-5.

02 05 58 12 CC Roger. Would you put your C-Band Adapter Switch to COMMAND please?

02 05 58 17 C Roger.

02 05 58 18 CC And Gemini-5, be advised that there's going to be a Minuteman launch down at the Cape here. In a couple more minutes I'll get you a time hack on that. You might see if you can see it.

02 05 58 30 C Okay.

02 05 58 32 CC I've got some news for you here. It says here in

CONFIDENTIAL

CONFIDENTIAL

the headlines of the Houston Post this morning that GT-5 is going to chase an imaginary spacecraft.

02 05 58 50 C Very good.

02 05 58 58 C Did we catch it?

02 05 59 00 CC Yes, I guess you did.

02 05 59 04 CC Hey, Gemini-5, we'll give you a mark at 60 seconds and at 30 seconds. You might look out over towards the Cape and see if you can see anything out that way.

02 05 59 14 C Okay.

02 05 59 19 CC Sixty seconds now.

02 05 59 35 CC Gordo, if you're 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.

02 05 59 47 C Okay.

02 05 59 48 CC Minus 30 seconds.

02 05 59 49 CC MARK.

02 06 00 04 CC Fifteen seconds. Can you see the Cape at all?

02 06 00 08 P No.

02 06 00 09 C Not yet. There's cloud cover from here.

02 06 00 12 CC Five seconds. 3, 2, they're holding, Gordo.

02 06 00 23 C Okay.

02 06 00 24 CC Got you excited, didn't we?

02 06 00 27 C Yes.

02 06 00 29 CC Go. They just lifted off.

02 06 00 32 C Okay.

CONFIDENTIAL

CONFIDENTIAL

223

02 06 00 34 CC Keep looking.

02 06 01 26 CC Gemini-5, Houston here. You're looking very good from the ground. We really don't have much for you this time.

02 06 01 31 C Okay. I don't see anything down Florida way.

02 06 01 38 CC Okay.

02 06 01 40 C It's pretty cloudy from here.

02 06 01 42 CC Okay. How's the weather been today? Have you seen much of the ground?

02 06 01 47 C Quite a bit.

02 06 01 51 CC Hey, what do you think about the S-8/D-13 tomorrow? Do you think you've picked up enough knowledge about the area to help you find it?

02 06 02 00 C I think so.

02 06 02 02 CC Okay. Plan on doing it tomorrow such that whoever sees it first goes ahead and takes the measurements.

02 06 02 09 C Okay.

02 06 02 17 C I was wearing my landing glasses.

02 06 02 21 CC Oh, very good, very good. The contacts or the ones with the horn rims?

02 06 02 26 C The big horn rims.

02 06 02 28 CC Okay.

COSTAL SENTRY QUEBEC

02 07 00 13 CC Gemini-5, CSQ, CAP COM.

02 07 00 22 C CSQ ... Gemini-5.

02 07 00 25 CC Roger, Gemini-5 CSQ. This is a block retrofire update for you. Are you ready to copy?

02 07 00 32 C Roger. Stand by one.

CONFIDENTIAL

CONFIDENTIAL

02 07 00 53 C Go ahead.

02 07 00 54 CC Roger. Area 36-4 0 0, Day 2, 22:36:35, 11:54, 18:36, Roll left 51, roll right 69. 37-3 0 0, Day 2, 23:56:36, 12:41, 18:20. Roll left 51, roll right 69.

02 07 02 12 C Good.

02 07 02 14 CC 38-3 0 0, Day 3, 01:31:09, 12:05, 18:11. Roll left 51, roll right 69.

02 07 02 48 C Good.

02 07 02 50 CC 39B 0 0, Day 3, 03:05:38, 11:53, 18:30. Roll left 51, roll right 69.

02 07 03 29 C Check.

02 07 03 30 CC Roger. And I have an Apollo landmark update for you. Day 2. Correction. Are you ready to copy your Apollo update?

02 07 03 39 C Yes, I'm ready.

02 07 03 41 CC Okay. Day 2, 21:45:39. Sequence 212. Pitch 30 down. Yaw 18 right. Did you copy?

02 07 04 05 C Yes, I got that.

02 07 04 08 CC Roger. CSQ has you GO on the ground. If nothing further, standing by.

02 07 04 27 CC Gemini-5, CSQ.

02 07 04 31 P ... CSQ.

02 07 04 33 CC Roger. Be advised that the weather is good in all the previous areas.

02 07 04 37 C Okay. Very good, thank you.

HAWAII

02 07 19 38 CC Gemini-5, Hawaii CAP COM.

02 07 19 42 P Hello, Hawaii, Gemini-5.

CONFIDENTIAL

02 07 19 44 CC Roger. We've got you Green from the ground and we're copying your dump. We'd like you to cycle your Quantity Read Switch and give us readouts.

02 07 19 52 P Okay. ECS O2 89%, 780 pounds.

02 07 20 07 CC 780.

02 07 20 09 P 780 psia.

02 07 20 11 CC Roger.

02 07 20 15 P Fuel cell O2 92%, about 90 psia.

02 07 20 24 CC Roger.

02 07 20 27 P Fuel cell hydrogen 89%, 800 psia.

02 07 20 33 CC Roger. We would like to advise you the next time you're over us on 36 Rev, we would like to get your experiment status for the last 24 hours.

02 07 20 46 P Okay.

02 07 38 51 C Coming in now over South America ... Apollo Landmark Sequence 212.

ROSE KNOT VICTOR

02 07 43 16 CC Gemini-5, RKV CAP COM.

02 07 43 22 C Go ahead, RKV, Gemini-5.

02 07 43 24 CC Roger. All systems look good here on the ground.

02 07 43 30 C Roger, go ahead.

02 07 43 32 CC I have an orbit update for you if you'd like to copy.

02 07 43 37 C Roger, can you wait just a couple of minutes? I'm ...

02 07 43 41 CC Roger. Give me a call when you're ready.

02 07 43 44 C Okay.

CONFIDENTIAL

02 07 44 05 C There it is. See it up there?

02 07 44 10 C Lake Titicaca shows up very loud and clear, ahead. The lake itself is an excellent landmark. Shows quite clearly. Now we'll see if any particular point--oh well, it's on the southern edge of the lake, extends to the eastern shore end, and I have it in view already. I must be a couple of hundred miles, 250 miles away easily. I have the point in view and the lake is the big giveaway. A long peninsula here.

02 07 45 27 C Late afternoon with the sun casting fairly long shadows on the mountains and rugged terrain.

02 07 46 17 C Taking this picture at 1/250 and 8, because of a decrease of light down below.

02 07 46 46 C That was Frame 62 and Frame 63.

02 07 47 43 C And Frame 64, and we're well past it.

02 08 03 46 C Okay, Day 2, 22:04:00, we changed the first rubber piece on the urine device. Just prior to this a few hours ago, we changed and threw away our first wipe towels and have fresh ones on.

02 08 04 15 C And here we sit, one defecating, one urinating. Coming up over sunrise--trying to fly the spacecraft and do 16 experiments. Otherwise, it's kind of a slack time.

COASTAL SENTRY QUEBEC

02 08 35 27 C Hello, CSQ, Gemini-5.

02 08 35 30 CC Currently we have you GO on the ground and I have a map update for you. Are you ready to copy?

02 08 35 35 C Roger. Go ahead.

02 08 35 37 CC 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?

02 08 36 12 C That's affirmative.

CONFIDENTIAL

CONFIDENTIAL

227

02 08 36 14 CC Roger. And be advised your ephemeris is now 107.8 by 168.1 nautical miles.

02 08 36 24 C Say again the ephemeris.

02 08 36 28 CC Roger. 107.8 by 168.1 nautical miles.

02 08 36 37 C Roger.

02 08 36 44 C We have one slight discrepancy. We've lost the cabin temperature gage. However, we have a hand temperature gage to use.

02 08 36 55 CC Roger, copy.

02 08 37 23 CC Gemini-5, CSQ. Be advised your cabin heat exchanger outlet air temperature is 74 degrees.

02 08 37 33 C Roger. Thank you.

02 08 38 18 C CSQ. Gemini-5.

02 08 38 21 C CSQ, go ahead.

02 08 38 23 C What's your position?

02 08 38 28 CC Stand by.

02 08 38 40 CC Roger. CSQ's position is 21 degrees North, 125 degrees East.

02 08 38 48 C Roger. You're not in the position you were supposed to be, are you?

02 08 38 53 CC Affirmative. That's our assigned position.

02 08 38 55 C I see. Did you move for the typhoon a little while ago?

02 08 38 59 CC The only movement we have is some drift possibly 20 miles and then back to the ...

02 08 39 08 C Roger. That was 21 North, 125 East, right?

02 08 39 11 CC That's affirmative.

02 08 39 13 C Thank you.

02 08 40 47 CC Gemini-5, CSQ. It's about 1 minute until LOS. Have

CONFIDENTIAL

CONFIDENTIAL

nothing further. Standing by.

02 08 40 52 C Gemini-5. Roger. Standing by.

HAWAII

02 08 53 19 CC Gemini-5, Hawaii.

02 08 53 21 C Hello, Hawaii, Gemini-5.

02 08 53 23 CC Roger. We'd like to advise you that you have a D-4/D-7 over this station, and would you place your Radar Mode Switch to STANDBY until further notice?

02 08 53 44 CC Gemini-5, that's deleted. Pardon me. That was an error. Do not do that.

02 08 53 49 C Roger.

02 08 53 51 CC Okay, we're ready to receive experimental data.

02 08 53 55 P We're not going to make it this pass.

02 08 53 58 CC Roger. Understand.

02 08 54 00 C The thing is the list of 24-hour experimental data. Would you like that Hawaii?

02 08 54 06 CC That's affirmative.

02 08 54 10 P All right. We've completed two MSC-1 tests, one Cabin Lighting, UHF Test 04 and 01, D-1, that's Dog-1, Sequence 2 and 3, D-6 Sequence 12, Sequence 20, Sequence 134, S-7 tropical storm, Apollo Landmark 212, D-4/D-7 Sequence 420, S-6 Sequence 07, and we have completed two full magazines of celestial pictures on S-5 and S-6.

02 08 55 52 CC Roger, Gemini-5.

02 08 56 08 CC Gemini-5, Hawaii, we have your reading on the ground.

02 08 56 16 P Roger. We're GO up here.

02 08 56 18 CC Roger. I have a further remark; delete D-4/D-7 over Hawaii. Pick it up over RKV-36.

CONFIDENTIAL

CONFIDENTIAL

229

02 08 56 37 P Okay.

02 08 56 56 CC Gemini-5 is your Radar on STANDBY?

02 08 56 59 C That's negative.

02 08 57 03 CC Would you put your Radar Mode Switch to STANDBY until further notice?

02 08 57 09 C Roger. You sure you want it to STANDBY?

02 08 57 17 CC That's affirmative. Radar to STANDBY, Gemini-5.

02 08 57 20 P Okay. Radar turned to STANDBY and out.

02 08 57 26 CC That's because of your temperature, Gemini-5. It's getting low. They want to warm it up a little.

02 08 57 34 C Oh. Okay.

02 08 58 07 CC Gemini-5, Hawaii is standing by.

02 08 58 11 C Roger. Thank you, boys.

COASTAL SENTRY QUEBEC

02 10 11 55 C CSQ, Gemini-5.

02 10 12 09 C CSQ, Gemini-5.

02 10 12 11 CC Roger.

02 10 12 28 C Over Hawaii, but we'll make the D-4 pass on Hawaii. this pass.

02 10 12 35 CC Roger, copy.

02 10 12 37 C Our status is Green.

02 10 12 41 CC Houston would also like to **know** the status of the reticle repair. Over.

02 10 12 49 C Roger, we haven't started on that yet. Little bit later.

02 10 12 51 CC Roger.

02 10 13 15 CC Gemini-5, CSQ has nothing further; we're standing by.

CONFIDENTIAL

CONFIDENTIAL

02 10 14 55 CC Gemini-5, CSQ.
02 10 14 57 C Go ahead.
02 10 14 58 CC Roger, Houston advises scrub the D-4/D-7 over Hawaii this pass due to weather, and you did copy that Hawaii will be a medical data pass for the Pilot, affirm?

HAWAII

02 10 28 41 CC Gemini-5, Hawaii CAP COM.
02 10 28 53 ... Hawaii.
02 10 28 54 CC Roger, we copied your oral temperature; stand by. We are standing by for blood pressure.
02 10 29 03 P Roger, coming down.
02 10 30 24 P Hawaii, did you get the blood pressure?
02 10 30 30 CC Gemini-5, this is Hawaii Surgeon, we're having a problem with our T/M. We haven't got any data on you so far.
02 10 30 37 P Okay. I just sent it down. Want me to go again?
02 10 30 39 CC Stand by one, Gemini-5.
02 10 30 42 P Okay.
02 10 31 00 CC Gemini-5, this is Hawaii Surgeon. We've got T/M now. Could you give us your blood pressure?
02 10 31 04 C Roger.
02 10 31 07 CC Gemini-5 would you place the Radar Switch to OFF?
02 10 31 12 P Hold still.
02 10 31 48 CC Okay, we have good blood pressure. Give me a mark when you begin your exercise, please.
02 10 31 53 P Stand by. MARK.
02 10 32 59 CC Okay, we have a good blood pressure. Pete, I under-

CONFIDENTIAL

CONFIDENTIAL

231

stand that you just got up from your nap. So if you can give us a water report, that's about all we'll need.

02 10 33 06 P Roger. The Pilot has drunk 13 pounds 3 ounces, the Command Pilot, 13 pounds 8 ounces.

02 10 33 15 CC I understand Pilot 13 pounds 3 ounces, Command Pilot 13 pounds 8 ounces.

02 10 33 20 P That's affirmative, and the Command Pilot is eating at this time.

02 10 33 23 CC Roger, switch you over to CAP COM.

02 10 33 24 CC Gemini-5 would you confirm that you've got your Radar Switch in the OFF position?

02 10 33 30 P Roger. Radar to OFF and you want us to leave this OAMS Heater Switch OFF. We could put that ON if you want it to keep the load up.

02 10 33 43 CC Negative. We got that temperature on that Radar back up to about 42 degrees.

02 10 33 46 P Okay. How's everything going down there, Bill?

02 10 33 50 CC Not bad. I would like to get a readout before I loose you here. Would you go to ECS O2 and hold it for about 10 seconds.

02 10 34 03 P There's ECS O2 going to Fuel Cell O2.

02 10 34 07 CC Stand by one.

02 10 34 09 CC Go to Fuel Cell O2.

02 10 34 13 CC We're trying to get a computer readout, so stand by.

02 10 34 15 P Okay.

ROSE KNOT VICTOR

02 10 49 40 CC Gemini-5, RKV CAP COM voice check, how do you read?

02 10 49 44 P RKV, Gemini-5 ...

CONFIDENTIAL

CONFIDENTIAL

02 10 49 46 CC Roger, we have some PLA updates for you. Acknowledge when you are ready to copy.

02 10 49 52 P Roger, just a second.

02 10 50 07 P Gemini-5 ready to copy.

02 10 50 09 CC Roger. I'd like to remind you that all bank angles will remain the same, that is roll left 51, roll right 69.

02 10 50 21 P Roger.

02 10 50 22 CC Area 40 Delta, 03:58:11, 19 plus 13, 23 plus 55. Area 41 Charlie, 06:45:28, 21 plus 38, 27 plus 13. Area 42 Delta, 06:11:22, 15 plus 29, 20 plus 41. Area 43-2, 08:46:32, 14 plus 07, 19 plus 26. Area 44-2, 10:21:16, 13 plus 03, 18 plus 43. I would like to tell you that the weather is good in all areas.

02 10 52 13 P Roger, copied them all.

02 10 52 15 CC Roger, like to remind you that you have a Cabin Light Survey over CSQ on Rev 38.

02 10 52 21 P Roger.

02 10 52 22 CC That time will be approximately 01:45:58.

02 10 52 35 CC We'd like for you to cycle through your Quantity Read Switch so we can get some ground readings.

02 10 52 39 P Roger, ECS O2 ON.

02 10 52 43 CC Roger, stand by.

02 10 53 05 CC Will you switch to Fuel Cell O2 please?

02 10 53 21 P Fuel Cell H2.

02 10 53 40 P ... Gemini-5.

02 10 53 43 CC Roger, we have all your systems GO on the ground. Everything looks great.

02 10 53 46 P GO up here.

CONFIDENTIAL

CONFIDENTIAL

233

02 10 55 33 CC Gemini-5, this is RKV, we have 2 minutes before LOS; we're standing by.

02 10 55 38 P Roger, Gemini-5.

02 10 55 52 C ...

02 10 55 59 CC Can't read you, Gemini-5; say again.

02 10 56 01 C Roger, we are not doing much now but the last couple of orbits we were tending to housekeeping.

02 10 56 08 CC Roger, understand tending to housekeeping.

02 10 56 13 CC It was quite a chore.

02 10 56 16 CC That I can understand.

COASTAL SENTRY QUEBEC

02 11 48 42 P CSQ, Gemini-5. Do you read me? Over.

02 11 48 45 CC Gemini-5, CSQ. Read you loud and clear. We have you GO on the ground.

02 11 48 49 P Roger, we're GO up here.

02 11 48 53 CC CSQ standing by.

02 11 48 55 P Roger. We're just finishing up the Gemini ...

02 11 59 56 P Let's see; the time is 3 days 02 hours 00 minutes over the Pacific, and off to our left we're spotting large, large areas of cloudiness, which bother the horizon scanners. The horizon scanners cannot sense the horizon correctly. They continue to pitch the spacecraft up and down.

02 12 25 11 CC Gemini-5, Gemini-5, RKV CAP COM. Comm check, how do you read?

02 12 25 18 P RKV CAP COM, Gemini-5. Read you loud and clear.

02 12 25 21 CC Roger. Be advised this is a UHF-6 pass.

02 12 25 27 P Roger. UHF-6 ...

CONFIDENTIAL

CONFIDENTIAL

02 12 25 36 CC Say again, Gemini-5.

02 12 25 37 P I say ECS quantity is on and I'll go through the ECS quantity, Fuel Cell O₂, Fuel Cell Hydrogen ...

02 12 25 46 CC Roger. Standing by.

02 12 25 51 P Roger. The onboard reading is 88 ... 716 ... psi on ECS O₂.

02 12 26 00 CC I copy.

02 12 26 04 P Fuel Cell O₂ is 92%, 70 psia. Hydrogen 87%, 800 psia.

02 12 26 18 CC Roger. I copy. You have a GO on all systems on the ground.

02 12 26 24 P Roger. We are GO up here. Be advised that the Pilot and the Command Pilot ... right now. Enjoying ... spaghetti and meatballs.

02 12 26 40 CC Roger, I understand. We have a mapping star update for you. Acknowledge when you are ready to copy.

02 12 26 46 P Roger. Let me put down the spaghetti and meatballs.

02 12 27 09 P Go ahead. Ready to copy.

02 12 27 10 CC Roger.

02 12 27 13 CC Map at 02:53:07, longitude 8 degrees East, Rev 39.

02 12 27 29 P Roger, map: 02:53:07, 8 degrees East, Rev 39.

02 12 27 35 P Roger. Star 02:53:07; 01:33:03.

02 12 27 54 P Roger. 01:33:03.

02 12 28 00 CC Roger. Be advised you have a fuel cell purge over Kanp. I'll give you the time. 02:50:00.

02 12 28 14 P Roger. 02:50:00. Purge fuel cells and we'll purge both of them.

02 12 28 20 CC Roger. Sections 1 and 2.

02 12 28 27 P How's the weather down there?

CONFIDENTIAL

CONFIDENTIAL

235

02 12 28 30 CC We just got an advisory report that gives us sea state 2 or 3 feet. It feels more like 10 or 12 feet from inside this ship.

02 12 28 41 P Roger. You might pass on to Houston that there are two very large cloud areas out over the Pacific that we passed over, both the last two revolutions, and it really bothers the horizon scanners. They're off in cloud coverage.

02 12 28 58 CC Roger. I understand your horizon are affected by this large cloud coverage over the Pacific.

02 12 29 04 P That's correct.

02 12 29 09 CC How's the spaghetti and meatballs?

02 12 29 11 P It's really good. I never thought cold spaghetti and meatballs could taste good before, but it sure does.

02 12 29 40 CC Real Italian style?

02 12 29 41 P That's affirmative.

02 12 30 54 CC Gemini-5, RKV CAP COM. Have 1 minute before LOS. We'll be standing by.

02 12 30 59 P Roger. We're standing by up here.

02 12 31 02 CC Roger.

02 12 31 08 P Is this our last pass with you tonight?

02 12 31 11 CC Say again, Gemini-5.

02 12 31 13 P Is this our last pass with you tonight?

02 12 31 15 CC Negative. We've got 39, 40, 41 and 42 maybe.

02 12 31 20 P I keep forgetting when the Command Pilot's on and I'm asleep.

02 12 31 24 CC Roger.

02 12 31 25 CC Everything Okay up there?

CONFIDENTIAL

CONFIDENTIAL

02 12 31 26 P Roger.

COASTAL SENTRY QUEBEC

02 13 20 17 CC Gemini-5, CSQ CAP COM.

02 13 20 21 P Go ahead, CSQ, Gemini-5.

02 13 20 23 CC Roger. We have you GO on the ground, and we'd like your fuel cell purge status please.

02 13 20 30 P Roger. Purge fuel cell 02:50 to 02:55.

02 13 20 42 CC Copy.

02 13 20 48 CC And Gemini-5, be advised that Pilot is expected to do the S-8 Sequence 1 and 2 when you change sleep cycles. Over.

02 13 21 01 P Yes, ... We've got it done. We'll give you the scores in just a second.

02 13 21 08 P Okay. The Command Pilot's score was 7 wrong and M-9 was 93.

02 13 21 20 CC Copy. Command Pilot's 7 wrong. Say again after that.

02 13 21 25 P Roger. The M-9 score was 93.

02 13 21 32 CC Copy.

02 13 21 33 P Pilot, 3 wrong. 100 for the M-9.

02 13 21 42 CC Copy.

02 13 22 24 CC Gemini-5, CSQ has nothing further. Standing by.

02 13 22 29 P Roger. Gemini-5 has nothing further. We're standing by also.

02 13 23 06 CC Gemini-5, CSQ.

02 13 23 08 C Go ahead, CSQ.

02 13 23 09 CC Roger. Houston advises they'll give you a systems update over Canton in approximately 13 minutes from now.

CONFIDENTIAL

CONFIDENTIAL

237

02 13 23 17 C Roger, understand. A systems update over Canton 13 minutes from now. Thank you, Sir.

CANTON

02 13 36 55 CC Gemini-5, Gemini-5, this is Houston. Over.

02 13 37 09 CC Gemini-5, Gemini-5, this is Houston. Over.

02 13 37 27 CC Gemini-5, Gemini-5, this is Houston. Over.

02 13 37 53 CC Gemini-5, Gemini-5, this is Houston. Over.

02 13 38 11 CC Gemini-5, Gemini-5, this is Houston. Over.

02 13 38 28 CC Gemini-5, Gemini-5, this is Houston. Over.

02 13 38 41 C Houston, Gemini-5 hears you.

02 13 38 44 CC Gemini-5, Gemini-5, this is Houston. I do not receive you. I'd like to give you a status report on your systems. Over.

02 13 38 57 CC Gemini-5, 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. Fuel cells seem to be doing real well. There's no significant degradation in either of them. At present there's 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?

02 13 39 38 C Roger, ... clear but slightly weak, Houston.

02 13 39 45 CC Gemini-5, this is Houston. Say again.

02 13 39 48 C Roger, we're reading you. Go ahead.

02 13 39 51 CC 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

CONFIDENTIAL

CONFIDENTIAL

quite well. Your fuel remaining is 79 pounds. The oxidizer remaining is 139 pounds. With your projected experiments, we predict 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 revolution. This is the reason we asked you to bring the radar to Standby. Your temperature is presently 36 degrees. Over.

02 13 41 05 C Roger. 36 degrees on radar.

02 13 41 08 CC 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 - 0.2 nautical mile - and your apogee within 0.3 nautical mile. This would have given about a 2 minute difference in the 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?

02 13 41 49 C I'm getting ready to work on it now.

02 13 41 52 CC Okay. We've been taking a couple of them apart here just to see what problems you might have. We'd like to conduct some radar tests tomorrow. The ones that we did day before yesterday were quite encouraging. In these tests, we'll be doing three different types of rendezvous tests, radar tests, and two tests involving the IMU and the scanners. Could you tell us whether either doing the REP exercise or doing the pass over the Cape, you observed your FDI needles to be centering as you were tracking either the REP or the Cape? Over.

02 13 42 37 C Yes, they were. Over.

02 13 42 39 CC Okay. 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 a simulated initiation burn and carrying on through to the breaking point.

02 13 43 01 ...

02 13 43 03 CC Say again.

CONFIDENTIAL

CONFIDENTIAL

239

02 13 43 08 CC Gemini-5, Houston. Say again.

02 13 43 25 C We're still reading Houston ... not reading Houston any more.

02 13 43 29 CC Roger, Gemini-5...

02 13 43 37 CC Gemini-5, how do you read Houston now?

02 13 43 39 C Roger, I'm reading again.

02 13 43 42 CC 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 hear them.

02 13 44 04 C I think we have been kept fairly busy. It hasn't been too bad so far.

02 13 44 11 CC Roger. This would be while one crew member's sleeping and the other one is sitting by.

02 13 44 18 C Roger. Of course, some of these things are going to definitely wake the other man up.

02 13 44 24 CC Understand.

02 13 46 46 P Comments for the tape recorder: I have to remind myself to find out what it is that's going squeak, squeak, squeak on the right side behind my head.

ROSE KNOT VICTOR

02 14 00 24 CC Gemini-5, RKV CAP COM, COM TEC, how do you read?

02 14 00 28 C Roger, RKV. Gemini-5 reads you loud and clear.

02 14 00 32 CC Roger. You have a GO on the ground.

02 14 00 35 C Roger. GO here.

02 94 00 37 CC Roger. We have a tracking pass update for you. Acknowledge when you're ready to copy.

02 14 00 44 C Roger. Go ahead.

CONFIDENTIAL

CONFIDENTIAL

02 14 00 46 CC Cabin Lighting, 06:24:00, delete. Cabin Lighting, 04:54:26, heads up. I repeat, heads up. S-7, 06:32:46, Sequence No. 1, pitch 90 down. Aircraft support. S-7, 05:00:00, Sequence No. 1, delete. Do you copy?

02 14 02 06 C Roger.

02 14 02 11 C ...

02 14 02 13 CC Go ahead.

02 14 02 16 C Roger. We copy ... RKV.

02 14 02 19 CC Roger. We'd like to advise you that you have a medical data pass on the Command Pilot over CSQ on Rev 40. I'll give you a time on that. 04:53:49.

02 14 02 40 C Okay.

02 14 02 43 CC Roger.

02 14 04 09 CC Gemini-5, RKV.

02 14 04 11 P Roger, go ahead, RKV.

02 14 04 13 CC Roger. Would you turn off you Quantity Read Switch?

02 14 04 17 P Roger.

02 14 04 19 CC Thank you.

02 14 04 21 P Thank you.

02 14 06 10 CC Gemini-5, this is RKV. We have 1 minute before LOS. We're standing by.

02 14 06 16 P Roger, RKV.

COASTAL SENTRY QUEBEC

02 14 54 45 CC Gemini-5, CSQ CAP COM.

02 14 54 53 C Go ahead, CSQ, Gemini-5.

02 14 54 55 CC Roger. We have you GO on the ground and advise we have a valid temperature, standing by for blood pressure.

CONFIDENTIAL

CONFIDENTIAL

241

02 14 55 02 C Processing blood pressure going up.

02 14 55 16 CC Gemini-5, this is CSQ Surgeon. Your blood pressure is at full-scale.

02 14 55 22 C Roger.

02 14 55 56 CC Gemini-5, we have a valid blood pressure. Give us a mark when you begin exercise.

02 14 56 37 C Doing exercise now. Steady blood pressure.

02 14 56 51 CC Gemini-5, you worked at full scale. Your blood pressure is at full-scale.

02 14 57 22 CC Gemini-5, this is CSQ Surgeon. We have a valid blood pressure. Standing by for food, water and sleep report.

02 14 57 30 C Roger.

02 14 57 52 C On your sleep report the Pilot is asleep now. I just got some sleep about an hour and a half, about two hours and a half ago and I ate. I guess I got a couple of hours pretty fair sleep. I might just as well now have the water report for you.

02 14 58 52 C All right, both the Pilot and the Command Pilot are 15 pounds water each.

02 14 59 02 CC CSQ copy.

02 14 59 04 C Just ...

02 14 59 15 CC Gemini-5, CSQ Surgeon.

02 14 59 18 P Roger.

02 14 59 20 CC Houston Surgeon requested we advise you that he would like to collect a report from you on your food and sleep once daily during the last pass they have, and if you could be ready for that, it would be a little helpful.

02 14 59 46 CC That should occur on approximately Rev 44 and 62.

02 14 59 53 C Okay.

CONFIDENTIAL

CONFIDENTIAL

ROSE KNOT VICTOR

02 15 34 41 CC Gemini-5, RKV CAP COM.

02 15 34 52 P RKV, Gemini-5.

02 15 34 54 CC Roger. All systems look good here on the ground. I have a Flight Plan update for you. Let me know when you're ready to copy.

02 15 35 02 P Okay. I'm ready to copy.

02 15 35 03 CC MSC-1, 07:40:00, Sequence No. 04, as in nominal Flight Plan.

02 15 35 22 P Okay.

02 15 35 24 CC I'd also like to get evaluation of the light in your reticle of your ...

02 15 35 36 P All right. Roger. I had it all apart, this last night. I have it repaired and working now.

02 15 35 42 CC Oh, very good.

02 15 36 08 P These suits ... really puts out plenty of cooling around both legs I hear.

02 15 36 15 CC Roger. I understand.

02 15 36 17 P We're running about, almost the very lowest, warmest suit temperature, and now flow in both suits, it's still running 50 degrees out of suit heat exchange.

02 15 36 29 CC Roger. I understand.

CANARY

02 15 58 21 CC Gemini-5, this is Canary CAP COM. I have something for you at this time. We are dumping your tapes so we're standing by.

02 15 58 30 P Roger, Canaries, thank you. Gemini-5 here.

02 15 58 34 CC Roger.

02 16 33 33 C Okay, the cloud formations are scattered to broken

CONFIDENTIAL

CONFIDENTIAL

243

cumulus, some cirrus ... Philippine Islands. The clouds are fairly high cloud buildups ... about a 70 to 75 degree angle for the first one ... picture is about 90 for the 14 and slightly over 90 for the second 1-A and slightly more than that for the next 14.

ROSE KNOT VICTOR

02 17 09 45 CC Gemini-5, RKV CAP COM.

02 17 09 49 C Roger, RKV CAP COM, Gemini-5.

02 17 09 52 CC Roger. We'd like to verify the position of Fuel Cell Heater and O₂ Heater circuit breaker. We'd like for it to be open.

02 17 10 03 C ...

02 17 10 10 C Roger. Fuel Cell Hydrogen and Oxygen and ECS O₂ Heaters are all open.

02 17 10 17 CC I'm referring to the Heater circuit breaker on the Pilot's circuit breaker panel.

02 17 10 24 C Okay. Just a minute.

02 17 10 45 C Okay, Fuel Cell O₂ ... Heater circuit breaker. That the one?

02 17 10 50 CC Roger.

02 17 10 51 C Oxygen open.

02 17 10 53 CC Roger. Thank you. They were wanting to make sure that we didn't get any more H₂ overboard than we had to.

02 17 11 03 C Roger.

02 17 11 05 CC Everything looks real good here on the ground.

02 17 11 08 C ... Gemini-5.

02 17 11 11 C Everything looks real good up here.

02 17 11 14 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

CANARY

02 17 31 30 CC Gemini-5, this is Canary CAP COM. We are dumping your tape at the present time. We have nothing for you. We're standing by.

02 17 31 39 P Roger. Thank you, Canary.

02 18 53 52 CC Gemini-5, Gemini-5, Houston CAP COM, over.

02 18 53 58 P Roger, Houston CAP COM, Gemini-5.

02 18 54 01 CC Roger, Gemini-5, Would you place your radar to STANDBY please?

02 18 54 06 P Roger. Radar coming to STANDBY.

02 18 54 09 CC Roger, and your Quantity Read Switch to Fuel Cell H₂ for about one minute.

02 18 54 20 P Roger. On Fuel Cell H₂.

02 18 54 22 CC Roger. Could you give us your onboard readout, please?

02 18 54 26 P Roger. Reading 84%.

02 18 54 37 CC Roger 84.

02 18 54 38 P ... psia.

02 18 54 45 CC Roger. Gemini, say your psia again please?

02 18 54 50 CC Roger. 800 psia

02 18 54 53 CC Roger. Understand 800. And we have an update for you on some radar test procedures, some procedural update and a platform test. So if you have a piece of paper handy, you might get it out while I ask you another question.

02 18 55 10 P Okay.

02 18 55 11 CC Could you give us a little description how you repaired your reticle please?

02 18 55 18 P Roger. I took it all apart, completely dismantled

CONFIDENTIAL

it, and was installing the auxiliary receptacle light inside it when I discovered that the auxiliary receptacle when the cord was pulled out to the clearly full, clearly full, extent, it shorted out. ... further I discovered is my auxiliary receptacle cord and not the reticle.

02 18 55 47 CC Roger. Understand. Very good. You've started a new concept in in-flight maintenance down here.

02 18 55 52 P Right. So then I went back to it and put the thing all back together again and then put another auxiliary receptacle cord on and it works fine.

02 18 56 04 CC Okay. Very good. We were interested in that and it really saves us quite a bit on the experiments. Okay, if you have a paper ready, Elliot's got some procedures here for a Radar Test, and we'll pass up the times and the sequence numbers on your next pass over Carnarvon.

02 18 56 22 P ... out.

02 18 56 25 CC You ready to copy, Gordo?

02 18 56 26 C All set.

02 18 56 28 CC Okay. This is a Radar Test which is going to be run on the ground based REP. There's considerable interest being generated in that. Looks like we may be able to get a lot of useful data out of it. This will be called Radar Test 9. Configuration, same as 8 plus computer rendezvous platform Orb Rate, MDIU Address 69. This Radar Test will be used in conjunction with two platform tests and we want you to align the platform before any of the radar tests or the platform tests.

02 18 57 19 C Okay. Configuration the same as radar 8 except platform to Orb Rate, MDIU to 69, and what was the other one?

02 18 57 29 C Computer to RENDEZVOUS.

02 18 57 32 C Okay.

02 18 57 33 CC Procedure. Read out 69 until it updates. Then

CONFIDENTIAL

switch to CATCH UP for 1 second, then back to RENDEZVOUS, and repeat this 10 times.

02 18 58 16 CC That's correct. Now it will not take 100 seconds for the range to update. The reason it won't is because you switch out of RENDEZVOUS into CATCH-UP and then right back, so it should only take about five seconds before you get an update on your 69. The minute you get it you switch out of it.

02 18 58 35 C Okay.

02 18 58 36 CC And no Pilot data required on this. It's all tape recorded data.

02 18 58 42 C Okay. These are all platform not realined. Right?

02 18 58 45 CC That's correct. And the purpose here is to see that the computer accepts the range measurements as quickly as it should.

02 18 58 57 C Okay. What revolution is this for now?

02 18 59 01 CC They'll assign it to you on the Carnarvon update.

02 18 59 05 C Okay. Fine.

02 18 59 07 CC Okay. The platform, the next thing is one of the-- we have two platform tests. The first one is called Platform Test 1. Configuration, platform Orb Rate, computer Prelaunch, attitude control Horizon Scan, Questar mode 01, speed 30. Procedure, yaw 90 left, take one photo of horizon. Still read me Gordo?

CANARY

02 19 06 05 CC Gemini-5, this is Canary CAP COM. You'll be given the rest of your platform update experimental information over Carnarvon.

02 19 06 14 P Okay, fine. Thank you.

02 19 06 15 CC Roger. We have a real busy pass coming up here. We'd like to get a purge on both sections of the fuel cell. We'd like to start out with a project quantity reading. Would you go to ECS O2 position please? Would you give me a readout please?

CONFIDENTIAL

CONFIDENTIAL

247

02 19 06 38 P Roger. 87%, 780 psia.

02 19 06 45 CC Roger. Would you go to Fuel Cell O₂ please?

02 19 06 55 C 91% and 100 psia.

02 19 07 01 CC Roger. Would you go to hydrogen?

02 19 07 07 C Roger. Hydrogen's about 83.5, 800 psia.

02 19 07 14 CC Roger. We're standing by for your purge.

02 19 07 19 P Roger.

02 19 07 27 C Mark hydrogen.

02 19 07 42 C End of hydrogen on No. 1.

02 19 07 46 C Mark start of hydrogen on No. 2.

02 19 08 00 C End of hydrogen on No. 2.

02 19 08 04 CC Roger.

02 19 08 14 P Commence oxygen on No. 1.

02 19 08 17 CC Roger.

02 19 10 18 C Oxygen on No. 2, stand by for ... No. 1. Stand by for commencement oxygen on No. 2. MARK.

02 19 10 29 CC Roger.

CARNARVON

02 19 40 38 CC Gemini-5, Carnarvon CAP COM.

02 19 40 44 P Go ahead, Carnarvon, Gemini-5.

02 19 40 46 CC Roger, Gemini-5. We've got a lot of updating to do this pass. We'll start by updating your PLA's. Are you ready to copy?

02 19 40 56 P Roger, wait one.

02 19 41 60 CC After that, we'll finish up this platform test procedure and go on to the Flight Plan update.

CONFIDENTIAL

CONFIDENTIAL

02 19 41 06 P Okay. Ready to copy.

02 19 41 09 CC Roger, Area 45-1. 11 plus 45 plus 36; 14 plus 07; 19 plus 17. Area 46-1. 13:20:39; 12 plus 59; 18 plus 32. Area 47-1. 14:55:36; 12 plus 09; 18 plus 08.

02 19 42 37 CC 09 Area 49-4.

02 19 43 08 CC How far did you get with that update over the States on the platform test?

02 19 43 13 P We just started the platform tests on aline configuration, on platform configuration, computer configuration and attitude control configuration.

02 19 43 23 CC Okay. I'll go back and start at Platform Test 1. You got part of it. Configuration is platform to Orbit Rate; Computer, Prelaunch; attitude control, Horizon Scan; Questar mode 01; Speed 30. And the Procedure is as follows: Yaw 90 left; take one photo of the horizon. Copy?

02 19 44 02 P Roger. Yaw 90 left. Take one photo of the horizon.

02 19 44 06 CC Roger. Okay. Platform Test No. 2 configuration. It's the same as Platform Test 1. Procedure is as follows: Point at Southern Cross and take one photo. Should be on horizon. Next, point at Pollux and take one photo; should be Venus.

02 19 44 38 P Point where?

02 19 44 40 CC P zero, Pollux, Pollux. Do you copy?

02 19 44 50 P Roger. Next point at Pollux and take one photo.

02 19 44 56 CC Right. That's it on the platform test.

02 19 45 02 P What's the time for Platform Tests 1 and 2?

02 19 45 05 CC Say again.

02 19 45 06 P What are the times for Tests 1 and 2?

02 19 45 09 CC Okay. That's next on the Flight Plan update, Pete. I'll start that now.

CONFIDENTIAL

CONFIDENTIAL

249

02 19 45 17 CC Okay. Title of this is Platform, 12 hours 40 minutes, 00 seconds, Remarks, power up. Okay. Next is D-4/D-7, 12:50:00, Sequence No. 408. Next is, next one is Platform, 13:10:00, Remarks, aline SEF. Next is S-8/D-13, Time 13:32:46, Sequence No. 03, Remarks, pitch down 30, yaw left 2 degrees. Next-- Are you copying okay?

02 19 46 46 P Yes.

02 19 46 46 CC Okay. Next, Medical Data Pass, 13:47:01, Remarks: Command Pilot at Canary Islands instead of Carnarvon. Next is Platform, 14:00:00, aline SEF. Next is S-1, Time is 14:18:36, Remarks; Sunset time. Next is D-6, 15:08:56, That's Sequence No. 021. Mode No. 08, Remarks; pitch down 30, yaw left 2 degrees, speed 60. We've got about 30 seconds, Gordo, left and I've got about halfway through this thing. We'll pick you up later. I'll go ahead and give you the next one. D-6 is 15:13:51, Sequence No. 134, Mode No. 08, pitch down 30, yaw 0, Speed 125. Do you copy?

02 19 48 55 P That's affirmative.

02 19 48 56 CC Okay. That's about it. We'll have LOS any minute now. We'll pick up the rest of these next station.

02 19 49 07 CC All systems look good on the ground.

TEXAS

02 20 27 17 CC Gemini-5, Gemini-5, Houston CAP COM. Over.

02 20 27 22 CC Hello, Houston CAP COM. Gemini-5 here. Go ahead.

02 20 27 25 CC Roger. I have a continuation for your experiments update. Are you ready to copy?

02 20 27 29 C Ready to copy.

02 20 27 30 CC Roger. 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, aline 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

CONFIDENTIAL

CONFIDENTIAL

radar test, 16:46:02, Sequence 09, pitch 30 down. yaw 07 left. The next, your test 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 a power down at 18:25:00, computer off, platform off and rate gyros off. Do you copy?

02 20 31 21 P That's affirmative.

02 20 31 22 CC Roger and would you turn your radar off now please?

02 20 31 30 C Roger. Radar off.

02 20 31 32 CC Okay. You look real good here on the ground. Do you have any questions on the experiments?

02 20 31 37 C No, I'll tell you we've got a full day; I hope we get them all done.

02 20 31 40 CC Yes, it should bunch you up a little bit sometimes, but we try 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.

02 20 31 51 C Okay.

02 20 31 59 C How's the weather back there in Houston?

02 20 32 08 CC Gemini-5, Houston

02 20 32 10 C I say, how's the weather back there in Houston?

02 20 32 13 CC Oh, it's real nice. Just hot and sunny as usual. No rain in particular; every once in a while a little thunderstorm.

02 20 32 21 C Roger.

02 20 32 22 CC Say, we've noticed that the temperature up there is a little cooler than we expected. How is your comfort?

CONFIDENTIAL

CONFIDENTIAL

251

02 20 32 29 C Cold.

02 20 32 30 CC Cold, huh? Have any rain up there?

02 20 32 36 C We're taking the inlet hose off our suits every once in a while to warm up. We've got quite cold.

02 20 32 39 CC Roger, understand.

02 20 32 41 C I wish you'd tell Joe ... I'll have to eat crow on that. We had the suit set down on a full-hot position, we had both suits closed down a bit before and we still get cold.

02 20 32 57 CC Roger, understand.

02 20 32 59 C I guess both those coolant loops really did it.

02 20 33 03 CC Roger.

BERMUDA

02 20 33 13 C Hey, Houston, Gemini-5.

02 20 33 20 CC Gemini, Houston. Go.

02 20 33 22 C Roger. For your information, the relative humidity has been running around 56 to 59%.

02 20 33 29 CC Roger, understand. 56 to 59.

02 20 33 36 CC That's nice and dry.

02 20 33 40 P Yes.

02 20 33 44 CC Wish we were up there.

02 20 33 46 P Say again.

02 20 33 47 CC Wish we were up there.

02 20 33 49 P Yes, but another day or two I'll be glad to trade with you.

02 20 33 51 CC You got a deal.

02 20 33 56 CC How many peanut tubes have you got left?

CONFIDENTIAL

CONFIDENTIAL

02 20 33 58 P Haven't found any yet but we're collecting an awful lot of stuff.

02 20 34 05 CC How much of that stuff are you having left over from the meals?

02 20 34 12 C Hey, Elliot, Gemini-5.

02 20 34 14 CC Go.

02 20 34 15 C What's the deal on the hydrogen? It seems to be going down fairly fast.

02 20 34 21 CC Yes, it's venting now. We expect it to be going down pretty fast. We're watching it very closely. It's following the predicted curve.

02 20 34 28 C Roger.

02 20 34 32 CC Gemini-5, this is Houston Flight.

02 20 34 36 C Go ahead, Flight.

02 20 34 37 CC That's just about exactly the way it was predicted prior to lift-off. There's been hardly any difference and so we can't measure the difference between preflight predicted and what we're getting right now.

02 20 34 48 P I see.

02 20 34 54 CC Gemini, your O₂ pressure's around 115 now in case you're interested.

02 20 34 59 C What temperature?

02 20 35 01 CC No, your oxygen pressure is around 115. You've done real well pumping it up there.

02 20 35 07 C Yes.

02 20 35 32 CC Did you notice a difference when you had the fuel cell shut down and only the one coolant loop running? Was it a lot better than?

02 20 35 38 C Yes, you could sure tell the difference and we could also tell the difference when we power up.

CONFIDENTIAL

02 20 35 45 CC Roger.

02 20 35 50 CC We're going to be putting a lot of power on with some of these tests here shortly so that'll warm you up.

02 20 35 58 C Yes.

02 20 39 01 C What do you think of acquisition here in about another minute?

02 20 39 03 CC Roger.

02 20 40 44 CC Gemini-5, this is Canary CAP COM. We have nothing for you this pass. Everything looks okay on the ground.

02 20 40 51 C Roger, Canary. Gemini-5 is GO up here.

02 20 40 54 CC Roger.

CARNARVON

02 21 14 51 CC Gemini-5, Carnarvon. We have a valid oral temp. Stand by for the Surgeon.

02 21 14 57 CC Gemini-5, Carnarvon Surgeon. Standing by for your first blood pressure.

02 21 15 01 C Roger. Coming down.

02 21 15 10 CC Your cuff is scale.

02 21 15 43 CC We have your blood pressures. Standing by for your exercise on your mark.

02 21 15 49 C Roger. MARK.

02 21 16 30 CC Your cuff is full-scale.

02 21 16 51 CC And 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 in either meal. Over.

02 21 17 08 C Okay. The ... of the water is 15 pounds ...

CONFIDENTIAL

02 21 17 15 CC Roger.

02 21 17 16 C Eight ounces and I'm presently eating Meal 3A and I have pretty well been eating the rehydratables and not the solids.

02 21 17 30 CC Roger.

02 21 17 33 CC Sleep report now.

02 21 17 36 C I slept about 4 hours last night in hour periods and I slept about 2-1/2 on the 2-hour nap period.

02 21 17 47 CC Roger. Anything else to report?

02 21 17 54 C No.

02 21 17 56 CC Roger. Carnarvon Surgeon out.

02 21 18 00 CC Gemini, Carnarvon CAP COM. What is the position of your suit temperature control valve?

02 21 18 08 C Roger. I give you a number reading. It's just off No. 8.

02 21 18 19 CC Is it full-clockwise? Full-warm?

02 21 18 23 C No, not quite.

02 21 18 26 CC Are you too cool?

02 21 18 31 C We were last night. It gets pretty cold in here with two cooler boosters running.

02 21 18 37 CC Roger.

02 21 18 39 C Our suit temperatures run down around 44.

02 21 18 44 CC Roger. Copy 44.

02 21 18 46 C We've got them running up around 50 right now.

02 21 18 49 CC Roger.

02 21 19 25 CC Gemini, be advised if that temperature control valve is in the full-clockwise or full-warm position, it should cut off the coolant.

CONFIDENTIAL

CONFIDENTIAL

255

02 21 19 40 C Yes, I think we discovered that.

02 21 19 44 CC Roger.

02 21 20 11 P We're GO up here.

02 21 20 14 CC Roger, Gemini. You look real good down here also. We had a visual sight of the booster which has followed about 8 minutes, about 15, 10 to 15 minutes ago.

02 21 20 26 C Roger.

02 21 20 35 CC There's a correction on that. It's got 36 minutes ahead of you.

02 21 20 38 C Oh.

02 21 20 58 C How's everything going down there? We keeping you busy?

02 21 21 01 CC Very busy. Got up this morning about noon. The piano player at the board got us up and we had a delicious meal at the ... Hotel and then came to work.

02 21 21 17 P Roger. Give my best to all my friends down there, please.

02 21 21 21 CC Will do, Pete. They send you their regards also. They miss you.

02 21 22 30 CC We're about a minute to LOS.

02 21 22 32 P Roger. Gemini-5 standing by.

02 21 56 06 CC Gemini-5, Gemini-5, Houston CAP COM. Over.

02 21 57 02 CC Gemini-5, Gemini-5, Houston CAP COM. Over.

02 21 57 06 C Go ahead, Houston. Gemini-5 here.

02 21 57 08 CC Roger. 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?

CONFIDENTIAL

CONFIDENTIAL

02 21 57 22 C Roger. ECS O₂, 7 percent, 790.

02 21 57 32 CC Roger. I understand 87 percent and 790.

02 21 57 36 C Roger, and Fuel Cell O₂, 91-1/2, 100.

02 21 57 43 CC 91-1/2 and 100.

02 21 57 47 C Hydrogen is 82 percent, maybe just a notch above that. Make it 82.5 and about 785.

02 21 58 00 CC Roger. 82.5 and 785. Next could we have your OAMS source pressure and temperature, please?

02 21 58 11 C OAMS source is 50 and 1550.

02 21 58 15 CC Roger. 50 and 50. And your OAMS regulator pressure please?

02 21 58 28 C No OAMS regulator pressure; the temperature is 50 and the pressure is 1550.

02 21 58 37 CC Roger. Understand 50 and 50. And next the RCS Ring A source pressure and temperature.

02 21 58 46 C I say again. The OAMS source temperature is 50; the pressure is 1550.

02 21 58 58 CC Roger. 50 and 1550.

02 21 59 02 C Roger. Go on to your RCS Ring A, temperature is 65, 290.

02 21 59 12 CC Roger. Temperature 65 and 290 pressure. Okay. RCS Range Rate.

02 21 59 17 C 63, 285.

02 21 59 21 CC 63 and 285, and your propellant quantity please.

02 21 59 26 C 40 percent.

02 21 59 34 CC Could we have another read on your OAMS regulated pressure please?

02 21 59 42 C Roger. You're keyed.

CONFIDENTIAL

CONFIDENTIAL

257

02 21 59 50 C Hello, Houston?

02 21 59 51 CC Go ahead.

02 21 59 53 C The OAMS regulated source pressure: 1550.

02 22 00 07 CC Gemini, could we have your regulator pressure, not your source pressure, your regulated pressure.

02 22 00 13 C Roger. Sorry. Fuel is 50, 300.

02 22 00 31 P Anything else, Houston?

02 22 00 33 CC Yes. Elliot want to talk to you about the H₂ here.

02 22 00 37 CC 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 flare out there and decrease at a slower rate and it's a little bit unknown at that point. We'll kind of have to wait and see how it goes down in there as to just exactly what it will behave like. We are venting now, and that's why it is going down so rapidly.

02 22 01 23 P Okay. Now, would you give me some more brief information on this Radar Test 09? You want us to acquire the first time in the Rendezvous Mode or should we be in Catch Up for acquisition?

02 22 01 46 CC You can be in Rendezvous. That's okay. As you approach the target, you can have a readout going on 69 and it shouldn't, 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.

02 22 02 07 P I'm with you.

02 22 02 12 CC Is it clear otherwise?

02 22 02 14 P Say again.

02 22 02 15 CC Is it clear otherwise?

CONFIDENTIAL

CONFIDENTIAL

02 22 02 18 P I think so.

02 22 02 20 CC Okay.

02 22 02 24 CC Good morning, Pete. How are you this morning?

02 22 02 27 P Fine. Who's that? Mr. Kraft?

02 22 02 29 CC That's right.

02 22 02 31 C Morning, Chris.

02 22 02 33 CC How are you, Gordo?

02 22 02 35 C Pretty fair.

02 22 02 37 CC You both sound great.

02 22 02 38 C Yes.

02 22 02 40 P We discovered one thing. Gordo's beard's white.

02 22 02 47 CC Rip Van Winkle.

02 22 02 50 C That's right.

02 22 02 51 P Don't kid him, Boss.

02 22 02 56 CC You're doing a great job up there.

02 22 02 59 P Thank you, Chris.

02 22 03 01 C Getting over to these next State passes, we look like we're awfully busy. I hope we get it all done for you.

02 22 03 08 CC Do what you can. That's all we want.

02 22 03 11 P Roger.

02 22 03 13 C I wish you'd tell John Yardley I really was wrong. Boy, those two collant loops on there really, really cool things down.

02 22 03 21 CC Yes. That's one of the reasons we want to power-up here; see if we can't warm things up a little bit.

CONFIDENTIAL

CONFIDENTIAL

259

02 22 03 26 C That would be great. Both of us have been sitting here shivering all the last few hours.

02 22 03 33 CC Did running that suit temperature up to full-warm help out any there, Gordo?

02 22 03 40 C Barely. Got it on full-warm but if you run it completely to full-warm, it shuts the flow completely off.

02 22 03 46 CC Right. That warms it up a little bit, doesn't it?

02 22 03 49 C Yes, but aren't we apt to get a little too cool on the radiator vent that way?

02 22 03 55 CC No.

02 22 03 57 C No?

02 22 03 59 CC No!

02 22 04 00 C Okay.

02 22 04 01 P Okay. We'll turn her clear off then.

02 22 04 09 CC They're monitoring the coolant loop temperature here on the ground and they'll let you know if it gets too cool.

02 22 04 15 C Okay.

02 22 04 43 C You should have seen our act last night, having all the nuts and bolts and screws rebuilding that re-ticle.

02 22 07 47 P Okay, the time is 3 days 12 hours 10 minutes. Our inadvertent circuit breaker turning off last night in OAMS Regulator Control with PROP circuit breaker was probably due to keeping the water gun fastened up there on the overhead. In discussing that and looking up there, you see that fastening the gun up there has been chipping the gray paint off the switch breaker guards. So we don't think that's too good an idea any more, and we keep the gun in the holder back in the back.

CONFIDENTIAL

CONFIDENTIAL

CANARY ISLANDS

02 22 15 13 CC Gemini-5, this is Canary CAP COM. I have nothing for you this pass; everything looks good from the ground. We're standing by.

02 22 15 21 P Roger, Gemini-5. Thank you.

02 22 20 04 P Let's see; the time is 3 days 12 hours 21 minutes. We are setting up for our Stateside passes, and reviewing the flight plan they sent up, we're going to have everything we own out in the cabin - trying to shuffle gear.

02 22 36 50 P Let's see; the time is 3 days 12 hours and 40 minutes. At this particular sun angle I've got some sort of--

02 22 36 57 C Crud.

02 22 36 58 P Crud on the inner pane of the outer windshield.

02 22 37 04 C The inside of the outside pane.

02 22 37 06 P Yes, and I can see it all over. It's all over the inside. It's not on the outside. How about yours?

02 22 37 18 C No, mine doesn't seem to be that bad; I've got some.

02 22 37 23 P You've got some sort of coating on there; I can see it.

02 22 37 26 C Yes.

02 22 37 27 P But I can't tell which pane it's on.

02 22 37 28 C Well, it's on the inside of the outside ... there.

02 22 37 33 P Very good, recorder OFF.

02 22 38 47 P On the D-6 pass, on Dallas , if you can get that airfield right in the center of that sight and track with it, it really comes up in the Questar. Now yesterday, the Naval Air Station in Dallas - when I had it in there - only half the runway filled the whole picture. So you can see how big that Questar is blown up.

CONFIDENTIAL

CONFIDENTIAL

261

02 22 39 06 C Yes.

02 22 39 09 P So if you can really get on there in the same way with the ship--

02 22 39 14 C Yes, but apparently the reticle is boresighted pretty good, because on the moon and star measurements we made, when I get right on it, you're on it too.

02 22 39 21 P Oh, yes, yes, boresight seems to be very good between the blob, the telescope, and the ...

02 22 39 30 C ...

02 22 46 09 P The time is 03 days 47 minutes. The ICS power supply is on, and we're getting ready to power up the platform and we're getting ready to do D-4/D-7 408 over Carnarvon.

02 22 49 59 P The time is 03 days 12 hours 50 minutes. Acquisition with Carnarvon, platform is powered up, standing by to do the 408.

CARNARVON

02 22 50 11 P Hello, Carnarvon, Gemini-5 here.

02 22 50 16 P Roger, We're GO up here. We're GO on 408. The platform is powered up in the Cage Mode SEF, and IGS inverter ON.

02 22 50 25 P Are you ready to receive our D-4/D-7 data?

02 22 50 33 P Okay. We'll give you a mark when we've got it in the right place.

02 22 50 40 C It's black sky.

02 22 50 42 P It's black sky.

02 22 50 49 C Okay, Big Daddy, we're right on the black sky in line right now.

02 22 50 54 P Okay.

02 22 50 59 P ...

CONFIDENTIAL

CONFIDENTIAL

02 22 51 01 P My night vision is getting better all the time ... on the Milky Way. You got it? Okay.

02 22 51 06 C Yes.

02 22 51 09 P Okay, you can mark this time as the time to take data. And I'll cycle through the Cryo Read Switch for you.

02 22 51 49 P Okay. Do you mind if I turn up the light?

02 22 51 52 C No, go ahead. You can turn it up.

02 22 51 53 P Okay.

02 22 51 59 P Roger. The cryo reading onboard is 86, 790. Fuel Cell O₂ 91%, 100.

02 22 52 32 P Hydrogen 81%, 790.

02 22 52 38 CC Roger.

02 22 52 49 C You know, I'm really serious about one thing. That doggone M-1 thing just bothers the heck out of me.

02 22 52 55 CC Everything looks real good on the ground.

02 22 52 59 P Roger. Well, listen, why don't I turn it off your next sleep period to see how much noise it makes with it turned off?

02 22 53 06 C I think it still makes the same noise. I don't think--

02 22 53 09 P I don't think it does it as many times, though.

02 22 53 13 C Oh, it doesn't matter how many times that it does it.

02 22 53 16 P It's just that it does it--

02 22 53 18 C It's just that every time it does it, it just wakes me up, just BAM, like--

02 22 53 35 C I'm going to put in a real strong recommendation to Shaky and Frank that they don't take it unless they redo that thing, because I told those guys that I

CONFIDENTIAL

thought that it was too noisy months ago.

- 02 22 53 52 P Yes, you're right; it really makes a lot of noise. I didn't realize how much it made. Especially seeing how quiet it is in here.
- 02 22 53 59 C Yes.
- 02 22 54 04 P Even when I mumble in the mike and you're asleep, I know it wakes you up.
- 02 22 54 09 C Yes, sometimes it does. No, not usually; it just depends. Like if I'm just trying to get to sleep and can't--
- 02 22 54 18 P When you've got that long spell there, 45 or 50 minutes between a station, you can usually get powered down pretty much.
- 02 22 54 23 C Yes.
- 02 22 54 25 P There's no doubt about it, though. I think another thing that helps was putting these polaroid filters in the window and cutting that sunlight down.
- 02 22 54 35 C Yes, those polaroid filters are really great.
- 02 22 54 37 P Because now when you keep it out of your eyes and when you just have the goggles on and the sun hits your face, the temperature jumps about 10 degrees on your face.
- 02 22 54 49 C It sure does.
- 02 22 54 52 C We're still right in that same nice big black void.
- 02 22 54 54 P Okay.
- 02 22 54 55 P Carnarvon, Gemini-5, Would you give us a call at LOS minus 1 minute, please?
- 02 22 55 00 CC Roger, Gemini. You're about 3 minutes to go.
- 02 22 55 06 P Okay.
- 02 22 55 59 P I guess that's the southern end of Australia, isn't it?

CONFIDENTIAL

02 22 56 04 C Yes.

02 22 56 06 P What are we seeing there? Are we seeing some Northern Lights out there on the horizon? Look at that. I mean, not Northern Lights, Aurora.

02 22 56 16 C That's the airglow.

02 22 56 18 P Yes, but it's all jagged over here on my side.

02 22 56 21 C Un-huh.

02 22 56 23 P It's not airglow. I think it's the Aurora. Can you see out my window right where my finger is pointed?

02 22 56 33 P No, you can't see that far.

02 22 56 35 C You see how bright it is out mine? Where you can see how bright the airglow is out mine.

02 22 56 40 P Yes, but that's not what I'm seeing over here.

02 22 56 42 C Oh, I see.

02 22 56 45 P Okay, the time is 03 days 12 hours 59 minutes. We're passing over Australia and I have a very jagged line--

02 22 57 00 CC We have 1 minute to LOS.

02 22 57 02 P Roger, Carnarvon, 1 minute. Thank you.

02 22 57 05 P We're going to secure the D-4.

02 22 57 07 CC Roger.

02 22 57 18 P I believe I'm seeing some Aurora, and the Aurora is located right under Canopus in a straight line down through the Magellanic clouds, and it's very bright--

02 22 57 37 C No. that's the Milky Way, isn't it?

02 22 57 40 P No, I can't distinguish any color except that it is very bright and it's sort of a greenish color if anything; and it's changing, it's brightening and dimming and it occupies about 15 degrees across the horizon.

CONFIDENTIAL

CONFIDENTIAL

265

02 22 58 04 C Let me yaw right and see if I can take a look at it.

02 22 58 06 P Yes.

02 22 58 09 C You've got to yaw faster, because we'll be leaving it pretty quick.

02 22 58 16 P Okay, you should have Canopus over the nose. Can you see Canopus?

02 22 58 21 C Yes.

02 22 58 23 P All right, now pitch right down from where you can see the horizon.

02 22 58 25 C Oh, I see, yes.

02 22 58 28 P Yes, that's the Aurora. You see how jagged it is? You see how it's disrupted the airglow?

02 22 58 35 P As a matter of fact, that's very interesting. Look, the airglow actually slopes up; I mean it gets black. You see that?

02 22 58 42 C No, I think what it is, is that there are clouds under the airglow elsewhere, and maybe this is just clear right in here.

02 22 58 54 P Yes, but that's Aurora. It's changing. And it's sort of green. Don't you agree the color is sort of green?

02 22 59 04 P Turn out your light. That's Aurora.

02 22 59 13 C I think that it's just that it's clear.

02 22 59 16 C I think that it's just that there aren't any clouds underneath the--

02 22 59 21 P No, that's Aurora.

02 22 59 23 C --airglow here. I think it's just the airglow, Pete.

02 22 59 28 P Well, it's a very unusual discontinuity, and I haven't seen it before.

CONFIDENTIAL

CONFIDENTIAL

02 22 59 33 C Well, it's on the ground. That's actually the ground on the horizon you're seeing there. I think then you're fading on to where there are some clouds underneath this other place, which kind of tend to take away--

02 22 59 45 P No, now look at that! Now it's just a smooth green demarcation all the way across!

02 22 59 52 C Maybe you're right. Maybe--

02 22 59 54 P Yes, that's Aurora! You see how it changes? Look, we're passing over Sidney right now. I can see Sidney and Australia, and there's nothing south of here but water!

02 23 00 06 P There's Sidney down there, bright as day!

02 23 00 18 P Okay, now did you see the Southern Cross and Alpha and Beta Kentaurus? They're up real well and we're not going to have any strain--You're going to have to roll left 120 degrees; after that, pitch up keeping the horizon in sight until you see Achernar, and then move up till you pick up Grus and Fomalhaut for the S-1, next revolution.

02 23 00 42 C Yes.

02 23 00 45 P Okay. Very good.

02 23 00 49 P Now we're going by New Zealand. I can see it.

02 23 00 54 C Yes.

02 23 00 57 P That's Aurora, bigger than heck. Now it's gotten real small again, but it's still there.

02 23 01 01 C Yes, I believe you're right. I think it is--

02 23 01 04 P And it's a very decided green, now that I got the red light out and I've been adapted a little longer.

02 23 01 11 C We're going right over New Zealand now.

02 23 01 13 P Yes. There are a couple or three towns down there, aren't there?

CONFIDENTIAL

CONFIDENTIAL

267

- 02 23 01 18 C Yes.
- 02 23 01 21 P Okay, I got the red light back on; we can get back on the flight plan here.
- 02 23 03 40 C A good point here that I'd like to record, that Pete has just made, is that these power and utility and telemetry plugs are almost impossible to hook up at night. They're very miserable. They don't have a proper detent to lock in right, and you have to fiddle around with them a little too much.
- 02 23 12 13 C The main trouble with this reticle - strictly for Wally's purposes here - is that the reticle picks up any kind of light in the cockpit very badly. Just multiplies it by many angles.
- 02 23 12 25 P How's that? Does that make it any better?
- 02 23 12 28 C Yes, but now you've picked up my little red light over here. That's the point that Pete just made. It's been made many times before and should be reiterated. Because of the poor lighting conditions and changing light condition and also this scum and crud that is on the window, when you're going into or coming out of a day or night or vice versa, you're just completely blinded at that point.
- 02 23 14 42 P Okay, the computer took a full 25 minutes to come on the line.
- 02 23 14 44 C The platform.
- 02 23 14 47 P The platform, excuse me, the platform took 25 minutes to come on the line. Must be very cold.
- 02 23 15 42 P Comment for the tape. We're doing a platform align at night with the reticle in the window and firing the pitch-up thrusters. Makes quite a bright illumination off the reticle there in Gordo's eyes and also I can see it quite plainly.
- 02 23 26 11 C Comment for the tape. We're aligning the platform going right into the sun now, and I really notice a lot of film on my windshield. It seems to be on the inner side of the outer pane. It seems to be getting a little bit worse as the flight goes along.

CONFIDENTIAL

CONFIDENTIAL

GUAYMAS, MEXICO

02 23 27 34 CC Gemini-5, Guaymas CAP COM.

02 23 27 37 C Hello, Guaymas, this is Gemini-5 here.

02 23 27 40 CC Okay, we'd like you to bring your computer up in the Prelaunch Mode at this time.

02 23 27 46 C Roger, the computer is in the Prelaunch Mode.

02 23 27 47 CC Okay, here's what they're going to do. They're going to update a 47-1 load in a T_R over the States. Over.

02 23 27 58 C Roger, and we'll give them our GO readings here after we pass Laredo.

02 23 28 03 CC Okay, very good.

02 23 28 05 CC We'll stand by if you need anything.

02 23 28 10 C Okay. The computer's up - the comp light's on.

02 23 28 14 CC Roger.

02 23 31 13 C Comment for the tape. We're coming in over bright sunshiny land and clouds. I have the unmodified without the other resistor type thing in the thing, and I'm able to see the reticle reasonably well. It fades a little over the bright clouds.

02 23 31 56 P Tape on, and I believe that we have the smoke generators from Laredo site. Yes, I'm positive we do see it loud and clear, the smoke. The next thing is: Will we see the target?

02 23 32 11 C Yes, we'll see it, Pete.

02 23 32 25 P Okay, what you want to do is put the sight right on the smoke and keep pitching.

02 23 32 49 P You know, I looked right at that yesterday and I never did see the squares.

02 23 33 01 C I don't think that's it, Pete. No I think it's further over here to the right.

CONFIDENTIAL

CONFIDENTIAL

269

02 23 33 13 C Oh, heck!

02 23 33 16 P Keep pitching.

02 23 33 25 P Keep pitching.

02 23 33 29 C Between the two rivers.

02 23 33 55 C I'll be darned if I could see them that time.

02 23 33 58 P Houston, Gemini-5.

02 23 34 12 CC Gemini-5, Gemini-5, Houston here. Go ahead.

02 23 34 15 P Roger. Would you tell us whether the Laredo site was making smoke?

02 23 34 19 CC Yes, they were planning on it.

02 23 34 22 P Okay, we had the smoke, but we could not pick up the squares. As a matter of fact, we had the smoke from about 200 miles out and we tracked right on the smoke and never picked up the squares. Now the sun angle is pretty bad for the pass although the pass was right smack over the site.

02 23 34 45 CC Okay.

02 23 34 47 P And 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.

02 23 34 53 CC Okay, Pete. I'll check and make sure that they had the smoke and I'll give you that information over the Canaries. Okay?

02 23 34 59 CC As a matter of fact, we'll try to get it for you before you leave the States.

02 23 35 04 P Roger, are you ready to copy our GO for the onboard readings?

02 23 35 06 CC Say again.

02 23 35 08 P You ready for our onboard readings?

CONFIDENTIAL

CONFIDENTIAL

02 23 35 11 CC Roger, go ahead.

02 23 35 12 P Okay, the main bus is 26.0 volts, and the 1A stack current is 8.1, 1B is 8.0, 1C is 9-1/2. 2A is 7.0, 2B is 6.9, 2C is 8.5.

02 23 35 43 CC Roger.

02 23 35 44 P RCS Ring A is 65 degrees, 295 is the pressure. RCS Ring B is 60 degrees at 285. Secondary O2 Left is 5400, Right reads 5300. We're GO for the 47-1, if you are.

02 23 36 11 CC Roger, you have a GO.

02 23 36 13 P Pitch down! Here's Houston, right down there! Here, I'll get it! Take the picture! Take the picture!

02 23 36 14 CC You're GO for 62-1.

02 23 36 20 C All right, let me get it. I'm changing the control mode.

02 23 36 22 CC Gemini-5, this is Houston here. Did you get your GO?

02 23 36 23 P Oh, excuse me.

02 23 36 25 C ... you were fiddling--

02 23 36 26 P Roger, we got a GO from you. We were just whistling over Houston here; wanted to get some pictures.

02 23 36 33 CC Okay, I've got some other information here for you. You don't have to bother acknowledging most of it.

02 23 36 41 CC We'd like to have you be aware that we want you to do a medical data pass on the Command Pilot over Canaries.

02 23 36 50 P We've got that. Have you got an AOS time?

02 23 36 52 CC Roger, it will be at 03:13:47:01.

02 23 37 01 P Roger.

CONFIDENTIAL

CONFIDENTIAL

271

02 23 37 03 CC We'd like to know what condition you're in with the suit gloves and helmets. Do you have the gloves and helmets off or on?

02 23 37 12 P Oh, about the time you gave us a GO pass 6-4, we took off the helmets and gloves and we haven't had them on since.

02 23 37 19 CC Okay, very good.

02 23 37 21 P Gordo's not wearing the cuffs on his wrist, and I am, and that's just because I got used to it. The relative humidity has stayed down around 56% all the time so we feel we're in good shape that way.

02 23 37 36 CC Okay, how about the neck dams?

02 23 37 39 P Say again, Houston.

02 23 37 42 CC Roger, are you wearing your neck dams?

02 23 37 39 P Say again, Houston.

02 23 37 42 CC Roger, are you wearing your neck dams?

02 23 37 45 P That's affirmative, we've been wearing the neck dams the whole time.

02 23 37 48 CC Okay.

02 23 37 53 CC We'd like to know if you're staying warm now. Do you have the cooling under control?

02 23 37 59 P Yes, our problem is that the temperature really doesn't change in here too much, but when either of us go to sleep, we're just not putting out too much ourselves and we really chill down.

02 23 38 11 CC Yes, I noticed that a little too. Listen, one thing I want to tell you about, don't worry about turning the coolant off in the cockpit; we've got some excellent T/M 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.

02 23 38 29 P Okay. Boy, Florida is really clear today; I can

CONFIDENTIAL

CONFIDENTIAL

see Jacksonville and all the streets in it and the Cape and all the way down to Miami.

02 23 38 38 CC Very good, very good.

02 23 38 40 P It's really pretty out there today.

02 23 38 43 CC Can you give us a couple of general comments on housekeeping? Are you keeping the stuff under control?

02 23 38 49 P Yes, but we're going to have a lot in the end. I'd like to tell you right now I've got three airplanes in sight, counted off Jacksonville.

02 23 38 57 CC Oh, very good.

02 23 39 00 CC We'll run a separate Visual Acuity Test here.

02 23 39 02 P Yes, I may not find that target, but we're seeing loads ... of other things.

02 23 39 04 CC Roger. Roger.

02 23 39 11 P Now we're keeping the housecleaning under control, but it takes a great deal of time.

02 23 39 17 CC Roger.

02 23 39 19 CC How's that bag working out behind the seat, Pete?

02 23 39 22 P It's full.

02 23 39 23 CC Already?

02 23 39 25 P Yes, with gear that has other places to go later.

02 23 39 28 CC Oh, okay. Be advised you've got a good 47-1 load in.

02 23 39 34 P Roger.

02 23 39 42 CC Are you having any trouble with those blue bags?

02 23 39 54 CC Gemini-5, Houston here.

02 23 39 56 P Go ahead, Houston.

CONFIDENTIAL

CONFIDENTIAL

273

02 23 39 57 CC How many of the blue bags have you had to use?

02 23 40 00 P One.

02 23 40 01 CC Roger.

02 23 40 22 P Houston, Gemini-5. Do you want us to leave the computer up?

02 23 40 41 CC Gemini-5, Houston here. You can go ahead and power down the computer now.

02 23 40 45 P Roger, computer coming down at this time.

02 23 42 00 CC Gemini-5, Houston here. Do you still read?

02 23 42 03 P Read you loud and clear.

02 23 42 04 CC Okay. Has Gordo been doing any chest testing exercises or anything like that to keep in shape?

02 23 42 11 P He's been pulling the bungee a couple of times. I haven't done any other than medical passes, although I stretch out and put quite a press between the floor and the seat a couple of times in order to keep fit.

02 23 42 28 CC Okay.

02 23 42 30 P ... comfortable.

02 23 42 32 CC You say you are comfortable?

02 23 42 35 P Yes.

02 23 42 35 CC Yes, pretty nice floating around, isn't it?

02 23 42 38 P Yes.

02 23 42 39 CC Hey, listen, you were a big singing star on television last night.

02 23 42 43 P We did what?

02 23 42 44 CC You were a big singing star on television. You've got requests for thousands and thousands of copies of that song you sang.

CONFIDENTIAL

CONFIDENTIAL

02 23 52 07 C I want to report on that 16 pounds and 4 ounces of water. Last night, I had about 2 hours of sleep during my nap period, and about another 3 hours sleep during my long sleep period.

02 23 52 35 CC Roger, ... Canary Surgeon. Could you give me an estimate of the quality of your sleep? Also Houston Surgeon has asked us to get food reports on you.

02 23 52 46 C Roger, the quality of our sleep was better in my short nap period that it was in my long sleep period. It was quite easier in my shorter sleep period. The food I just ate--3A was the last one I had. 3A was the last meal I just had at 03:12:30:00.

02 23 53 31 C Okay, go ahead, Canary.

02 23 53 35 CC Would you repeat that please? This is Canary Surgeon.

02 23 53 38 C Roger, Meal 3A was the last meal I had, at day 3, that's today, 12 hours 30 minutes 00 seconds. ...

02 23 53 51 CC Roger, we copy.

02 23 54 01 C Does that salmon ever smell strong in this small cabin!

02 23 54 39 CC Gemini-5, Flight advises that over Laredo the smoke was at the northwest corner of the target approximately 3000 feet long.

02 23 54 53 C Roger, thank you very much. We saw the smoke ... back there and we assume it was the northwest corner. We were unable to see the target. I think probably due to the sun angle.

02 23 55 05 CC Roger.

03 00 00 23 P Notes for the tapes. Time is 03 days, 14:00:00 and on the updates from the ground on the D-6 are 15:08:56. On the Sequence No. 08 they sent up a time of 1/60 second and my book says 1/125 second, and I take that to be more right than the update. I question also the speed they sent up as 1/250.

03 00 01 06 C Now I'm going to try and get that checked out before

CONFIDENTIAL

CONFIDENTIAL

275

we do it.

03 00 11 58 P Okay, the tape is on. Time is 03 days 14 hours 13 minutes, and we're coming right to 90 degrees and going to pitch up 20 with 0 degree roll to commence the S-1 experiment. The S-1 experiment is mounted in the window. I'm standing by for 04:18--

03 00 12 27 C Watch your 8-ball now when we go ...

03 00 12 31 P Yes.

03 00 12 39 P ... standing by for, what's the exact time?

03 00 12 46 P 04:18:36 is sunset.

03 00 12 49 C Okay.

03 00 12 56 P Yes.

03 00 12 58 C There ...

03 00 12 59 P Yes, that's good ...

03 00 13 13 P Yes. I'll tell you when you can go to red light if you want to when this--

03 00 13 22 C Okay, bringing my reticle ON.

03 00 13 25 P Okay. ...

03 00 13 39 P We've got--

03 00 13 44 C I've got them right now. I can see that ...

03 00 13 46 P 3 minutes.

03 00 13 49 C There's some ... there, let me see.

03 00 13 51 P Can you get on them. I'm in the daylight. I can't see.

03 00 13 52 C Yes. There it is. Right there in front of me.

03 00 13 56 P Okay. You're on it.

03 00 13 56 C Can you hold that daylight on ...

CONFIDENTIAL

CONFIDENTIAL

03 00 13 58 P Yes, here; how's that?

03 00 14 01 C All right.

03 00 14 03 P Okay. I'm going to start the camera at exactly 14:18:36, which is sunset time.

03 00 14 25 P Better dim the scanner light.

03 00 14 30 C Oh.

03 00 14 42 C All these particles flying out.

03 00 14 44 P Well of course they'll disappear as soon as the sun's off.

03 00 14 49 C Oh yes.

03 00 14 51 P My hands smell good. They smell of cocoa.

03 00 14 56 C I haven't eaten my cocoa yet.

03 00 14 58 P Oh, that was the ... did it, boy! That really hit the bottom good!

03 00 15 15 P Standing by. We're at about 2 minutes.

03 00 15 25 P Okay. Recorder's back on. The time is 14:18:15 and the sun is fading rapidly. Boy, they had this sunset right on the noggin.

03 00 18 27 P 4, 3, 2, 1, MARK.

03 00 18 32 P The camera's on.

03 00 18 34 P Okay. Took its first picture.

03 00 18 39 C Still right on.

03 00 18 46 C Tell me when the red light comes on again.

03 00 18 49 P The red light's still on.

03 00 18 54 P Still on.

03 00 18 56 P Okay, ... taking a picture.

03 00 18 58 P Red light's back on.

CONFIDENTIAL

CONFIDENTIAL

277

03 00 19 03 C Okay. ... on. Right on the money, boy.

03 00 19 08 P We want to go until 23.

03 00 19 13 P Red light's still on.

03 00 19 18 P Still on.

03 00 19 20 P Okay. It's taking a picture.

03 00 19 34 P Red light is still on.

03 00 19 39 P Red light is still on.

03 00 19 46 P It's taking a picture.

02 00 19 56 P Red light is on.

03 00 20 03 P Oh yes. You're lined up beautifully. Yes, I can see the stars.

03 00 20 13 P Red light is still on.

03 00 20 20 C ... hang on in there

03 00 20 25 P You want to turn out your cockpit red light?

03 00 20 34 P It's taking a picture.

03 00 20 37 P It's taking a picture.

03 00 20 39 P It's taking a picture.

03 00 20 42 P Okay. Red light's on. You can maneuver.

03 00 20 56 P Okay. The red light is still on. You can maneuver.

02 00 21 08 P Taking a picture, yes.

03 00 21 13 P ... camera ...

03 00 21 15 P Got enough stuff out here. Hope it all stays down in the bilges.

03 00 21 25 P Still taking a picture.

03 00 21 32 P Still taking a picture.

03 00 21 37 P Yes. That's holding good, Gordo.

03 00 21 42 P Still taking a picture.

CONFIDENTIAL

CONFIDENTIAL

03 00 21 44 P Okay. Red light's on.

03 00 21 51 P 5 minutes when the--

03 00 21 56 P Still the red light's on.

03 00 21 58 P 18:23:36. How am I going to tell the time? It's pitch black in here.

03 00 22 06 C ... 36.

03 00 22 08 P No. 23:36 seconds.

03 00 22 13 P Okay. It's taking a picture now.

03 00 22 15 C The next time the red light comes on, I'll turn my red light on and check the time.

03 00 22 20 P Okay.

03 00 22 44 P Really pretty, isn't it? Southern Cross and Alpha and Beta Kentaurus up there. Sure is prominent down here.

03 00 22 56 P I'm going to turn this DCS light down too.

03 00 22 58 P The guys at Carnarvon will be on in a minute.

03 00 23 03 C ... red light comes on.

03 00 23 06 P Yes. It's still taking a picture. I think we're up to about the 2-minute mark.

03 00 23 27 P Okay. Red light's on.

03 00 23 30 P You can turn on your red light. Check the time. Looking for 23 minutes 36 seconds.

03 00 23 37 C Okay. We're at it now.

03 00 23 39 P Okay. Leave your light on a second. You can leave your light on until roll left, 120 degrees. Here, I'll read it to you. Roll left 120 degrees. Then pitch up, once you get roll left 120.

03 00 24 27 P Roll left will put you approximately on the horizon.

CONFIDENTIAL

CONFIDENTIAL

279

CARNARVON

03 00 24 30 P Carnarvon, Gemini-5.

03 00 24 32 CC Gemini-5, Carnarvon. Go ahead.

03 00 24 34 P Roger. We're Green up here. Unless you have something for us we're very busy.

03 00 24 38 CC Roger. I'll update your Tr for 62 on about midpass.

03 00 24 44 P Okay. Give me a call before you do it because it'll ruin the camera in the window when the light's on.

03 00 24 49 CC Roger, will do.

03 00 24 54 P Okay. Now pitch up keeping the airglow in the lower left part of your window. Pick up Achernar.

03 00 25 20 P Now, we're just leaving the Southern Cross now, aren't we?

03 00 25 22 C Yes. Okay. ...

03 00 25 29 P Okay. When you get to Achernar, pitch up until you find Grus.

03 00 25 36 P Carnarvon, Gemini-5. You can report to Houston that the first part of the S-1 went extremely well.

03 00 25 43 CC Roger, will do.

03 00 25 44 P We're in the process of moving to the second phase of it right now.

03 00 25 48 CC Roger.

03 00 25 49 C Coming through Magellanic clouds. There's Achernar.

03 00 25 54 P Okay. Yaw right.

03 00 26 06 P There's Grus. Beautiful, beautiful!

03 00 26 08 P Okay. Now.

03 00 26 13 C ... roll on ...

CONFIDENTIAL

CONFIDENTIAL

03 00 26 15 P Here, take a quick look. Line up the cross into Grus.

03 00 26 22 C ... pointed up towards Fomalhaut.

03 00 26 24 P That's right. Where did it go? Oh, there he is, yes. I see him right now.

03 00 26 32 C Oh, yes.

03 00 26 34 P ... excuse me. Hit the wrong switch.

03 00 26 37 C It's on tape.

03 00 26 42 C Boy, when that comes on--

03 00 26 44 P Yes, Carnarvon, can you update our TR now?

03 00 26 46 CC Negative. I have about 15 seconds, then I can.

03 00 26 49 P Okay. We are just getting on it and we will be taking good pictures again here as soon as you can give us the TR.

03 00 26 55 CC Okay, about 10 seconds.

03 00 27 01 P Okay. We're taking a picture right now.

03 00 27 03 CC Transmitting the TR.

03 00 27 08 CC You got it.

03 00 27 09 C ... we received it up here, thank you.

03 00 27 13 P Okay. Now listen, Gordo's taking a 2-minute picture which is fouled up; so take your time, get on well, even though this picture is fouled up, because maybe we were still maneuvering when I started taking this picture. So that's ruined as far as the thruster firing goes. Boy, that worked really well, didn't it?

03 00 27 30 C Yes.

03 00 27 39 P We couldn't have done it with the platform.

03 00 27 42 P We couldn't have done it with the platform.

CONFIDENTIAL

CONFIDENTIAL

281

03 00 27 44 C No.

03 00 27 56 P Okay. It's still taking a picture which is no good, so--

03 00 28 03 C ... I'm not quite on. I was on but I drifted off.
...

03 00 28 49 P You've got plenty of time. You've got better than 30 seconds.

03 00 29 10 P That looks good from here. I don't know how it looks from over on your side.

03 00 29 13 C Yes, we're right on it ...

03 00 29 15 P Okay. Better than 30 seconds so you can kill the rates down real good.

03 00 29 20 P Still better than 30 seconds.

03 00 29 27 P You don't suppose this thing stopped running, do you? I have't seen a light for a long time.

03 00 29 39 P I'm still taking a picture.

03 00 29 44 P There it goes.

03 00 29 46 P Okay. You got 30 seconds now and you got everything killed down good and we're going to take our first good picture.

03 00 29 56 P Still red light. Still red light.

03 00 30 06 P Okay. Taking a picture.

03 00 30 27 P Boy 2 minutes seems like an eternity on this thing, not being able to fire a thruster.

03 00 30 44 C ... go on all night without an ...

03 00 30 49 C ...

03 00 30 53 P Trying to see if I can see the ... I guess I can't.

03 00 31 08 C I see some kind of a light over here, but I suppose it's the Magellanic clouds.

CONFIDENTIAL

CONFIDENTIAL

03 00 31 25 P I sort of see something out here. But I can't tell whether it's really just a bunch of dim stars or not. I think I'm imagining it.

03 00 31 34 P Hey, you got that thing killed down good. We're holding right on there.

03 00 31 39 C Yes. Fairly well.

03 00 31 42 P Just drifting a little. Boy, 2 minutes is a long time!

03 00 31 49 P I'm going to shut the tape down. We've got all we needed to know off it. We're on good.

03 00 42 51 P Okay. Tapes on at 14:42:00 and we're still taking pictures. We have a little bit of a roll rate yet, so we're going to fire the thrusters through this picture, whatever the one is. Out.

HAWAII

03 00 51 49 CC Gemini-5, Hawaii CAP COM. All systems are Green. As soon as you've completed your S-1 Experiment, would you contact us please?

03 00 51 57 C Roger. Will do, Hawaii.

03 00 53 17 P Okay. We ended the experiment at 03 days 14 hours 52 minutes, and we're going to try to get ready for our D-6. Tape off.

03 00 53 37 P Hawaii, Gemini-5. We've done the S-1. Would you please check the speeds with the camera with the D-6. I believe they should be 1/125 second rather than 1/60 second and 1/250.

03 00 53 52 CC Roger. Roger will do.

03 00 54 12 CC We want to delete that D-6 anyway. We've got a weather problem.

03 00 54 18 P Both of them?

03 00 54 19 CC Negative. Delete the D-6. The time is 15:08:56.

03 00 54 25 C Okay, that's the one over Texas.

CONFIDENTIAL

CONFIDENTIAL

283

03 00 54 29 CC Roger.

03 00 54 31 P ... listen with this Questar lens, tell them we're going to pick a good site somewhere going across the U.S. and get it.

03 00 54 38 CC Roger.

03 00 54 39 P Because we're in the process of rigging for it; we'll be rigged for it for the one off the coast.

03 00 54 45 CC Roger.

03 00 54 59 CC They're working up the settings, Gemini.

03 00 55 03 C Right, we only ... says 1/125.

03 00 55 07 CC Roger. Roger.

03 00 56 19 P Hawaii, Gemini-5. Do you want this Section 1 and 2 purge?

03 00 56 23 CC That's affirmative.

03 00 56 24 P Coming up right now.

03 00 56 25 CC Roger. Give me a mark.

03 00 56 28 P Roger. ... hydrogen purge commencing--

03 00 56 34 P Now.

03 00 56 49 P ... purge. Hydrogen complete. Commencing No. 2 hydrogen purge. On my mark.

03 00 56 54 P MARK.

03 00 57 08 P No. 2 hydrogen purge complete. Stand by for oxygen purge No. 1.

03 00 57 20 P Commencing No. 1 O₂ purge.

03 00 57 22 P Now.

03 00 57 36 CC Gemini-5, we're coming up on LOS. Those settings for your camera are 1/125 and 1/60.

CONFIDENTIAL

CONFIDENTIAL

03 00 57 44 C Hawaii, we'll get them next ...

03 00 57 46 CC Roger.

03 00 58 54 P Entry for the tape. Remind me to get these switches changed for the next guys on these purges. About to break my finger off purging.

GUAYMAS

03 01 04 14 CC Okay. They'd like you to put in one 1/60 and one 1/125. Can you do that, Pete?

03 01 04 21 P That's affirmative.

03 01 04 22 CC Okay. That's what they'd like for you to use.

03 01 04 34 CC Okay. That'll be 1/60 and 1/125.

03 01 04 39 P Roger.

CORPUS CHRISTI

03 01 08 49 CC Gemini-5, Gemini-5. This is Houston here. When you have time give us a call. We've got some information for you.

03 01 08 56 C Roger. Go ahead.

03 01 08 58 CC Okay. We'd like to have you put your Cryogenic Gaging Switch to Fuel Cell O₂.

03 01 09 03 C Roger. Fuel Cell O₂.

03 01 09 06 CC Okay. Are you through with your D-6 so I can give you some other stuff?

03 01 09 12 C Roger. Go ahead.

03 01 09 14 CC Okay. We'd like to have you put your Calibrate Switch to No. 1 position for 10 seconds.

03 01 09 24 CC I'd also like to tell you that your target for your next D-6 will be going up track so that V weight will be downstream.

03 01 09 34 C Roger.

CONFIDENTIAL

CONFIDENTIAL

285

03 01 09 36 CC I've got an update for your D-4/D-7 California background measurement whenever you're ready to copy. I also need your GO for that over Carnarvon. I'd like to have you tell Carnarvon whether you're ready, whether you will be ready to do it or not.

03 01 09 50 C Okay.

03 01 09 51 CC Okay. You ready to copy the update?

03 01 09 53 C Roger. Go.

03 01 09 54 CC Okay. First put your Calibrate Switch to No. 2 for 10 seconds. Okay. Here comes the D-4/D-7 update. Your new time is 03:16:37:28, pitch 26 down, yaw 38 left.

03 01 10 21 C Okay. Got that.

03 01 10 23 CC Okay. They're updating your Tr over Texas and Bermuda so you'll get a couple DCS lights and stuff.

03 01 10 30 C Okay.

03 01 10 32 CC I've got a map and star update for you also.

03 01 10 36 C Roger. Go ahead.

03 01 10 37 CC Okay. They're both at the same time, 03:16:17:37. The map is 162.5 degrees East. The star is 01:17:49.

03 01 10 59 C All right.

03 01 11 00 P What's the rest?

03 01 11 07 CC Rev 47. You can place your Cryogenic Gaging Switch to OFF now.

03 01 11 20 CC Okay. That's all the information I have. Why don't you go ahead with your D-6 there?

03 01 11 25 C Okay. We got the complete set of the dark pictures to last night side.

03 01 11 29 CC Very good. Very good.

CONFIDENTIAL

CONFIDENTIAL

03 01 11 31 C Worked out okay, I think.

03 01 11 33 CC Good.

03 01 11 36 P I gave Gordo a "well done" for tracking test. I think we really got some good ones.

03 01 11 40 CC Good.

BERMUDA

03 01 16 59 CC Gemini-5, Gemini-5, Houston here.

03 01 17 05 C Go ahead. Gemini-5 here.

03 01 17 07 CC How'd you make out on your D-6's?

03 01 17 10 C Roger. There was quite a lot of cloud out there, and we saw one ship with a wake. I don't really think it was him. We spent a picture on it.

03 01 17 21 CC Okay. Did you pick up anything across the States with your other D-6?

03 01 17 26 C No. It was pretty solid undercast and it's all out West.

03 01 17 30 CC Yes. That's why we scrubbed it because of the bad weather.

03 01 17 33 C Yes. It's pretty solid down there all the way from the coast on it. Houston was the only area that really looked like it was open.

03 01 17 39 CC Okay.

03 01 17 44 P Houston, Gemini Flight. Do we come anywhere near Austin next pass?

03 01 17 52 CC Well, looks like you might be a little bit north of it there.

03 01 17 58 P Okay. Over.

03 01 17 59 CC Why, are they open?

03 01 18 01 P Yes. They were when we went by but we were too

CONFIDENTIAL

CONFIDENTIAL

287

close in to yaw off and get him.

03 01 18 06 CC Okay. I'll take a look at that and see what we can do. You know you're going to be pretty busy next pass anyway.

03 01 18 12 P Flight, we'll pick them up tomorrow. Maybe the weather will be better.

03 01 18 15 CC Okay.

03 01 56 10 C Okay. The tape is on and the time is 03 days 15 hours 56 minutes and we're preparing to do D-4, 409, 15:59:00 over Carnarvon.

03 01 58 59 C Tape is on and time is 03 days 16 hours 00 minutes. Acquisition at Carnarvon and we're transmitting the 409 D-4/D-7.

CARNARVON

03 01 59 15 P Carnarvon, Gemini-5 is doing 409 at this time. Equipment's on.

03 01 59 21 CC Say again last, Gemini.

03 01 59 23 P Roger, we're doing 409 at this time, equipment is on.

03 01 59 27 CC Roger, we're receiving your FM/FM telemetry.

03 01 59 31 P Okay, give me a mark in 4 minutes, please.

03 01 59 35 CC Roger.

03 01 59 52 P Be advised Carnarvon, we'll be GO for 423 Alpha.

03 01 59 57 CC Roger, understand.

03 02 00 22 CC We've got an update for you. They have a medical pass scheduled on the Pilot at Hawaii this revolution. Hawaii's acquisition is 16:24.

03 02 00 35 CC Roger, 16:24.

03 02 00 51 C Your exercise.

CONFIDENTIAL

CONFIDENTIAL

03 02 00 53 P Okay.

03 02 00 55 C Still have enough to keep up with them.

03 02 01 03 C No blood pressure count.

03 02 03 05 P I don't know. It just keeps on growing ...

03 02 03 17 P Yes. There's no doubt about it. Look out at the horizon. That secondary scanner does the job.

03 02 03 27 C ... aline platform.

03 02 03 29 P Yes.

03 02 03 30 CC MARK, 4 minutes, Gemini.

03 02 03 34 P Okay, we're going to go start getting 410 Bravo.

03 02 03 38 CC Roger.

03 02 03 41 P If you're on, do you want to go to ORB RATE?

03 02 03 43 P Come right. Pick up Deneb.

03 02 03 53 C Okay, ORB RATE.

03 02 03 55 P Right.

03 02 03 58 C ... horizon scanner OFF.

03 02 04 07 P Say, could I give you a few books on it?

03 02 04 10 C Sure.

03 02 04 12 P ... organized yet.

03 02 04 19 P I'm afraid the Zodiacal Test is going to come up here and get away from me.

03 02 04 29 C I think this reticle ...

03 02 04 34 C ... jingle, jingle.

03 02 04 39 P Yes. Jingling.

03 02 04 43 P ... med pass.

CONFIDENTIAL

03 02 04 55 C Let's see. There's a star.

03 02 04 58 P I knew he'd be out there somewhere.

03 02 05 03 P Fairly low on the horizon.

03 02 05 05 C It's not here.

03 02 05 14 P Deneb.

03 02 05 17 C ... isn't it?

03 02 05 19 P Beats the heck out of me. I don't know.

03 02 05 24 C ...

03 02 05 26 P Yes.

03 02 05 29 C Yes ...

03 02 05 34 C There it comes.

03 02 05 36 P Where?

03 02 05 50 P Really think you're back around over here.

03 02 05 58 P It's Altair ... Vega ... Lyra. Right?

03 02 06 02 C ... Summer Triangle.

03 02 06 05 P Yes. I just don't think that's it.

03 02 06 17 C There's Altair and there's Delphinus by Altair.
There's Delphinus right out there.

03 02 06 24 P Okay. If you've got it on Deneb, I'll buy it.

03 02 06 29 P You ready?

03 02 06 31 C I'm ready.

03 02 06 34 P You got him dead center?

03 02 06 34 C Dead center.

03 02 06 36 P Okay. Four ...

CONFIDENTIAL

03 02 06 48 P Okay. Keep me right on.

03 02 07 06 C Got him?

03 02 07 07 CC 1 minute to LOS.

03 02 07 10 P Gemini-5, Roger. We're doing 410 Bravo right now.

03 02 07 15 CC Roger.

03 02 07 19 C ... this recording ...

03 02 07 22 P No. I'm recording up here this time.

03 02 07 36 P Okay. We started that at 16:07:20. No, I'm sorry. We started at 16:07:50 and we'll stop at 09:50.

03 02 08 02 C ... passing over.

03 02 08 05 P I got him good in the Questar lens.

03 02 08 50 C Okay, mark.

03 02 08 53 P Yes. You can go to small end forward, and I'm going to come up with the bright lights. All right?

03 02 09 00 C Okay. Go ahead.

03 02 09 05 P And would you hand me the Flight Plan.

03 02 09 19 P Okay, 16:15 aline SEF. Bring on the rate gyros and the radar at that time.

03 02 12 02 P Okay. Missile measurement. 423, the reticle will be installed on a 35mm Zeiss camera, 16mm camera and associated window equipment mounted in the right window. The 3401 W black and white film, that can be used. 3401 is ON.

03 02 12 26 C ... reticle is ...

03 02 12 31 P Measurement, 10 minutes. Rate gyros primary, Rad 2 for Brandenburg, Rad 3 for Holloman, Rad 2 IR ON--

03 02 12 46 C We're on secondary scanner.

03 02 12 48 P Yes.

CONFIDENTIAL

03 02 12 50 C On the SEF.

03 02 13 00 C What time is this whole shebang due, now?

03 02 13 05 P 16:38:28. At that time you should be 26 down, 38 left.

03 02 13 12 C 26 down, 38 left.

03 02 13 14 P Yes, yes. Okay.

03 02 13 38 P Okay. I've got the IR all set. The only thing I have to do is turn on the recorder. I need to get 16mm camera film for this.

03 02 13 48 C ... pretty smooth with the rate gyros on.

03 02 13 50 P At 15. We're not there yet.

03 02 14 04 P Oh, that secondary scanner's doing great. I hope it's still running 8 days from lift-off.

03 02 14 12 P Okay. Are you ready?

03 02 14 17 C You know that, Big Daddy.

03 02 14 19 P Primary roll gyro. Primary pitch gyro. Primary yaw gyro. Radar to STANDBY.

03 02 14 31 C All right.

03 02 14 34 P Would you turn up your light and read me that Radar Test once? I think I got it. Will you fly here in RENDEZVOUS, get a radar reading, go to CATCH UP for one second and back to RENDEZVOUS. You're just going to track it. Is that right? And I'll switch in and out everytime we get a reading.

03 02 14 50 C Yes. I'm just tracking. You switch in and out. Your readout's 69, so you get an update on it.

03 02 14 54 P Yes. MDIU on.

03 02 14 58 C Then you switch to CATCH UP for one second, then back to RENDEZVOUS.

03 02 15 02 P Okay.

CONFIDENTIAL

03 02 15 05 P Give me a call at 16:20 so I can stick this thermometer in my mouth and get these guys off my back.

03 02 15 10 C Okay.

03 02 15 12 C Computer RENDEZVOUS, platform to ORB RATE.

03 02 15 22 C Give you a call when?

03 02 15 24 P 16:20.

03 02 15 26 C Oh.

03 02 15 29 P Okay. Have I done everything?

03 02 15 36 C Do you suppose ...

03 02 15 40 P Radar, rate gyros--

03 02 15 41 C You're supposed to get that ...

03 02 15 43 P Yes.

03 02 15 44 C Whee!

03 02 15 46 P That's why you've got to put it right on them.

03 02 17 24 P What did we get up update for, 62-1 or 47-1?

03 02 17 36 P 62-1.

03 02 17 38 C Oh.

03 02 17 43 P There's the moon.

03 02 18 38 P How do your legs feel?

03 02 18 41 C A little cramped - not too bad.

03 02 19 11 C Next time Chuck Berry asks if I'm exercising my legs, why don't you tell him, yes, I'm outside running right now.

03 02 19 43 C I'm back on the adapter doing calisthenics.

03 02 20 02 P What's my food report?

CONFIDENTIAL

03 02 20 10 P You got the big book down here?

03 02 20 12 C Yes.

03 02 20 14 P Why don't you look up how much water I've drunk. 16-6, isn't it?

03 02 20 22 C No, 15-6. I'm 16-4.

03 02 20 31 P No. When you get to here you're 16. This starts at 0. 16-6, and you're 17-4.

03 02 20 38 C Oh, I see.

03 02 21 17 C Okay. First thing we get is missile measurement, huh? Then what?

03 02 21 22 P Computer ON. And then at ... Pilot radar lock 30 degrees down, yaw 7 left.

03 02 21 41 C 26 degrees down, 38 left. This is the radar.

03 02 21 46 P No, 26 down 38 left is for the missile.

03 02 21 50 C Oh, okay.

03 02 21 53 P And 30 down and yaw left 7 is the radar. I'll give you the radar again.

03 02 22 10 C And we're alined right on the money, looks like.

HAWAII

03 02 25 35 CC Gemini-5, this is Hawaii Surgeon. We have a valid temperature. Can we have your blood pressure please?

03 02 26 28 CC We have a good blood pressure. Give me a mark when you begin your exercise please.

03 02 26 32 P Okay.

03 02 26 33 P MARK.

03 02 27 06 P Blood pressure coming down.

03 02 27 16 CC Gemini-5, Hawaii Surgeon. Full-scale.

CONFIDENTIAL

03 02 27 50 CC We have a good blood pressure. Standing by for your water report.

03 02 27 55 P Roger. It's still the same I think as it was this morning - 16, 4 ounces. I still haven't eaten anything since the last meal, which I think was 3C.

03 02 28 09 CC Okay. Real fine. Are either you or the Command Pilot having any problem with temperature now? Are you fairly comfortable?

03 02 28 17 P Yes, we're fine now.

03 02 28 19 CC Okay. Have either you or Gordo been doing any shivering on the last few revolutions, or any exercises? We've noticed just checking on your respirations here there's a few sprinkles on it, and we were trying to figure out why that was happening.

03 02 28 33 P We were probably shivering on this last one.

03 02 28 36 CC Were you shivering on the last revolution or two?

03 02 28 48 P The last one revolution has been good but several before that we were probably shivering.

03 02 28 54 CC Roger. Everything else all right up there?

03 02 29 00 P Say again.

03 02 29 02 CC Everything else all right up there?

03 02 29 03 P Still fine.

03 02 29 07 C The Pilot's working up a big appetite, I can tell you that.

03 02 29 09 CC Real good.

03 02 29 13 CC I have nothing else here, Hawaii Surgeon out.

03 02 29 17 P Okay.

03 02 29 20 CC This is Hawaii CAP COM. For your Experiment 423A, there's a small cloud deck that extends from 700 up to 1100; it's west to southwest about 2 miles east of the site.

CONFIDENTIAL

CONFIDENTIAL

295

03 02 29 38 P Roger. We're ready.

03 02 30 07 CC They're still counting on time.

03 02 30 10 P Roger.

03 02 32 43 CC R minus 5 and counting.

03 02 34 02 P Recorder is ON. The time is 3rd day, 16:33:25, standing by for D-4 423 Alpha. We are pitch down 26 degrees, yawed left 38 degrees. Questar is mounted; the speed setting is 1/60. The Rad 2 is ON, IR power transmitter's ON, the 16mm camera's mounted, and I can just see clouds on the water beautifully on this Questar lens!

03 02 34 05 C ... can see this ... too.

03 02 34 07 P Yes. All you got to do, Gordo, is stick that reticle on it.

03 02 34 19 C ...

03 02 34 24 P Yes, that looks like the end of the cloud deck, and I see the California coast coming up.

03 02 34 26 C Yes.

03 02 34 30 C We just might luck out here yet.

03 02 34 41 P Let's see, what is it; 34:45?

03 02 34 44 C 34:45.

03 02 34 52 C Radar's to STANDBY.

03 02 34 53 P Okay. I'm going to bring up the computer ON at 16:45.

03 02 35 05 P Let's see. We got everything done that pass ...

03 02 35 09 C There's the California coast coming up.

CALIFORNIA

03 02 35 14 CC Gemini-5, Gemini-5, Houston here.

CONFIDENTIAL

CONFIDENTIAL

03 02 35 17 C Go ahead, Houston, Gemini-5.

03 02 35 19 CC Roger. The cloud deck over the site now is solid. It goes to broken about 5 miles to the southwest of the site, and it goes clear about 2 miles to the east of the site.

03 02 35 33 C Right. We can see the cloud deck.

03 02 35 36 CC Okay. Very good. And they're GO there.

03 02 35 42 C Okay. We're in position and waiting.

03 02 35 47 CC Roger.

03 02 35 49 P Boy, I wish we could get on it; this Questar lens is fantastic!

03 02 35 53 CC Roger!

03 02 36 01 C If we don't get this this time, will you stand outside and wave so we can get your picture as we go by?

03 02 36 07 CC Say again.

03 02 36 09 CC Oh, Roger, yes.

03 02 36 10 C If we don't get this you can stand outside and wave and we'll get your picture as we go by.

03 02 36 29 CC Okay, I'll be out there.

03 02 36 29 P We're there.

03 02 36 33 C What's the time he lifts off?

03 02 36 34 F 16:37:00 is recorder on. 16:37:28.

03 02 36 43 P Let's see, he's right under that cloud deck, right there.

03 02 36 48 C Yes.

03 02 36 49 P Give me--I got my own count here.

03 02 36 50 C Okay.

CONFIDENTIAL

CONFIDENTIAL

297

03 02 36 53 C 5, 4, 3, 2, 1, MARK.

03 02 37 00 P Recorder's ON. IR power transmitter's ON. RAD 2.
Right film in the camera.

03 02 37 12 P He's going to come right in under there. Get the--

03 02 37 18 CC 10.

03 02 37 26 CC MARK. Here we go. It's on its way.

03 02 37 31 P He's off.

03 02 37 34 P I see it! I see it!

03 02 37 48 C Where?

03 02 37 49 P There it's coming. See it Gordo?

03 02 37 51 C Where?

03 02 37 53 P Right through that hole in the clouds!

03 02 37 54 C Oh yes, I got it.

03 02 37 55 P There he comes! Bigger than heck!

03 02 37 56 C Got him.

03 02 37 57 P You got him?

03 02 37 58 C Yes.

03 02 38 00 P Let me know when you got the reticle on it.

03 02 38 05 C We've got lots of time.

03 02 38 07 P See him tracking up right through the clouds?

03 02 38 09 C Yes, I'm on him.

03 02 38 12 P You're on him?

03 02 38 14 C Yes.

03 02 38 22 C I'm about to lose him against the clouds, though.

CONFIDENTIAL

CONFIDENTIAL

03 02 38 23 P I can still see him! He's coming out over the water!

03 02 38 21 C Yes.

03 02 38 24 P See him? There he is over the water! See him?

03 02 38 26 C Yes. I'm on him.

03 02 38 29 P Okay. There he goes! See him way out in front?

03 02 38 32 CC Second Stage.

03 02 38 36 C Okay. I'm on him.

03 02 38 38 P Okay. We can see him real good!

03 02 38 40 CC Very good, very good.

03 02 38 44 P Oops.

03 02 39 07 C Look at that con.

03 02 39 12 P We can still see his con very, very clearly down there, even against the cloud background.

03 02 39 14 CC Okay.

03 02 39 19 P Give us a call when you want the computer ON.

03 02 39 24 CC Yes, tell us when you get through there, we'll--

03 02 39 26 C Okay.

03 02 39 27 P We're through. Recorder OFF.

03 02 39 29 CC You all done? Okay, we'll go back to this other stuff now.

03 02 39 34 P Oh, there he goes. Up through the thing.

03 02 39 37 C Where?

03 02 39 38 P Well, you can just see a trail going up.

03 02 39 41 C Oh, yes.

CONFIDENTIAL

CONFIDENTIAL

299

03 02 39 43 P ... higher.

03 02 39 44 C Yes. We can see him going above us.

03 02 39 50 CC You say he's going above you, right?

03 02 39 53 C Right, we saw him way out going higher than the horizon.

03 02 39 56 CC Okay, Roger. ... The computer power up time is 03:16:45:00 and you can power it up before then by a couple minutes if you like.

03 02 40 12 P Okay. We were hoping to find something down here for the D-6.

03 02 40 18 CC Just a second, I'll run outside.

03 02 40 21 P Okay. Computer coming on to PRELAUNCH.

TEXAS

03 02 40 30 CC Hey, congratulations on that last one. I had my doubts about it.

03 02 40 32 P What have you got down there - El Centro or Yuma or one of those?

03 02 40 35 C It was loud and clear.

03 02 40 36 CC Very good, very good.

03 02 40 38 P The thing that we saw was the engine burning against the white clouds first.

03 02 40 42 CC Oh, yes? Were the clouds a help or a hindrance?

03 02 40 46 P They were ...

03 02 40 49 CC Say again.

03 02 40 52 P They were ...

03 02 40 53 P Hey, there's El Paso right there! Can you swing right? Or White Sands! Wait a minute, we're getting White Sands. Get Holloman.

CONFIDENTIAL

CONFIDENTIAL

03 02 40 57 C Okay.

03 02 40 58 P Put it right there!

03 02 41 00 C Okay.

03 02 41 02 P Beautiful! And there's the sled track!

03 02 41 07 C Yes. Ha, ha, I'm on him, man!

03 02 41 09 P Get him, bear. Don't let him get away! Boy, ... Holloman right now and I can see--the runway fills the whole Questar ...

03 02 41 22 CC Say that again, please.

03 02 41 24 C We're tracking the Holloman air strip. We're well--

03 02 41 27 CC Oh, very good. Okay, I got you. Did you get a picture of that other thing?

03 02 41 32 P Yes, got about six of them.

03 02 41 35 CC Very good.

03 02 41 36 P Okay, now let's pitch up quick and back to--

03 02 41 46 C Hey, there's another little airport there.

03 02 41 48 P Where?

03 02 41 49 C You're too late. We're already past it now.

03 02 41 53 P Boy, you get somebody else right out in here, and we'll nail them.

03 02 41 54 C Yes, okay.

03 02 41 56 P Hey, there's Fort Stockton and the test track down there by it! How about that?

03 02 42 00 C Yes.

03 02 42 05 P Listen, we could get Austin this time. There's Lake Austin right there.

03 02 42 07 C Yes, it sure is.

CONFIDENTIAL

CONFIDENTIAL

301

03 02 42 09 P See if you see Bergstrom.

03 02 42 13 P Man, that runway was that big in that thing!

03 02 42 17 C How did you like that tracking task?

03 02 42 18 P That was beautiful!

03 02 42 19 C Nailed him!

03 02 42 20 P You did! That's great! That's tremendous! There's Austin; no, that's--what in the heck's that? San Antonio.

03 02 42 29 C I think Austin's going to be right in under that cloud.

03 02 42 33 P Yes, I'm afraid you're right. There's San Antonio.

03 02 42 43 P No, there's Bergstrom! See it out there on your right, up? See it?

03 02 42 47 C Oh, yes.

03 02 42 50 P Stick it right on there. Okay. Beautiful.

03 02 42 54 C ... pulse.

03 02 42 57 P Okay.

03 02 43 05 C Okay.

03 02 43 16 C Okay, what else will we get here?

03 02 43 19 P Now we've got to get the Radar check. Pitch right back, 30. Okay, we got Bergstrom that time too.

03 02 43 27 CC Very good. Sounds like you're getting caught up on D-6.

03 02 43 30 P Yes, I hope so.

03 02 43 33 P Okay, we're going to 30 pitch down, yaw 7 left and we're standing by for the Radar.

03 02 43 42 CC Okay, fine. You got that procedure all squared away, haven't you?

CONFIDENTIAL

CONFIDENTIAL

03 02 43 45 P Right. We'll go to RENDEZVOUS and then back to CATCH UP after a lock-on for one second, and back into Rendezvous, and keep that cycle up till we lose lock again.

03 02 43 56 CC Okay, very good. Do you have your FDI's up?

03 02 43 59 F Affirm.

03 02 44 00 CC Okay, are you going to be pointing at the transponder?

03 02 44 06 P Yes, he's going to track it.

03 02 44 07 CC Okay, very good.

03 02 44 20 C That Pulse Mode isn't worth a darn for some things.

03 02 44 29 P Okay.

03 02 44 31 C What is it now - 30 down and what?

03 02 44 35 P Yes, I'm going to put your radar on right now.

03 02 44 38 C Okay. 30 down and what?

03 02 44 39 P And yaw left 7.

03 02 44 43 C Okay.

03 02 44 48 C Ready.

03 02 44 50 P Okay. At 46:02, so it should be very shortly.

03 02 45 33 P Okay, we have a solid lock.

03 02 45 35 CC Okay. Kind of keep your eye on the FDI needles if you can as you go across and give us a little report on it.

03 02 45 44 C Roger. I'm reading range - range rate.

03 02 45 47 CC Okay.

03 02 45 48 C I'm locked on.

03 02 45 50 CC Very good.

CONFIDENTIAL

CONFIDENTIAL

303

03 02 45 54 P I haven't gotten anything to read into the RENDEZVOUS Mode yet.

03 02 45 57 C My FDI's are locked.

03 02 45 59 CC Okay. Are they null?

03 02 46 01 C Roger.

03 02 46 02 CC Okay.

03 02 46 08 P I've ... into the RENDEZVOUS Mode. You want me to go to CATCH UP?

03 02 46 13 CC Yes. Cycle back and forth and see what happens. Did you get the Start Comp. button pushed there?

03 02 46 35 C Locked on good but ...

03 02 46 39 CC Okay.

03 02 46 42 C ... degrees with the reticle--it's holding lock as we go straight across. Is it out at Merritt Island? Is it out at Merritt Island?

03 02 47 22 CC I don't know. Just a second. We've got the coordinates to four decimal places in seconds, but I don't know where it is.

03 02 47 32 C Well, my radar's showing it's right on Merritt Island down there.

03 02 47 36 CC Okay.

03 02 47 40 C I'm still locked on it.

03 02 47 41 CC Okay.

03 02 47 42 P I don't understand. I'm not getting any range readout either in CATCH UP or RENDEZVOUS.

03 02 47 51 CC Roger. You got the Start Comp button?

03 02 47 55 C Yes.

03 02 47 55 P Yes. I've tried everything.

CONFIDENTIAL

CONFIDENTIAL

03 02 47 57 CC Is the MDIU on?

03 02 48 01 C Well over 250 miles down now, I guess.

03 02 48 06 CC Did you have the MDIU power on?

03 02 48 08 C Yes.

03 02 48 12 CC Okay.

03 02 48 14 C I'm still locked on. We're over 300, I guess, now.

03 02 48 20 P Yes. Well, you'll have the data on the tape though, won't you?

03 02 48 25 CC We hope we do. Yes.

03 02 48 28 CC Squeeze on a couple of D-6's going by there too. He was pointing right at it.

03 02 48 32 P Okay.

03 02 48 45 C Just broke lock.

03 02 48 48 CC Roger, broke lock at 48:47.

03 02 50 21 CC Gemini-5, Houston.

03 02 50 22 C Go ahead, Houston, Gemini-5.

03 02 50 24 CC The next time we do an oxygen purge on the fuel cells, we want to do it over a site so we get some data while you're doing the purge. We don't really have much else for you. We got another 6 or 7 minutes here of hack time.

03 02 50 40 C Okay. I might give you a little information further radarwise. I'm getting radar range and radar range rate intermittently on my digital there. I mean on my analog there, and I don't know why it wasn't steady, but on my needles I had steady lock-on and was pulling him away on the outer way on a pass.

03 02 51 11 CC Okay. Did you get that intermittent R and R-dot throughout the whole pass?

CONFIDENTIAL

CONFIDENTIAL

305

03 02 51 17 C A little bit, although on in fairly close it seemed to lock up pretty solid on the analog and hold fairly steady.

03 02 51 25 CC Okay, so in close it was steady but at greater ranges it was intermittent.

03 02 51 29 C Greater range it was a little bit intermittent although it did seem to jump in and out a little there.

03 02 51 35 CC Okay.

03 02 52 32 CC Gemini-5, Houston.

03 02 52 33 C Go ahead, Houston.

03 02 52 34 CC Your attitude control fuel useage has been up pretty high lately and we want to make you conscious of the fact that you're going to have to start taking it easy on it and going at a little lower rate than you have been to make it through the rest of the flight here.

03 02 52 51 P Roger.

03 02 52 55 CC As a matter of fact, I'll try to fix up a little summary for you and give it to you across the States the next time to let you know where you are.

03 02 53 01 C Okay.

03 02 53 13 CC Gemini-5, Houston here. Would you hit the Start Comp button one more time. We want to get some stuff on the ground here.

03 02 53 22 P It's in CATCH UP, you want RENDEZVOUS?

03 02 53 25 CC It doesn't make any difference. Just go ahead and hit the Start Comp button.

03 02 53 29 P Okay.

03 03 07 21 CC Gemini-5, Gemini-5, Houston here. Over.

03 03 07 25 P Go ahead, Houston, Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

03 03 07 28 CC Roger. We took a quick look at the fuel here and it looks like you're a little bit below the program flight plan fuel level for this particular time of the flight. So we're going to have to take it easy for awhile.

03 03 07 44 P Okay.

03 03 07 45 CC We're getting some more information now on the S-8/D-13 pass across Laredo. Right now the weather is clear with a few little puffy clouds around less than a tenth. You're going to have a smoke pod on the northwest corner again and 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'll be a lot better than they were this morning.

03 03 08 13 P Okay, fine.

03 03 08 24 CC Gemini-5, Gemini-5, Houston.

03 03 08 27 C Go ahead.

03 03 08 28 CC Can you give us an onboard readout of what your propellant quantity is, please?

03 03 08 34 C The propellant quantity is reading 31%, over.

03 03 08 37 CC Roger. Understand 31%.

03 03 08 40 C Roger, that's about 114 pounds on my recording chart.

03 03 08 46 CC Okay, very good.

03 03 09 38 P We'll run this tape out and put a new tape in. Let's see, we had a pretty good pass there on the radar. Don't know what happened to the Rendezvous and never got any readings on the MDIU. That didn't make much sense to me, because the MDIU was on when I went to CATCH UP. I went to RENDEZVOUS and I never got any address 69 readings from either one. The only thing I can think of is that it might have been some sort of a malfunction in the--not the radar, because you were getting readings.

CONFIDENTIAL

CONFIDENTIAL

307

03 03 10 31 C Yes.

03 03 10 33 P Something just wouldn't read from the computer to the MDIU.

03 03 10 38 P Turning it off right now.

03 03 13 49 C ORB RATE and Horizon Scan. I guess what I ought to do is ... Horizon Scan. I think the sun is going to ...

03 03 14 00 P Well, we're a little bit late on this one now. 17:13. Yaw left at 90. We've got to stop the rates and go to ORB RATE, Horizon Scan.

03 03 14 36 C Okay.

03 03 14 37 P You ready? You've got Horizon Scan?

03 03 14 45 C Okay.

03 03 14 49 P Mark. The time is 17:14--

03 03 21 56 P ... time is 17:22. We're just coming up on Fomalhaut at this time.

03 03 22 14 C Darn, that computer light is a bright son-of-a-gun!

03 03 22 19 P Well here, let me get us one of those. Oh, it's supposed to be in ...

03 03 22 22 C Yes.

03 03 22 23 P All right.

03 03 22 40 C Okay, there's Fomalhaut.

03 03 22 43 P Okay, let me know when you have it. Steady in there.

03 03 22 50 C How about it?

03 03 22 52 P Let me focus. You're right on it.

03 03 22 58 C I am?

03 03 23 00 P Okay, stand by.

CONFIDENTIAL

CONFIDENTIAL

03 03 23 04 P MARK. Time is 17:23:05.

03 03 23 15 P Okay, recorder, we did not get Platform Mode Test 01 - we'll have to pick it up later.

CARNARVON

03 03 34 12 CC Carnarvon, Gemini-5. Standing by for the updates.

03 03 34 15 P Roger.

03 03 34 15 CC This is a PLA update.

03 03 34 24 CC Roger. Area 50-4, 20:53:56, 12 plus 12, 18 plus 17. Area 51-3, 32:12:40, 14 plus 05, 19 plus 13. Area 52-3, 23:47:51, 12 plus 57, 18 plus 18. Area 53-3, 25:22:39, 12 plus 10, 18 plus 00. Area 54-Delta, 26:17:24, 19 plus 56, 24 plus 41. Do you copy?

03 03 36 04 P Can't understand the time on last two. Is that 25 and 26? Would you read the times on 53-3 and 54-Dog.

03 03 36 13 CC Roger. GMERC 53-3 is 25 hours 22 minutes - okay. Good show.

03 03 36 29 CC Stand by, I'll call it--you think of the question on this thing. This may be 01 hours.

03 03 36 34 P That's probably what it is.

03 03 36 59 CC Gemini, Carnarvon. Okay, those last two 53-3 is the fourth day 01 hours 22:39, and 54-Delta is fourth day 02:17 plus 24.

03 03 37 22 P Copy.

03 03 37 24 CC The weather is good in all areas.

03 03 37 35 P Okay. Would you advise Flight that we've got everything done except the Venus photograph on the platform O₂ test?

03 03 37 47 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

309

HAWAII

03 04 00 21 CC Gemini-5, Hawaii CAP COM. We copy your oral temp. We are standing by for blood pressure.

03 04 00 44 CC Your cuff is full-scale.

03 04 01 16 CC We have good blood pressure. Give me your mark when you begin your exercise.

03 04 01 23 C Ready.

03 04 01 24 C MARK.

03 04 01 56 C End of exercise.

03 04 02 04 CC Gemini-5, Hawaii Surgeon. Your cuff is full-scale.

03 04 02 41 CC We have a good blood pressure. Standing by for your water report.

03 04 02 48 C Roger, I had 17 pounds 4 ounces of water and still finishing up Meal 3A.

03 04 02 59 CC Say again that last.

03 04 03 01 C Roger, still eating up the last of Meal 3A before I have a new meal here shortly.

03 04 03 08 CC Roger.

03 04 03 11 CC We have nothing else. Thank you, Gemini-5, Hawaii Surgeon out.

03 04 03 15 C Roger, thank you.

CALIFORNIA

03 04 11 49 CC Gemini-5, Gemini-5, Houston.

03 04 11 52 C Go ahead, Houston, Gemini-5.

03 04 11 54 CC I want to give you a little information on your S-8/D-13 that might help you acquire the target. You ready?

03 04 12 00 C Roger, go ahead.

CONFIDENTIAL

CONFIDENTIAL

03 04 12 02 CC Okay, the smokepot is still at the northwest corner of the area. It is about 1000 feet from the nearest cleared square. The smoke is blowing just about due north and it's about 5 or 10 degrees wide in the-- as the smoke column goes out about like that. There's some scattered Cu. about 50 miles to the east and there is 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 cirrostrat, and it's well to the south-southeast, quite a ways out of the way.

03 04 12 38 C Roger.

03 04 13 24 CC 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.

03 04 13 36 C Roger.

TEXAS

03 04 15 07 P Houston, Gemini-5. We have the smoke in sight at this time. We're still quite a distance out.

03 04 15 12 CC Okay. Now the smoke is supposedly blowing due north from the northwest corner of the site.

03 04 15 20 P Roger. We'll do our best.

03 04 15 22 CC Okay.

03 04 15 52 C Have targets in sight.

03 04 15 54 CC Roger.

03 04 18 08 P Okay, we saw the targets and we think we might have marked about two of them and that's about it.

03 04 18 16 CC Okay, can you tell me what they were?

03 04 18 19 P Well, let me think about which direction they are first.

03 04 18 24 CC Okay.

03 04 18 32 CC It wasn't the big E, huh?

CONFIDENTIAL

CONFIDENTIAL

311

03 04 18 35 P No.

03 04 19 20 P I think the third one in the second row was a 2. We think that the second row, second one was a 2 and the third one was a 2 and that's about it. We were all past it before we really picked it up good.

03 04 19 36 CC Okay, so you think the second one and the third one in the second row was--do you think they were both 2's?

03 04 19 40 P That's right.

03 04 19 42 CC Okay, very good.

03 04 19 45 CC Now I have some other information for you here when you are ready to go.

03 04 19 49 P Go ahead.

03 04 19 50 CC We would like to have you start your purge now, and purge both sections. When you complete your purge, we would like to have you then power down.

03 04 20 04 P Okay, I think we'll dress tonight.

03 04 20 07 CC Roger.

03 04 20 08 P Here's a piece of information for you. We're pretty sure that our Primary Scanner is off. It works all right except it makes us align the platform with the nose at 15 degrees down.

03 04 20 24 CC Okay, you think the spot, Primary Scanner is off about 15 degrees at pitch, is that right?

03 04 20 29 P Yes. The Secondary Scanner works fine.

03 04 20 32 CC Okay, listen, would you start the purge. We don't have any telemetry out at Antigua, and we would like to watch this purge.

03 04 20 43 P Hydrogen on purge down.

03 04 20 44 CC Okay.

CONFIDENTIAL

CONFIDENTIAL

03 04 20 57 P Hydrogen is complete on No. 1.

03 04 20 59 CC Okay.

03 04 21 13 CC No. 2 hydrogen is complete. Starting No. 1 oxygen.

03 04 21 16 C Roger.

03 04 21 20 CC While you are doing the purge here, I would like to ask Gordo a couple of questions about the needles during lift-off and the powered portion of the flight. The question is, which one of the tank needles went full-scale during powered flight, and what time did this occur?

03 04 21 40 C Roger, it was before staging and it was the IPS fuel needle, second stage IPS fuel needle.

03 04 21 47 CC Roger, second stage IPS fuel needle, not the oxidizer.

03 04 21 51 C That's right. They went--it came right back after staging and then went off--up to the top and off position again shortly after.

03 04 22 04 CC Shortly after staging?

03 04 22 06 C Affirmative.

03 04 22 08 CC Okay, very good.

03 04 22 10 C I guess we already told you about the POGO?

03 04 22 13 CC Roger.

03 04 23 13 P Hydrogen 1 oxygen purge complete. MARK.

03 04 23 16 CC Roger. Thank you.

03 04 23 19 P Starting Section 2 purge at this time.

03 04 23 42 CC Gemini-5, Houston again. When did you first notice that the Primary Scanner was giving you this 15 degrees pitch down?

03 04 23 51 C We noticed it yesterday. It was being very erratic and the clouds were affecting it quite easily, and

CONFIDENTIAL

at every sunset and sunrise it would go off giving ... light and give several real erratic signals. Then it seemed to steady out a little bit and do fairly well. We switched to the Secondary and it was doing better yesterday. Seems like they are doing very well, and today we tried the Primary again several times just to compare it, and it definitely is very weak, and it's holding the attitude partly nose-down.

03 04 24 29 CC Okay.

03 04 24 31 C It has quite a wide tolerance in its Attitude Hold.

03 04 24 36 CC Okay, how about in the Platform Aline; does it aline the platform properly?

03 04 24 43 C Well, fairly well. It still is alining a little bit off, and I think over the long haul it would get it alined all right. But the Secondary does real well.

03 04 24 53 CC Okay.

03 04 25 12 CC Gemini-5, wouldyou go to CATCH UP and hit the Start Comp button on your computer, please?

03 04 25 20 C Roger, in CATCH UP hitting Start Comp, now.

03 04 25 23 P Section 2 purge complete.

03 04 25 25 CC Roger, Section 2 purge is complete.

03 04 25 30 P Holler when you want us to power down.

03 04 25 34 CC Okay, we're checking a few things on the computer. We lose voice contact before we get this done. We want you to power down and start your rest cycle. We are going to start the rest cycle about a half hour late today so we want you to regulate your sleeping by shifting everything a half hour backwards. We would also like to have you put your Cryogenic Gaging Switch to the OFF position now.

03 04 26 02 P Okay, the computer's in CATCH UP. You hit Start Comp, and the fore and aft IVI's are just cycling through from 0 to 999.

CONFIDENTIAL

03 04 26 12 CC Okay. We'll look into that for you.

03 04 26 19 P We had this problem at the start of the REP and I thought it was beat, and I got it to stop the first day but it sort of slipped my mind. Now that we're doing this ... I remember.

03 04 26 31 CC Okay, I understand it is still going back and forth.

03 04 26 34 P Yes, it's going from 0 to 99 ...

03 04 26 39 CC Okay, it's coming up all the time, is that correct?

03 04 26 42 P Up all the time.

03 04 26 44 CC Okay.

03 04 26 49 P Now it's stopped at 794 and ...

03 04 26 56 CC Okay.

03 04 27 22 C Roger, we are 794 aft, 215 left and we're getting up - down reading 700, 721.

03 04 27 32 CC The up - down is 721 and the other was 215.

03 04 27 36 C Well, they're changing. They're ... left ... 722 down right now.

03 04 27 44 CC Okay, we're just about to get LOS.

03 04 27 49 CC Gemini-5, we would like to have you leave the computer on for a little while and power down your IMU when you get through.

TANANARIVE

03 04 38 42 CC Gemini-5, Gemini-5, this is Houston here. Over.

03 04 38 47 C Go ahead, Houston, Gemini-5.

03 04 38 50 CC Roger, Gemini-5, this is Houston. Could you tell us what state your computer is in presently, that is, whether it is on or off and what mode it's in? And we would also like to advise you that we would like to have you leave it in whatever condition it's in right now.

CONFIDENTIAL

CONFIDENTIAL

315

03 04 39 07 P Roger, we went to PRELAUNCH and as soon as the Start Comp green light came on we shut the thing off.

03 04 39 15 CC Okay, your computer is OFF and it was in the PRELAUNCH Mode when you shut it off. Could you tell me if the IVI's ever stopped counting?

03 04 39 25 C Negative.

03 04 39 29 CC You said negative, is that correct?

03 04 39 31 C Affirmative, they did stop counting.

03 04 39 34 CC Okay, they did stop counting. What did they finally stop on?

03 04 39 38 C 791 aft, 141 left and 710 down.

03 04 39 45 CC Okay, that's 791 aft, 141 left and 710 down.

03 04 39 53 C That's right.

03 04 39 55 CC Okay.

03 04 49 32 CC Gemini-5, Houston here. We've got another minute or two. We don't have any other information for you. We'll just stand by.

03 04 49 38 C Okay.

HOUSTON

03 04 57 21 CC Gemini-5, Gemini-5, this is Houston. Over.

03 04 57 26 C ... Houston, Gemini-5.

03 04 57 29 CC Roger, Gemini-5, this is Houston. Be advised that we tracked another object with you on your pass across the States. Range was 2 to 10,000 yards from the spacecraft. You might look around and see if you can see anything. Unfortunately, I can't tell you which direction to look.

CONFIDENTIAL

CONFIDENTIAL

03 04 57 53 C What time is this?

03 04 57 57 CC Did you say what size or what time?

03 04 58 00 C Time.

03 04 58 02 CC Well, it seems to be going right along with you. So we're tracking it right with you.

03 04 58 13 C Roger.

03 04 58 21 CC We're going to lose you here shortly but if you see anything, why don't you let us know at the next station?

03 04 58 27 C Okay.

03 04 58 31 CC The radar return was approximately the same as yours as far as magnitude.

03 04 58 38 C Roger.

COASTAL SENTRY QUEBEC

03 05 19 14 CC Gemini-5, Gemini-5, CSQ has you GO on the ground. There is nothing for you this pass. Standing by.

03 05 19 23 C Roger, Gemini-5. Thank you, CSQ.

HAWAII

03 05 36 03 CC Gemini-5, Hawaii CAP COM. All your systems look good. We've nothing for you this pass. We're standing by.

03 05 36 11 C Roger. Thanks, Hawaii. We're GO up here.

03 05 36 14 CC Roger.

PT. ARGUELLO

03 05 45 06 CC Gemini-5, Gemini-5, this is Houston. Over.

CONFIDENTIAL

CONFIDENTIAL

317

03 05 45 10 C Go ahead, Houston, Gemini-5.

03 05 45 13 CC Roger, I have a couple of questions, and as a matter of fact I have a lot of questions and a Flight Plan update. Are you ready?

03 05 45 21 CC First, the questions. Did you see any accelerometer malfunction lights on your IMU on your last Radar Test over the Cape?

03 05 45 32 C No.

03 05 45 33 CC No mal lights, okay. I've got a Flight Plan update for you. Are you ready to copy? It's quite long.

03 05 45 41 C Yes, go ahead.

03 05 45 43 CC Okay. S-7 time is 03:21:20:08, Sequence No. 03, Remarks, pitch down 90 degrees. Apollo Landmark time 03:21:38:02, Sequence No. 213, Remarks, pitch down 30 degrees, yaw right 6 degrees. D-4/D-7, time 03:22:48:17, Sequence Nos. 425 Alpha and 416, Remarks, pitch down 30 degrees, yaw right 30 degrees, volcanos. HF Test time 03:22:55:00, Sequence No. is 01, End Time is 04:00:25:00. S-8/D-13 time 03:02:30:00, Sequence Nos. 01 and 02, Under Remarks, Pilot. S-7 time 04:03:20:25, Sequence No. is 01, Remarks, pitch down 90 degrees.

03 05 48 13 C Okay.

03 05 48 15 CC S-8/D-13 time 04:03:30:00, Sequence Nos. 01 and 02, Remarks, Command Pilot. HF Test time 04:04:00:00, Sequence No. is 02, Remarks, End Time is 04:05:30:00; and that's the end of the Flight Plan update. Are there any questions?

03 05 49 22 CC Gemini-5, Houston. Did you get the Flight Plan?

TEXAS

03 05 49 37 C Stand by, Gemini-5.

03 05 49 42 CC Gemini-5, this is Houston here.

03 05 49 44 C Roger, you just started on the HF Test. You faded.

CONFIDENTIAL

CONFIDENTIAL

03 05 49 59 CC 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 No. is 02, Remark, End Time is 04:05:30:00. Gemini-5, that's the completion of your Flight Plan update. Are there any questions?

03 05 50 27 C I didn't get the remarks out of that last HF Test.

03 05 50 31 CC Roger, under Remarks, the End Time for the test is 04:05:30:00.

03 05 50 43 C Okay, I got that.

03 05 50 46 CC Okay, fine. We got some questions on the S-8/D-13, Gordo.

03 05 50 53 C Okay.

03 05 50 55 CC These come from the experimenter, and they say that they had the smoke generator and the chevron 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 positions of the smoke columns?

03 05 51 28 C ... however, we just had trouble locating the patterns as we got in close. Then they weren't any giveaway because we were coming in from such a different angle than we had seen it before.

03 05 51 41 CC Okay, but you think the smoke column was placed in a reasonably good position though. Is that correct?

03 05 51 47 C Yes sir, the smoke really points it out maybe a hundred miles, a slant range of 200 to 250 miles easily.

03 05 52 02 CC Okay, fine. They have another question here. Do you see marks in every square or in just the two that you read off to me?

03 05 52 13 C I can see marks in several of the squares. I didn't see them in every square, but I just didn't have the time. We were coming at such an angle that just the one was about all that really

CONFIDENTIAL

registered. And it appeared that just about all that registered with Pete was one particular square that he saw clearly. I say, we didn't get it located until we were already past it.

03 05 52 39 CC 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 that out to you again, that they keep the largest targets in the northern-most line.

03 05 52 54 C Yes, well the one that I thought I could see the clearest that registered on me was the first target in the second row, which is the nearest to us when we went over. We didn't get real close to the targets like we did the first pass where I saw them earlier.

03 05 53 12 CC Okay, very good. So you say the one that you saw best was the first one in the second row?

03 05 53 17 C Right ... I think, again, this is one of the problems like we have discovered in flying up here over them. It's the light angle on the target itself.

03 05 53 30 CC Okay, now was the light angle better on the second pass today or the first pass, as far as you were concerned?

03 05 53 37 C I think it was better this second pass.

03 05 53 43 CC Okay. According to our calculations, the sun was pretty much over it for the second pass but you had to look into the sun for your first pass. We assume that the light was better on the second one.

03 05 53 52 C And then we both saw it on our second.

03 05 53 56 CC Okay.

COASTAL SENTRY QUEBEC

03 06 53 05 CC Gemini-5, Gemini-5, CSQ.

03 06 53 09 C Gemini-5, CSQ.

CONFIDENTIAL

03 06 53 11 CC Roger, we'd like to know what setting you have on your Suit Coolant Control.

03 06 53 16 C Roger. It's all the way closed.

03 06 53 18 CC Understand full closed.

03 06 53 20 C Roger.

03 06 53 23 CC Okay. We have you GO on the ground, and if you have an experiment status report ready this revolution, we'll copy it; if not, we'd like it next revolution. Over.

03 06 53 34 C Okay, we'll catch you next revolution.

03 06 53 37 CC Very good. We have nothing on the problem. Standing by.

03 06 53 40 C Okay, fine. Thank you.

03 06 56 40 CC Gemini-5, CSQ.

03 06 56 43 C Go ahead, CSQ.

03 06 56 45 CC Roger. We had a visual on you this pass.

03 06 56 47 C Very good.

03 06 56 52 C Brighter than the sunlight?

03 06 56 55 CC Say again.

03 06 56 58 C Does it look brighter than the sunlight?

03 06 56 59 CC Affirmative.

03 06 57 02 C Very good.

HAWAII

03 07 11 09 CC Gemini-5, Hawaii CAP COM. All systems are Green. We're copying your dump. We have an onboard map update for you.

03 07 11 19 C Roger. Go ahead.

CONFIDENTIAL

CONFIDENTIAL

321

03 07 11 21 CC Roger. The title is Map 22:15:02, longitude 71 East, Rev 51; the star is the same time under Remarks, 01:10:12.

03 07 11 49 C Okay, fine. Thank you.

03 07 11 52 CC Roger.

03 07 12 11 C Hawaii, Gemini-5. Could you give us the GMT time hack please?

03 07 12 16 CC Roger. I'll give you a hack at 21:14:00.

03 07 12 22 C Roger.

03 07 14 55 CC Stand by. 3, 2, 1,

03 07 15 00 CC MARK.

03 07 15 02 C Roger. Thank you.

03 07 20 05 C Okay, the time is 21:20:08 seconds, and I'm snapping S-7 at 1/8. Alining it. We're 90 degrees pitch down, at 1/4.

03 07 20 24 P Very good.

03 07 20 25 C ... We are finished with that sequence.

03 07 23 09 P Okay, time is 21:24:00 ... work with--our Primary Scanners are just not working. So we'll go to our Secondary Scanners.

03 07 23 24 P Okay?

03 07 23 25 C Yes.

ROSE KNOT VICTOR

03 07 34 08 CC Gemini-5, RKV CAP COM. Disregard the update.

03 07 34 32 C RKV, this is Gemini-5. Go ahead with the update.

03 07 34 35 CC I've been informed to delete the update.

03 07 34 38 C Okay.

CONFIDENTIAL

CONFIDENTIAL

03 07 34 40 CC We'll be standing by in case you need us.

03 07 34 44 C Roger, thank you.

03 07 34 47 CC Everything looks real good here on the ground.

03 07 34 50 P Roger. Everything is very good here.

03 07 36 56 C ...

03 07 37 03 P Okay, you ever take any other pictures of them for the log today?

03 07 37 17 C No.

03 07 37 22 C Remark on the Apollo Landmark Sequence No. 213.

03 07 37 29 CC Roger. I copied.

03 07 37 33 C Roger ... transmit update.

03 07 37 34 C Roger, I was putting it on the tape. I transmitted by mistake.

03 07 37 41 C Yes, the lake is south ... is there--

03 07 37 48 P ...

03 07 37 53 C ... island out in the middle.

03 07 37 55 P Yes, the island is not quite--

03 07 37 58 C Oh, it seems to me like it's too far into the left over there.

03 07 38 07 P That's it, though.

03 07 38 10 C The lake is quite distinguishable.

03 07 38 12 P The island's changed completely.

03 07 38 15 C The island seems to be different. It doesn't have the little hook on the end that they wanted the picture of.

03 07 38 27 C Any of them ... I believe they're ...

CONFIDENTIAL

CONFIDENTIAL

323

03 07 38 29 P ... grab it.

03 07 38 36 C It's late in the evening and--

03 07 38 51 P Yes, that thing's changed considerably. The size, look there.

03 07 38 58 P As a matter of fact, there's an island that's not there any more.

03 07 39 03 C ... and I'm taking a picture at 1/250 at 9.5 and 1/250 at 8.

03 07 39 19 C That's all we have for right now.

03 07 39 27 C That lake sure looks kind of different in--

03 07 39 29 P Yes. That map may not be too accurate. How about that other lake?

03 07 39 43 C No, that's it all right. Yes, that was Lake De Poopo and that was the Isla de ...

03 07 40 00 C Okay.

03 07 40 03 P Want tape off?

03 07 40 04 C Yes.

COASTAL SENTRY QUEBEC

03 08 26 23 CC Gemini-5, CSQ CAP COM.

03 08 26 28 P CSQ CAP COM, Gemini-5. Go ahead.

03 08 26 30 CC Gemini-5, CSQ. We'd like you to place your T/M switch to the REAL TIME & ACQ-AID position.

03 08 26 37 P Place your T/M to REAL TIME ACQ.

03 08 26 49 P What's the matter? Couldn't you get it to turn on?

03 08 26 51 CC We're having a little trouble with our command system, I'd say.

03 08 26 55 P Roger.

CONFIDENTIAL

CONFIDENTIAL

03 08 27 01 CC Gemini-5, we have you GO on the ground. We'd like to get experiment status and also your D-4/D-7 tape time used. Over.

03 08 27 11 P Okay. The experiments that were given to us today, we completed everything but the Platform Number 2 Venus photograph.

03 08 27 24 CC Roger, copy.

03 08 27 29 P Okay. Now I'll give you the D-4 time in just a second.

03 08 27 45 P The D-4 tape remaining, 20 minutes and 8 seconds.

03 08 27 53 CC Copy, remaining tape, 20 minutes 8 seconds?

03 08 27 58 P Affirmative.

03 08 31 53 CC Gemini-5, CSQ.

03 08 31 55 P Go ahead.

03 08 31 56 CC As you were. About one minute till LOS. You can place your T/M switch back to COMMAND and we'll be standing by.

03 08 32 03 P T/M to COMMAND.

03 08 37 43 P The time is 03 day 22 hours 38 minutes. A Hasselblad picture of a cyclonic cloud formation off Japan. Exposure No. 12.

03 08 38 14 P Exposure 12, Mag. 4.

03 08 38 33 P Listen.

03 08 39 21 P Last time we went by Hawaii earlier it was completely clobbered in. I think we're going to get it this experiment.

HAWAII

03 08 45 49 CC Gemini-5, Hawaii CAP COM. All your systems are Green. We're copying your dump. We're standing by.

CONFIDENTIAL

CONFIDENTIAL

325

03 08 45 57 P Roger, Gemini-5. It's Green up here and we're looking to a 425A on D-4/D-7.

03 08 46 07 CC Roger.

03 08 46 30 P Keeping busy down there, Bill?

03 08 46 35 CC Not too much.

03 08 46 40 P Us either.

03 08 46 57 CC Is Gordo sleeping?

03 08 46 58 P No, we ate and he right now is tracking, because we need the reticle in the window.

03 08 46 59 CC Roger.

03 08 47 12 P He will be after this pass.

03 08 47 15 CC Okay.

03 08 47 21 P Okay, you put it on the open island of Hawaii, the volcano.

03 08 47 26 P Okay.

03 08 47 27 C Very good.

03 08 47 29 P Okay. You can mark your D-4 tape commencing right now. We're tracking Molokai.

03 08 47 36 CC Roger.

03 08 47 50 P And the time this track started was 03 days 22 hours 48 minutes 45 seconds. 16mm camera is running.

03 08 48 29 P Well the islands look real clear today. We can see Honolulu real well and can see Hilo down here on Hawaii.

03 08 48 40 CC You sound like a tourist.

03 08 48 43 P Boy, it's really a nice day down there, isn't it?

03 08 48 46 CC I wouldn't know. I never get a chance to get out.

CONFIDENTIAL

CONFIDENTIAL

03 08 48 49 P Me neither.

03 08 48 53 CC Touche.

03 08 49 00 C Is it about time?

03 08 49 02 P We need 2 minutes.

03 08 49 26 P Okay.

03 08 49 35 P Okay, you can mark that the end of the tape for D-4/D-7, and the equipment's powered down.

03 08 49 36 CC Roger.

03 08 49 38 P And the equipment's powered down.

03 08 49 40 CC Roger.

03 08 49 57 P Yes, I don't know why I was sitting here with my head on my rear, I should have taken some ... Won't get a pass that good again.

03 08 50 14 P Okay.

03 08 50 26 P Okay, we intend to start our HF Test at 22:55:00.

03 08 50 38 P And that was a tropical storm, Gordo.

03 08 50 50 P Cyclonic off Japan, and if you had exposure 13--Is it just 13 or did you have some more?

03 08 51 12 P 13 or 14, Hawaii.

03 08 51 21 P Yes. Yes ...

03 08 51 31 P Okay. Okay ...

03 08 51 43 P Yes, got 5 and 6 now. I wonder what pictures were 10 and 11. Do you have them logged anywhere?

03 08 52 02 P Off Japan?

03 08 52 07 P Yes, but that's 12. You've got through 9. Oh, they're the two Apollo Landmarks.

03 08 52 24 P Have you logged ... Remarks? Yes, 10 and 11.

CONFIDENTIAL

CONFIDENTIAL

327

03 08 52 33 P Yes, I did.

03 08 55 16 P The recorder is on ... we have started the HF Test at 22:55:00 and I'm ready to start on the hour the first recording.

03 08 59 16 P This is GT-5; 1, 2, 3, 4, 5, 4, 3, 2, 1. This is GT-5. ... 23:00:00.

03 09 04 12 P This is GT-5 transmitting HF; 1, 2, 3, 4, 5, 4, 3, 2, 1.

03 09 04 24 P This is GT-5 transmitting HF at a GMT of 23:05:30.

ROSE KNOT VICTOR

03 09 05 39 CC Gemini-5, RKV CAP COM.

03 09 05 42 C RKV CAP COM, Gemini-5. Go ahead.

03 09 05 45 CC Roger. We'd like to have a fuel cell purge this pass. I'd like a few readouts before you begin. Light the Fuel Cell O₂ Quantity Switch.

03 09 05 59 C Roger.

03 09 06 08 C We get a reading of 90% ... be advised.

03 09 06 15 CC Roger. Go to the H₂ position now.

03 09 06 21 C Roger. H₂ is 75.5 and about 7 feet ... psi.

03 09 06 32 CC Roger. I'd like the stack current readout please.

03 09 06 36 P Roger. The stack current 1A, 5.0; 1B is 4.1; 1C is 5.1; 2A is 3.5; 2B is 2.5; 2C is 4.6.

03 09 06 53 CC Roger. You may start your purge at this time.

03 09 06 56 P Okay. Turning the Quantity Read Switch OFF.

03 09 06 59 CC Roger.

03 09 07 04 P ... quantity H₂ purge. MARK.

03 09 07 22 CC This is No. 2 mark?

03 09 07 36 P No. 2 is finished. Commencing Code 2 purge on No. 1.

CONFIDENTIAL

CONFIDENTIAL

329

03 09 13 28 CC 145 left. D-6, 00:44:10, Mode 01, pitch 23 up, yaw 145 left, shutter speed 125. Do you copy?

03 09 13 35 P ...

03 09 14 14 CC I couldn't copy. Say again, Gemini-5.

03 09 14 21 P Roger. We don't have very good communications. D-6, 00:44:10, Mode 01.

03 09 14 27 CC Roger.

03 09 14 29 P What else?

03 09 14 30 CC Pitch 23 up, yaw 145 left, shutter speed 125. Do you copy, Gemini-5?

03 09 15 24 P This is Gemini-5 transmitting HF; 1, 2, 3, 4, 5, 4, 3, 2, 1. This is Gemini-5 transmitting HF at 23:17:00.

03 09 19 04 P Gemini-5 transmitting HF; 1, 2, 3, 4, 5, 4, 3, 2, 1. Gemini-5 transmitting HF at 23:20:15.

03 09 25 11 P This is Gemini-5 transmitting HF; 1, 2, 3, 4, 5, 4, 3, 2, 1. Gemini-5 transmitting HF at 23:25:00.

03 09 29 14 P This is Gemini-5 transmitting HF; 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. The time is 23:30:00.

03 09 34 19 P This is Gemini-5 transmitting HF; 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Gemini-5 transmitting HF at 23:35:00.

03 09 39 16 P This is Gemini-5 transmitting HF; 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Gemini-5 transmitting HF at 23:40:00.

03 09 44 28 P This is GT-5 transmitting HF; 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. This is GT-5 transmitting HF at 23:45:00.

03 09 49 23 P This is Gemini-5 transmitting HF; 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. This is Gemini-5 transmitting HF at 23:50:00.

03 09 49 50 P Anybody read Gemini-5? No.

03 09 54 30 P This is Gemini-5 transmitting HF; 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Gemini-5 transmitting HF 23:55:00.

CONFIDENTIAL

CONFIDENTIAL

03 09 54 59 P I hear music.

03 09 55 02 C Do you really?

03 09 55 04 P Chinese music.

03 09 55 21 C Yes.

03 09 55 30 P That's about right too ... sun up. We're coming up on Kano.

03 09 55 47 C Kano.

03 09 56 04 P Hey, I'll tell you what we'll do. You know that letter we were going to write to the President? We'll take the page out of the Flight Plan ... where we passed the Russians ... we'll write him a letter on that. We'll tell him that we're mailing it to him in the envelope and since ... two 1-dollar bills to certify the record.

03 09 56 30 P How's that?

03 09 56 38 C Well, it's not a very good envelope.

03 09 56 40 P Well I know, but we didn't bring one, did we?

03 09 56 42 C No.

03 09 56 45 P I didn't bring one.

03 09 56 46 C We can probably get one on the ship.

03 09 56 50 P Well, we can seal the letter in this envelope ... and put that in another envelope and mail it to him.

03 09 57 04 C Yes.

03 09 57 26 P ...

03 10 00 16 C I don't know, he might feel as strong about trying to set records as Mr. Webb does.

03 10 00 23 P I doubt it.

03 10 00 26 C Well, I kind of doubt it too.

CONFIDENTIAL

CONFIDENTIAL

331

03 10 00 28 P You should put the letter in your hip pocket and we'll find out which way he goes.

03 10 00 30 C (Laughing)

03 10 00 40 C I think maybe it might be the same to mail him the regular letter.

03 10 01 02 P Oh, that's what keep ... darn ... freeze to death (whistle) wow!

03 10 01 16 P Yes, that smells pretty good ...

03 10 01 28 P This is Gemini-5 transmitting HF at ... 01:45.

COASTAL SENTRY QUEBEC

03 10 05 33 P CSQ, Gemini-5 on UHF.

03 10 05 37 CC Roger. CSQ CAP COM did not monitor any HF calls. We did not receive any HF calls.

03 10 05 48 P This is Gemini-5. Say again, CSQ.

03 10 05 51 CC Roger. CSQ CAP COM did not receive you on HF.

03 10 05 56 P Did you not get my HF, CSQ?

03 10 06 01 CC Stand by one.

03 10 06 36 CC Gemini-5, CSQ.

03 10 06 38 P Go ahead, CSQ.

03 10 06 39 CC Negative reception on your HF-DF.

03 10 06 42 P But you were getting it before transmission?

03 10 06 47 CC Say again.

03 10 06 49 P But you were getting it before we tried to transmit?

03 10 06 53 CC We were receiving DF from you some time back, well before acquisition.

03 10 07 11 CC Gemini-5, advise place your T/M switch at COMMAND position.

CONFIDENTIAL

CONFIDENTIAL

03 10 12 14 P This is Gemini-5 transmitting HF; 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Gemini-5 transmitting HF at 00:13:00.

03 10 13 35 P Gosh! I don't know if I should use this filter here or not. ...

03 10 13 40 C What film are you using?

03 10 13 42 P ... The stars ... filter, terrestrial filter, uses like a star ...

03 10 13 52 C Yes, ...

03 10 14 35 C Which reminds me, we've got to hold that darn white patch in front of the window to get one picture with that cloud top spectrometer of mine.

03 10 17 26 P This is Gemini-5 transmitting HF; 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Transmitting Gemini-5 and transmitting HF at 00:17:30.

HAWAII

03 10 18 50 CC Gemini-5, Hawaii CAP COM. We've completed your oral temp. We're standing by for blood pressure. Hawaii has telemetry solid.

03 10 19 03 P Roger. Blood pressure is coming down.

03 10 19 07 CC Gemini-5, Hawaii Surgeon. Your cuff is full-scale.

03 10 19 39 CC Gemini-5, we had some PCM dropout there. Could we have one more blood pressure?

03 10 19 44 P Roger.

03 10 19 50 CC Cuff is full-scale.

03 10 20 18 CC Okay. We have a valid blood pressure. Give me a mark when you begin your exercise.

03 10 20 25 P Roger. MARK.

03 10 21 05 CC Gemini-5, Hawaii Surgeon. Your cuff is full-scale.

03 10 21 40 CC We have good blood pressure, standing by for your water report.

CONFIDENTIAL

CONFIDENTIAL

333

03 10 21 44 P Roger. Water 18 pounds 5 ounces.

03 10 21 48 CC Say again.

03 10 21 50 P 18 pounds 5 ounces.

03 10 21 53 CC Roger. 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?

03 10 22 03 P He's sort of been catnapping. He had about an hour's long sleep period, very deep, on this last orbit.

03 10 22 13 CC Is he asleep right now?

03 10 22 15 P Yes.

03 10 22 16 CC All right, and how long was your nap?

03 10 22 20 P I slept about an hour and a half.

03 10 22 22 CC About 1-1/2 hours. Pretty good sleep?

03 10 22 25 P Yes, I don't remember anything.

03 10 22 28 CC Okay. Real fine. Hawaii Surgeon out.

03 10 22 32 P Okay, Hawaii Surgeon. Let me give you a status on these meals. We finally got them straightened out. I just ate Meal 3B at 22:00:00.

03 10 22 44 CC That's 3B at 22:00:00.

03 10 22 47 P Yes. And now we've used up all the 3-day meals; we've used up all the 2-day meals; and we ate the two packages that were in the foot well; and we have all of the first day's meals, plus all the food in the left stowage box to go.

03 10 23 12 CC Okay. I copy that. You used up all the 3-day meals, all of 2-day meals, two packages in the foot well, and you still have to go all the first day's meal and all the food in the left stowage box. Is that right?

CONFIDENTIAL

CONFIDENTIAL

03 10 23 29 P That's right. Now the reason we got fouled up was because of the two food packages in the foot well, which apparently nobody had taken account of.

03 10 23 39 CC Okay. Real fine. Everything else all right?

03 10 23 42 P Just fine.

03 10 23 45 CC Real good. Thank you. Hawaii Surgeon out.

03 10 24 00 P Hawaii CAP COM, Gemini-5 still up here.

03 10 24 03 CC You're looking good.

03 10 24 33 P Hawaii, Gemini-5. Have you copied any of our HF transmissions?

03 10 24 36 CC That's affirmative. We copied you going away last time for about 15 minutes.

03 10 24 41 P Okay, you copying us now?

03 10 24 43 CC Stand by one.

03 10 24 46 CC We've got an awful lot of interference on HF. We've had it for the last 10 minutes.

03 10 24 53 P You mean my HF-DF or do you mean some other interference?

03 10 24 56 CC It's an outside interference.

03 10 24 58 P Okay.

03 10 25 04 CC Grand Turk read you last HF check.

03 10 25 07 P Say again.

03 10 25 09 CC I say, Grand Turk read you last HF check.

03 10 25 13 P Is anybody reading our voice transmissions?

03 10 25 22 CC I believe Grand Turk read your voice.

03 10 25 24 P Okay. I'm not sure that I'm putting out on voice and on the side tone. But check in on that and have somebody ... voice or not. No sense in talking if we're not.

CONFIDENTIAL

CONFIDENTIAL

335

03 10 25 35 CC Roger. We've had LOS. It's hard to read you, Pete.

03 10 25 51 C We garbled everything, UHF wise and everything else, with that darn DF. That thing was outlawed several years ago. Somebody keeps ...

03 10 26 01 P This is Gemini-5 transmitting HF; 1, 2, 3, 4, 5, 5, 4, 3, 2, 1 at 00:27:00. Gemini-5 transmitting HF.

03 10 28 40 P We completed the HF check at 00:27:00.

03 10 33 46 P 4th day, 00:35:00, standing by for the D-4/D-6/D-2, Mode 145. I can't emphasize how much we need just a ... for this sort of stuff because, assuming very accurately, 23 degrees pitch up, 145 degrees yaw left, pitch angle of 49 degrees; no, 39 degrees to the right.

03 10 43 18 P Okay, the time is 00:43:20; standing by for the D-2/D-4/D-6. See any stars up there, Gordo?

03 10 43 33 P I see. Is that him going by there?

03 10 43 42 P Look up. Is that a particle drifting?

03 10 43 45 C How far up?

03 10 43 47 P Well, it's up pretty far. I think it's a particle. Yes, it's a particle.

03 10 43 57 P Okay. What's our yaw angle? We've yawed off.

03 10 44 04 P Man, we ought to see a pitch-up further.

03 10 44 18 C Oh come on, we ... and never get out of it.

03 10 44 40 P Coming up on 44:10. Roll right; roll more right; you're pitching up too high. Roll right and stop the pitching. Is that him right there? No. That's Venus I guess. You need a darn platform.

03 10 45 04 C Yes, you sure do; you're lost right here without one.

03 10 45 09 P This darn reticle.

CONFIDENTIAL

CONFIDENTIAL

03 10 46 04 C Well, fiddle-de-do.

03 10 46 06 P What time is it?

03 10 46 13 C 46.

03 10 46 21 P No joy.

03 10 46 28 C ... rolled on up there, just couldn't get straightened out ... hold the roll because I was tracking vertically then.

03 10 46 33 P Yes, well it didn't make any difference. I don't think he was illuminated there.

03 10 46 40 C No.

03 10 46 41 P Or something, because it just didn't work.

03 10 46 42 C Trouble is, he might not be illuminated to us ... and he'd be illuminated on the other side from us.

03 10 46 52 P Yes.

03 10 46 54 P Well, what a good show. Better haul the gear down again and turn off the recorder.

03 10 47 01 P I'll leave the recorder on for a second. You got to have a platform to do something like that. Comment for the tape recorder. The thing that gets so hot, I thought, was the light, and it makes the paint smell and burnt the light. It's the rheostat in the light. It really gets hot.

03 11 37 18 CC Gemini-5, CSQ CAP COM.

03 11 37 20 C This is Gemini-5 standing by on 3.

03 11 37 24 CC Roger, be advised Houston will contact you over Canton.

03 11 37 30 C Roger.

03 11 37 41 CC Gemini-5, CSQ has you GO on the ground and I have landing area block updates for you. Are you ready to copy?

CONFIDENTIAL

CONFIDENTIAL

337

03 11 37 50 P Just one minute.

03 11 38 12 C Okay, we're ready to copy.

03 11 38 15 CC Roger, and for all of the following, the bank angle will be roll left 51, roll right 61. The weather is good in all areas.

03 11 38 25 C Roger.

03 11 38 27 CC 55 Bravo, 04:32:24, 12 plus 05, 19 plus 29.
56 Delta, 05:25:21, 17 plus 39, 22 plus 22.
57 Delta, 04:02:01, 15 plus 49, 21 plus 04.
58-2, 08:37:25, 14 plus 25, 19 plus 27. 59-2,
10:12:50, 13 plus 11, 18 plus 33. Did you copy?

03 11 40 34 C Roger.

03 11 40 54 CC Gemini-5, I like to reiterate the bank angle was roll left 51, roll right 69. Do you copy?

03 11 41 04 P Got it.

CANTON

03 11 54 46 CC Gemini-5, Gemini-5, Houston, over.

03 11 54 51 P Hello, Houston, Gemini-5, go ahead.

03 11 54 54 CC Roger, this is your friendly rendezvous advisor. I have a few questions for you.

03 11 55 01 P Say again.

03 11 55 03 CC Roger, I have a few questions for you.

03 11 55 06 P Go ahead.

03 11 55 08 CC During the 48 or 49 Rev, did you notice an Accelerometer Malfunction Light? On the ground we were reading some accelerometer bias activity. Over.

03 11 55 22 P I didn't hear the first part of your question.

03 11 55 26 CC Roger, during the 48 and 49 Rev passing the States did you notice an Accelerometer Malfunction Light?

CONFIDENTIAL

CONFIDENTIAL

03 11 55 36 P No. We've got everything powered down in here.

03 11 55 40 CC Roger, this was several orbits ago. Over.

03 11 55 48 P ... You're talking about after we powered down after leaving the States, aren't you?

03 11 55 52 CC This was just before you powered down, over.

03 11 55 55 P Say again.

03 11 55 57 CC Roger, this was just before you powered down. Over.

03 11 56 03 P We didn't have any Accelerometer Light on the platform at that time. No.

03 11 56 08 CC Okay on your Radar Test, when you were in the RENDEZVOUS Mode, what was your reading in Address 69? Over.

03 11 56 19 P I read all kinds of screwy things from 10.8 miles to 40.4 miles but it never read the right mileage.

03 11 56 29 CC Roger, understand. Did it continually change? Over.

03 11 56 42 CC Gemini-5, Gemini-5, Houston. When you switched to CATCH UP Mode, what were your readings? Over.

03 11 56 52 P They read the same thing. They just didn't read correctly.

03 11 56 57 CC Roger, understand. In the CATCH UP Mode, were you holding the Read Button down continuously? Over.

03 11 57 05 P Yes, I tried both. I held it down continuously and then I punched it up several times individually.

03 11 57 13 CC Roger, understand. Could you give us an evaluation of the 3-ounce drinking bag? Over.

03 11 57 20 P Did we get what?

03 11 57 22 CC Roger, could you evaluate for us the 3-ounce drinking bag? Over.

03 11 57 29 P No, we're not using them.

CONFIDENTIAL

CONFIDENTIAL

339

03 11 57 31 CC Understand. How is the beard status coming?

03 11 57 37 P Not too bad.

03 11 57 40 CC Understand. The Surgeon advises that was an excellent food report. It helped to clear out a lot of things down here. Over.

03 11 57 48 P Yes, well we've been trying to get it straightened out ourselves. We really didn't realize where we went wrong until we figured out the foot well food wasn't marked.

03 11 57 58 CC Roger. How is your M-1 Experiment coming now?

03 11 58 02 P It's working away merrily.

03 11 58 04 CC Okay. How about the suit temperatures and cabin temperatures?

03 11 58 09 P We have the suit loops shut down which gives us an inlet temperature of 54 and the cabin is fairly warm. If you wait a second, I'll give you a cabin count.

03 11 58 19 CC Okay.

03 11 58 26 P Cabin temp is 79.

03 11 58 29 CC Roger, is your Cabin Temperature Gage in the spacecraft functioning properly?

03 11 58 36 P No, I'm using the wet-dry bulb thermometer. The Cabin Temp Gage is out.

03 11 58 43 CC Roger, we had heard before that it was out. On your next pass over Canton, I'd like to be giving Gordo a briefing on the Terminal Phase Visibility Test that we'd like him to perform during the approaches to darkness on the 56 and 57 Revolution. Over.

03 11 59 07 P Okay, understand.

03 11 59 11 CC On your HF Test we've had reports of about eight sites that have been able to read you. Most of them were weak.

CONFIDENTIAL

CONFIDENTIAL

03 11 59 22 P Roger, did they read both DF and voice?

03 11 59 27 CC Roger, we have voice counts and the DF. Over.

03 11 59 31 P Okay, on the D-2 145, no joy.

03 11 59 38 CC Understand, understand.

03 11 59 42 P We need a platform for stuff like that.

03 11 59 47 CC Roger, on your Stateside passes today we're trying to figure out where most of the fuel went. Whether it was in the California background measurement or in the Radar Test. Could you clarify that any on your Attitude Control Mode?

03 12 00 26 CC Gemini-5, Houston, acknowledge.

03 12 00 30 P Okay, can you relay, Canton? I can read you loud and clear.

03 12 00 32 CC Roger, we can relay.

03 12 00 36 P Okay, what did he say?

03 12 00 37 CC He just said understand.

03 12 00 39 P What did he say about the Stateside passes?

03 12 00 42 CC He didn't. Do you want me to ask him a question for you?

03 12 00 47 P Yes, I didn't get all the stuff about the Stateside passes.

03 12 00 50 CC Roger.

03 12 00 52 CC Houston, Gemini-5 reports he did not get everything with regard to the Stateside passes.

03 12 00 57 CC Roger, we're concerned about the fuel usage, whether he thought it was in the California background or in the Radar Test. Over.

03 12 01 06 CC Gemini-5, this was with regard to California background and Radar Test. Over. Usage doing it.

CONFIDENTIAL

CONFIDENTIAL

341

03 12 01 17 CC Gemini-5, Canton.

03 12 17 38 CC Gemini-5, RKV CAP COM.

03 12 18 02 P RKV CAP COM, Gemini-5, go.

03 12 18 05 CC Roger, I'd like to remind you, you have a medical data pass on the Command Pilot over CSQ on Rev 54. I'll give you a time. 03:11:00.

03 12 18 29 P Roger.

03 12 18 31 CC Roger, we would also like to have an OAMS source helium pressure and temperature from you.

03 12 18 38 P Roger, wait one.

03 12 18 53 P Roger, the helium source temperature is 52 degrees; the pressure is 1400 psi.

03 12 19 04 CC Roger, copy. Also at this time we would like you to cycle through your Quantity Read Switch so we could get some ground readouts.

03 12 19 11 P Roger ... fuel ... measure of the OAMS.

03 12 19 20 CC All right, stand by.

03 12 19 26 CC Roger, we'd also like to have an OAMS quantity readout, please.

03 12 19 32 P Roger, OAMS quantity readout looks like 29%.

03 12 19 40 CC Say again.

03 12 19 41 P 29%.

03 12 19 43 CC Roger, understand.

03 12 19 46 CC Will you cycle them to the Fuel Cell O₂, please?

03 12 19 49 CC You got it there, don't you? Stand by.

03 12 19 38 CC Quantity Read Switch to Fuel Cell H₂.

03 12 20 38 C Okay, can we go Fuel Cell Hydrogen OFF?

CONFIDENTIAL

CONFIDENTIAL

03 12 20 44 CC Stand by.

03 12 20 53 CC Quantity Read Switch OFF.

03 12 21 00 CC Flight would also like to know where you used up the most fuel, if you have any idea, where you have the OAMS usage, whether it was in California background or the Radar Test Experiment. Do you have any idea?

03 12 21 10 P We used it in that pass across the States. We were using RATE COMMAND to track and looking for targets of opportunity and when we picked up all of this ... Houston. We used quite a bit on that pass across the States.

03 12 42 34 CC Gemini-5, Gemini-5, Houston CAP COM, over.

03 12 42 39 P Go ahead, Houston CAP COM, Gemini-5.

03 12 42 42 CC Roger, Gemini-5, Houston CAP COM here. You're coming in weak. We suspect the Tx from the RKV did not get in. Would you cycle your Tape Play Back to RESET. Over.

03 12 42 57 P Roger. ... cycled to Tape Play Back RESET.

03 12 43 02 CC Roger, that's affirmative. Did you notice the DCS lights leaving RKV?

03 12 43 20 P Yes, we got a DCS light.

03 12 43 22 CC Roger, understand you did get a DCS light.

03 12 43 30 CC Gemini-5, Houston here. We are wondering about your Thruster Illumination Check. We heard that you had some comment that you didn't think this would be possible to perform. Is that correct? Over.

03 12 43 44 P ... say again, you were cut out there.

03 12 43 55 CC Gemini-5, this is Houston. We're unable to read you. We'll pick up your comments on that over CSQ.

03 12 44 03 P Okay.

CONFIDENTIAL

CONFIDENTIAL

343

03 12 44 08 CC You're loud and clear right now. Try it again.

03 12 44 15 P Repeat your transmission.

03 12 44 22 CC Gemini-5, this is Houston. We'll pick up your comments on your Thruster Illumination Check over the CSQ. Over.

03 12 44 33 C Okay.

03 12 44 39 CC Your okay's are coming in loud and clear.

03 13 01 15 C Note to the tape recorder on pressure suits. I have three pressure points that have been with me all along and always will be as long as I wear this suit. The inlet hose, the outlet hose and the comm cable on the front of it gouge, dig, and press. Also these so-called medical sensors that people have worn for several weeks without feeling have been itchy and irritating the whole flight.

COASTAL SENTRY QUEBEC

03 13 11 26 CC Gemini-5, CSQ. We have you GO on the ground and we have a valid temperature. Standing by for blood pressure.

03 13 11 33 C Roger.

03 13 12 07 CC Gemini-5, this is CSQ Surgeon. We did not get a valid blood pressure. Could we do that once more?

03 13 12 14 C Roger, sending it again.

03 13 12 20 CC Gemini-5, CSQ Surgeon. Your blood pressure at full-scale.

03 13 12 51 CC Gemini-5, this is CSQ Surgeon. We have a valid blood pressure. Give us a mark on your exercise.

03 13 12 57 C Roger. Starting exercise now.

03 13 13 31 C Beginning exercise now, sending blood pressure.

03 13 13 46 CC Gemini-5, CSQ Surgeon, blood pressure full-scale.

03 13 14 18 CC Gemini-5, CSQ Surgeon, we have a valid blood

CONFIDENTIAL

CONFIDENTIAL

pressure. Standing by for your water report.

03 13 14 33 C Okay. I have drunk 20 pounds and 8 ounces of water.

03 13 14 43 CC Understand. 20 pounds and 8 ounces of water.

03 13 14 46 C Roger. On the Visi-Tester scores, I had seven wrong, Conrad had three wrong ... My number was 94, Conrad's number was 99.

03 13 15 03 CC Roger.

03 13 15 12 C CSQ, I guess you're current on the food report.

03 13 15 16 CC Yes, Gemini-5, this is CSQ Surgeon. We're current and okay on food and sleep. Thank you.

03 13 15 22 C That's all right. Thank you.

03 13 15 27 CC Gemini-5, CSQ CAP COM. I have a map update for you. Are you ready to copy?

03 13 15 31 C Roger, go ahead.

03 13 15 33 CC You list it the same one you got at the RKV on map 02:43:05, 2.5 degrees East longitude, ... 02:43:05, 1 plus 04 plus 56. Do you copy?

03 13 16 05 C Roger, yes, that's ... thank you.

03 13 16 28 CC Gemini-5, CSQ, there's nothing further. Standing by.

03 13 16 31 C Okay, everything's fine here.

03 13 21 30 C Tape's coming on, edging down to do S-7 Sequence No. 1, 03:20:45 seconds.

03 13 21 48 C 90 degrees pitch down, camera is unstowed, ready to go ...

03 13 21 58 C There's the cloud coming up.

03 13 22 10 C Oh, come on, ... get down there.

03 13 22 51 C Clouds are basically cumulus clouds with a great deal of cirrus among them.

CONFIDENTIAL

CONFIDENTIAL

345

03 13 23 03 C ...

03 13 23 27 C Second frame at 1/4, pitch angle is approximately 90 degrees and about 10 degrees yaw in there.

CANTON

03 13 28 09 CC Gemini-5, Gemini-5, this is Houston. Over.

03 13 28 21 CC Gemini-5, Gemini-5, this is Houston. How do you read? Over.

03 13 28 35 CC Gemini-5, Gemini-5, this is Houston. Over.

03 13 28 46 C ... Houston.

03 13 28 46 CC Gemini-5, this is Houston. I do not read you. I have a briefing for you. This is a Rendezvous Illumination Test. This experiment is to be inserted into the 56th and 57th Rev. It will simulate the spacecraft pitch attitude history during the GT-6 rendezvous with proper sun elevation angles. The purpose is to determine constraint on star visibility during the rendezvous imposed by sunlight and earthlight on the spacecraft in the window in the region of sunset and sunrise. How do you read? Over.

03 13 29 37 CC Gemini-5, this is Houston continuing. The test requires you to fly a time profile of pitch angles using the Attitude Indicator and record your observations of out-the-window visibility on voice tape with time marks. During the 56th Rev the test is done with heads down all the way. How do you read? Over.

03 13 30 10 C I read about a fourth of what you said, Buz.

03 13 30 21 CC Roger. I understand. How do you read me now, Gemini-5?

03 13 30 24 C I'm clear right now.

03 13 30 27 CC Okay. This is a pitch attitude history profile that we want you to fly that will simulate the GT-6 sun conditions. The observations will consist of the number of stars visible and identification,

CONFIDENTIAL

CONFIDENTIAL

overall brightness, glare on the window, reflections from the sun and earth, and the horizon brightness. How do you read?

03 13 31 51 C Roger, I got that.

03 13 31 52 CC Roger. We'd like you to record this on voice tape with time mark. The crew procedures are as follows. Are you ready to copy?

03 13 32 10 C Just a minute, Buz.

03 13 32 19 C Go ahead.

03 13 32 21 CC Roger. At a GMT 05:45:00, set Event Timer to zero and stand by. Turn on Platform, warm up for 30 minutes, then aline for 10 minutes. At GMT 06:22:00 start Event Timer counting up. At event time of 5 minutes, Platform in ORBIT RATE, Attitude Control PULSE, roll zero, yaw zero, pitch to 15 degrees and begin observations. How do you read?

03 13 32 28 C Negative, I'm not reading you.

03 13 32 34 CC Roger. GMT 05:45:00, Event Timer to zero and stand by. Over.

03 13 32 36 C Got that.

03 13 32 38 CC Roger. Turn on the Platform, warm up for 30 minutes, and aline for 10 minutes. Over.

03 13 32 46 C Roger, got that.

03 13 32 48 CC GMT 06:22:00, start Event Timer counting up. Over.

03 13 32 56 C Got that.

03 13 32 59 CC Roger. Event Timer 5 minutes, Platform ORB RATE, Attitude Control PULSE, pitch to 15 degrees, and begin observations. Over.

03 13 33 13 C Platform ORB RATE and Attitude Control PULSE.

03 13 33 22 CC Roger, that's affirmative. The following are check points for a smooth pitch change: 10 minutes, pitch 17.5 degrees; 15 minutes, 20 degrees. How do you read?

CONFIDENTIAL

CONFIDENTIAL

347

03 13 33 C I think you better forget it; we're not reading you.

03 13 33 45 CC Roger. Let me try once more. 10 minutes, pitch to 17.5 degrees; 15 minutes, pitch to 20 degrees. Over.

03 13 34 24 CC Gemini-5, this is Houston. How do you read now? Over.

03 13 34 43 CC Gemini-5, Canton, do you read?

03 13 34 47 C I read you but he's not coming in. He's cutting out about every other word.

03 13 34 52 CC Roger.

03 13 35 09 CC Gemini-5, Canton. Houston reports you'll get this pitch profile over another station. Over.

03 13 35 15 C Okay. Thank you, Canton.

03 13 37 53 P When you have to get out some important data and you have time such as, about ... Time now is the 4th day 03 hours 40 minutes on the GT-6 pitch profile. Don't waste time trying to talk to us direct; send it out to Canton by Chris Kraft and have them read it up to us, because remote facilities are terrible. It's just frustrating sitting up here listening to them come through every other word and then hear Canton come through loud and clear.

03 13 45 51 C Comment with the tape on the drinking water. The taste of the drinking water is really quite good and it's very cold and very tasty in that respect. However, it is very full of air bubbles.

03 13 47 24 C Comment on the drink gun. The new material they used seems to really be going well. So far no leaks, and it isn't bad, and reactuate time has been very good.

03 13 49 53 C Comment on the rehydratable food too. Where the tube that you eat from comes out of the main part of the bag where it necks down is a real bottle-neck. This is where they fastened the pill onto and increased the thickness of it and the stiffness of it, and the food is very difficult to get by

CONFIDENTIAL

CONFIDENTIAL

there on every bag we've tried so far.

ROSE KNOT VICTOR

03 13 51 30 CC Gemini-5, RKV CAP COM.

03 13 51 33 C Go ahead, RKV, Gemini-5.

03 31 51 36 CC Roger, I have some updates for you. Tracking pass update.

03 13 51 41 C Okay.

03 13 51 44 CC Cabin Light Survey. This is for information, 04:40:00.

03 13 51 55 CC Make that heads up instead of heads down.

03 13 52 07 C Roger, we got that.

03 13 52 10 CC Okay. D-2, 04:48:58, Sequence No. 148, pitch 83 degrees up, yaw 45 degrees left.

03 13 52 33 C What was yaw?

03 13 52 36 CC Yaw 45 degrees left, right to left.

03 13 52 44 C Okay.

03 13 52 46 CC Roger. Stand by, Gemini-5.

03 13 53 06 CC Gemini-5, RKV.

03 13 53 09 C Go ahead RKV.

03 13 53 10 CC Roger. Would you close your OAMS Heater circuit breaker at this time?

03 13 53 14 C Okay. OAMS circuit breaker is closed.

03 13 53 20 CC Roger. I'd like to continue what Houston started to get up to you if you're ready to copy.

03 13 53 26 C All right.

03 13 53 31 CC On this Rendezvous Illumination Test--On the pitch profile check points for smooth pitch changes:

CONFIDENTIAL

At 10 minutes, pitch to 17.5 degrees; at 15 minutes, pitch to 20 degrees; at 20 minutes, pitch to 25 degrees; at 25 minutes, pitch to 32.5 degrees; at 30 minutes, pitch to 40 degrees. At this time gradually drift to 130 degrees and drift to 130 degrees by 50 minutes on the Event Timer. That's 20 minutes to pitch to 130. Maintain this constant attitude of 130 until you read 10 minutes on the Event Timer. The next revolution at 07:52, stand by. When you read 10 minutes on the Event Timer, reset the timer to zero and stand by. Did you copy that far?

03 13 55 05 C Roger.

03 13 55 07 CC Okay, next revolution at 07:52:00, start Event Timer, aline the platform until 5 minutes. At that time roll 180 heads down. Zero yaw at 15 degrees pitch.

03 13 55 32 C Wait just a minute. Aline the platform at 5 minutes then roll 180 heads down.

03 13 55 38 CC Roger. Zero yaw, pitch 15 degrees. Repeat same pitch profile and observations according to the previous time history. Do you copy?

03 13 55 59 C Roger. I got that.

03 13 56 00 CC Roger. Buz indicates the spacecraft will be pitching down but going to a higher elevation towards the horizon.

03 13 56 07 C Okay.

03 13 56 08 CC Roger, that's it.

03 13 56 10 C Roger, thank you.

03 13 56 25 C RKV, Gemini-5.

03 13 56 27 CC Go ahead.

03 13 56 29 C What was that yaw ... not quite get time ... 5 by 5 ...

03 13 56 39 CC Roger, I understand that.

CONFIDENTIAL

03 13 57 43 CC Gemini-5, RKV. Have about one minute before LOS.
We're standing by.

03 13 57 48 C Roger. Thank you ...

COASTAL SENTRY QUEBEC

03 14 45 39 CC Gemini-5, CSQ.

03 14 45 52 C Go ahead CSQ.

03 14 45 54 CC Roger. We have you GO on the ground. We'd like to
have you go through the Cryogenic Quantity Read
Switch positions.

03 14 46 05 C Roger.

03 14 46 56 C I ... the Fuel Cell O₂ position.

03 14 47 27 CC Fuel Cell H₂ position please.

03 14 48 18 CC Leave Fuel Cell H₂ position where it is and we
would like you to go to CAL 1, please.

03 14 48 25 P Roger, just fine. We're busy on the D-2 yet.

03 14 48 29 CC Roger, standing by.

03 14 50 26 CC How do you feel?

03 14 50 27 P Okay, go ahead.

03 14 50 47 C Cal done.

03 14 51 12 CC Gemini-5, CSQ. Have you finished your HF Test yet?
Over.

03 14 51 16 C Waiting list time for HF Test.

03 14 51 21 CC CSQ copy.

03 14 52 09 CC Gemini-5, you can go back to the OFF position with
your Cryogenic Quantity Read Switch.

03 14 52 13 C Okay.

CONFIDENTIAL

CONFIDENTIAL

351

ROSE KNOT VICTOR

03 15 26 39 CC RKV CAP COM.

03 15 26 49 C Okay, RKV, Gemini-5 here.

03 15 26 51 CC Roger. All systems look good on the ground. We have a question to ask you about the HF Test, Sequence No. 2. Have you started it yet?

03 15 26 59 C No, we haven't started. We've delayed it for now. Catch it at a later date.

03 15 27 04 CC Roger. MCC advised that if you wanted to delay it, we could reschedule it sometime else in the Flight Plan.

03 15 27 14 C Roger, we'll pick it up later today or in the next day or so.

03 15 27 18 CC Roger.

03 15 28 19 CC RKV CAP COM. We don't have anything else for you this pass. We'll be standing by.

03 15 28 24 C Okay, fine. Thank you.

CANARY ISLANDS

03 15 49 19 CC Gemini-5, this is Canary CAP COM. We have nothing for you this pass. We are standing by. Everything looks good from the ground.

03 15 49 28 C Okay, Canaries, Gemini-5 here. Would you tell Flight that we delayed the HF Test and the Cabin Light Survey and we would like to put off this light heads-up, heads-down, light pitch program test either to later today or tomorrow? Over.

03 15 49 55 CC Roger, understand. Flight concurs with your delay on the HF Test. I'll check with him on the heads-up, heads-down illumination check.

03 15 50 05 C Roger. You might just mention we haven't had any sleep yet tonight and we're a little tired.

03 15 50 12 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

03 15 50 40 CC Roger, Gemini-5; Flight concurs. We will put this off and reschedule for a later pass.

03 15 50 46 C Okay, very fine. Thank you.

03 15 50 48 CC Roger. We're standing by here.

03 15 50 51 C Okay, thank you.

03 15 50 52 C Very good here.

03 15 50 53 CC Roger.

03 17 00 19 CC Gemini-5, RKV CAP COM.

03 17 00 25 C RKV, Gemini-5.

03 17 00 28 CC Roger. We would like to know if you performed your Fuel Cell purge at 03:20:00.

03 17 00 42 CC That was about two hours and a half ago.

03 17 01 05 C ...

03 17 01 06 CC Roger.

03 17 01 23 P ... we didn't purge them. Do you want us to purge them now? Over.

03 17 01 26 CC That's affirmative. I'd like to get your stack current readouts, if I could, before you begin.

03 17 01 32 C Okay. ...

03 17 01 41 CC Roger.

03 17 02 19 C ... 4, ... 5.1, ... 3.1, 3.0, and 4.0 ...

03 17 02 50 CC Roger. You want to start your purge at this time?

03 17 02 53 C Roger. Cross ... purging hydrogen.

03 17 03 20 C ...

03 17 03 21 CC Roger.

03 17 03 25 C 30 seconds ... the purge of ...

CONFIDENTIAL

CONFIDENTIAL

353

03 17 03 32 CC Roger.
03 17 06 05 C ...
03 17 06 06 CC Roger.
03 17 06 15 C ...
03 17 06 17 CC Right.
03 17 06 21 CC If you could turn your Cryogenic Quantity Switch to the ECS O₂ position, it would help us.
03 17 06 28 C Okay.
03 17 06 29 CC We don't need a spacecraft readout.
03 17 06 53 CC Gemini-5, could you go to H₂ position now, please?
03 17 06 57 P Roger.
03 17 07 00 CC Thank you.
03 17 07 17 CC Gemini-5, this is RKV. I believe we're going to lose you before you complete your O₂ purge. All your systems are good here on the ground.
03 17 07 25 P Okay. Very sorry. Thank you.
03 17 07 27 CC Good.

CANARY

03 17 23 10 CC Gemini-5, this is Canary CAP COM.
03 17 23 14 C Go ahead, Canary, Gemini-5.
03 17 23 16 CC Roger. How did it go on that purge? They did not complete it over the RKV.
03 17 23 25 C Roger. Purge went very well. Over. Cross over ...
03 17 23 28 CC Okay, real good. Thank you.
03 17 23 30 C Roger.
03 17 23 31 CC We're dumping your tape right now.

CONFIDENTIAL

CONFIDENTIAL

03 17 23 35 C Okay.

03 17 23 37 CC Okay, would you give the Cryo readouts, please?

03 17 23 58 CC What are you reading on the ECS O₂?

03 17 24 07 C Roger. I'm reading 84% at 810 psi.

03 17 24 14 CC Roger.

03 17 24 21 C Fuel Cell O₂ reading 90%. Got 810 psia.

03 17 24 32 CC Roger.

03 17 24 37 C Fuel Cell H₂, 70%, and about 770 psia.

03 17 24 47 CC Roger. Thank you.

03 17 24 49 CC That's all we have for you this pass. We're standing by.

03 17 24 52 C Okay, fine. Thank you.

03 17 26 01 CC Gemini-5, Canaries. Is the OAMS Heater circuit breaker off at this time?

03 17 26 07 C Is the which?

03 17 26 09 CC OAMS Heater circuit breaker.

03 17 26 11 C Just ...

03 17 26 14 CC Say again, please.

03 17 26 17 C I'm just looking over to see if I can find it over here. It's still on. Okay, the circuit breaker is closed.

03 17 26 29 CC Roger. Thank you.

03 17 26 38 CC Oh, that's okay. Go ahead and leave it on.

03 17 26 40 C Okay.

HOUSTON

03 18 45 28 CC Gemini-5, Gemini-5, Houston CAP COM. Over.

CONFIDENTIAL

CONFIDENTIAL

355

03 18 45 31 C Hello, Houston, Gemini-5.

03 18 45 34 CC Roger. Good evening. Everything looks good here on the ground. How does it look up there?

03 18 45 57 CC Gemini, Houston.

03 18 46 08 CC Gemini-5, Houston.

03 18 46 38 CC Gemini-5, Houston CAP COM. Over.

03 18 47 47 CC Gemini-5, Houston CAP COM in the blind. We'll be standing by for anything you have. Everything looks good on the ground.

03 18 47 58 C Gemini-5.

03 18 48 04 CC Roger, read you 5-square that time.

CANARY ISLANDS

03 18 57 08 CC This is Canary CAP COM.

03 18 57 13 C Go ahead Canaries, Gemini-5.

03 18 57 16 CC Roger, I have a PIA block update for you if you are ready to copy.

03 18 57 21 C Roger, just a minute here.

03 18 58 07 C Ready to go update.

03 18 58 08 CC All right. Area 60-1, 11:36:13, 14 plus 26, 19 plus 30. Area 61-1, 13:11:54, 13 plus 06, 18 plus 39. Area 62-1, 14:46:27, 12 plus 17, 18 plus 07. Area 63-4, 17:35:04, 14 plus 12, 19 plus 29. Area 64-4, 19:10:15, 13 plus 01, 18 plus 37. Do you copy?

03 18 59 58 P Canaries, could I have the area of the first one again?

03 19 00 01 CC Roger, the first area was 60-1.

03 19 00 09 P 60-1, 11:36:13. I have everything else.

03 19 00 12 CC That's affirmative.

CONFIDENTIAL

CONFIDENTIAL

03 19 00 18 CC That's all we have for you at this time. We are standing by. Systems are GO on the ground.

03 19 00 25 P It's GO up here.

CARNARVON

03 19 32 28 CC Gemini-5, Carnarvon CAP COM.

03 19 32 32 P Go ahead Carnarvon.

03 19 32 34 CC Roger, we've got a long Flight Plan update for you.

03 19 32 38 P Ready to copy.

03 19 32 42 CC Title: Platform. By the way, all of these are the 4th day. Item 1, 00:00, Remarks, power up; Item 2, platform 11:25:00, Remarks, aline SEF; next item, power up 11:40:00, Remarks, Rate Gyro and Computer ON; next item, Bio-med Recorders 11:51:00, Remarks, No. 2 ON, No. 1 OFF; next item, D-6, Delta-6, 11:55:55, Sequence No. 134, Mode No. 08, Remarks, pitch down 30, yaw zero, speed 60; next item, D-6, Delta-6, 12:08:13 Sequence No. 067, Mode No. 08, Remarks, pitch down 30, yaw left 11, speed 125. How's it going so far?

03 19 35 05 P Got it.

03 19 35 07 CC Next is Delta-6, 12:24:02, Sequence No. 091, Mode No. 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, f-stop 4. How's it going?

03 19 37 07 P Got it.

03 19 37 09 CC Okay. Next item, D-4/D-7, 14:15:00, Sequence No. 410C. Next item, platform 14:30:00, Remarks, aline SEF; next item D-4/D-7, 14:56:50 Sequence No. 424 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 zero, speed 125.

CONFIDENTIAL

CONFIDENTIAL

357

Next item, D-4/D-7, 15:19:00 Sequence No. 419.
You got everything up to this point?

03 19 39 10 P

Yes.

03 19 39 11 CC

Okay, we're approaching LOS. I may get about one more in. Platform 15:40:00, Remarks, a line SEF; next item D-4/D-7, 16:28:04, Sequence No. 423 Baker, Mode No. 08, Remarks, pitch down 29, yaw left 34, speed 60. Do you copy?

03 19 39 58 P

That's affirmative. Have it all.

03 19 39 59 CC

Okay. There's two, three more items. I'll go to the next one. S-7, 16:37:00, pitch down 90; thunderstorms over southern Florida. Do you copy?

HOUSTON

03 20 16 45 CC

Gemini-5, Gemini-5, Houston CAP COM. Over.

03 20 16 52 P

Hello, Houston, Gemini-5 here.

03 20 16 55 CC

Roger. You look pretty good here on the ground. Are you ready to finish copying the Flight Plan update?

03 20 17 00 P

Yes. Would you wait just one second? I'm busy. I'll be right with you.

03 20 17 02 CC

Okay.

03 20 18 04 P

Okay, Houston, ready to copy.

03 20 18 06 CC

Roger. I'll pick up where Carnarvon left off, and I may repeat part of the last one. It was S-7 at 16:37:00, pitch 90 down. Thunderstorms over southern Florida. D-6, 16:51:25, Sequence No. 065, Mode No. 08, pitch 30 down, yaw 32 right, speed 60. Power down 17:00:00, Rate Gyros, Computer, and Platform OFF. Did you copy?

03 20 19 08 P

Roger.

03 20 19 11 CC

Okay. Did you have a chance to try the second Rendezvous Illumination Test or did you cancel those out altogether tonight?

CONFIDENTIAL

CONFIDENTIAL

- 03 20 19 20 P Yes. 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, and we got into the HF check and that kept Gordo awake. 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 and tried to get some rest.
- 03 20 19 49 CC Okay. That's fine. No problems. I just wondered if you tried the second one. We may reschedule it and we may not; it depends on your fuel. And do you have any particular questions on the procedure or would you like to look it over for a little longer?
- 03 20 20 03 P Later on today why don't you run--well, why don't you run it by me right now and I'll make sure I got it all right.
- 03 20 20 13 CC Okay, we got some other things we'd rather talk to you about right now, particularly since we still have 24 hours at least until we try this one again. So we'll update you a little later on that particular test. Okay.
- 03 20 20 24 P Very good.
- 03 20 20 26 CC Okay. Did you get a chance, when you put the REP out, to take any pictures of it?
- 03 20 20 31 P Yes, we 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.
- 03 20 20 41 CC Okay, understand, thank you. Okay, I have a map update for you if you're ready to copy.
- 03 20 20 47 P Okay.
- 03 20 20 49 CC Okay. The map at the time of 4 days 11 hours 38 minutes 57 seconds will be 134.6 degrees West.
- 03 20 21 10 CC Roger. Rev is 59 and the time is the 4th day, 11:38:57.

CONFIDENTIAL

CONFIDENTIAL

359

03 20 21 20 P Very good, got it.

03 20 21 22 CC Okay, and your fuel usage is getting sorta 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. Okay?

03 20 21 36 P Yes. We've been drifting most of the time here this evening.

03 20 21 40 CC Okay, that's fine. We find that even during the slow passes when you're not doing anything, you use about 2 pounds or so, so we'd like to keep it down as much as possible.

03 20 21 50 P Okay.

03 20 21 52 CC Okay. Elliot has a discussion on your radar yesterday for you.

03 20 21 55 P Okay.

03 20 21 56 CC ... could you give me a Fuel Cell Hydrogen Quantity read first, Pete?

03 20 22 10 P Okay. It's 68% at 770.

03 20 22 17 CC 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?

03 20 22 35 P Yes. Gordo said he had range read and I guess the range scale was pegged.

03 20 22 41 CC 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?

03 20 22 52 P No.

03 20 22 54 CC Okay. You probably didn't think of that because you had a lock-on light. Okay, the MDIU appears to be okay by ground analysis. I've checked out your various readings in it. It appears that it's working all right. For your information your first

CONFIDENTIAL

CONFIDENTIAL

69 readout anytime will be the last previous readout in the RENDEZVOUS Mode.

- 03 20 23 18 P Yes.
- 03 20 23 20 CC Okay. The range readout problem, we think, may be due to noise interference from either Jacksonville radar or SPADATS. We have to have them off the next time we try this. We would like to do another Radar Test, not today, but tomorrow. It might be similar to the one you did yesterday. We'll have to forward information on that to you. We'd like you to include taking Questar pictures of the Cape. Now, do you feel that you can do this both at the same time? I have an indication that you did some of that yesterday, anyway.
- 03 20 23 59 P That's correct. I got some pictures of the Cape yesterday with the Questar during the track.
- 03 20 24 02 CC Okay. Well we would like to do that again when we do the test and the pictures will be taken when you are directly on boresight, and I was concerned about whether you could operate the MDIU and the Questar at the same time.
- 03 20 24 16 P Yes.
- 03 20 24 18 CC Okay. Do you have any other questions about the Radar Test?
- BERMUJA
- 03 20 24 27 P We would like to request that we keep everything to a minimum in the evenings. We, for some reason, are having trouble sleeping. One guy bothers the other one when he's doing anything is what it amounts to.
- 03 20 24 42 CC Okay, this test would be done during the day so I don't think there would be any problem that way.
- 03 20 24 51 P Yes. We're not concerned about that. We just want to emphasize that it's so darn quiet in the cabin that when one guy is trying to sleep, if the other guy does anything, why, it makes quite a bit of noise.

CONFIDENTIAL

CONFIDENTIAL

361

03 20 25 07 CC Roger. Pete, how about if we plan these last 5 or 6 hours before you got the Carnarvon updates as a quiet period. Would that work out pretty good?

03 20 25 17 P That's awful late. That's what finally happened. We both fell asleep last night, I guess. I know I did.

03 20 25 27 CC Okay, we'll keep it down then. Can you give us a status on your temperature up there and your comfort?

03 20 25 33 P Our comfort's fine and the temperature is fine. I think my M-1 Experiment's quit running for good now. I don't know whether to wring it out of air or what. The problem that I had with it before was not the same thing. The valve's not making any noise any more. So I think it either ran out of air or just gave up the ghost and just quit running.

03 20 25 53 CC Okay, fine. Understand. You guys are sounding better all the time, Pete. You must like it up there.

03 20 26 00 P Say again.

03 20 26 01 CC I said, you guys are sounding better all the time. You must like it up there.

03 20 26 07 P Well, we're getting used to it.

03 20 26 11 CC Ha, ha, okay.

03 20 26 12 CC Gemini-5, Houston Flight. Good morning.

03 20 26 16 P Morning. How are you?

03 20 26 18 CC Great, looks like we're getting ready for another day here. Be giving you the GO pretty soon.

03 20 26 24 P Okay, we're standing by to power up.

03 20 26 27 CC Roger. We'll see you.

CANARY

03 20 31 56 CC Gemini-5, this is Canary CAP COM.

CONFIDENTIAL

CONFIDENTIAL

03 20 32 00 P Hello, Canary CAP COM, Gemini-5 here.

03 20 32 02 CC Roger. We have nothing for you this pass except there will be a medical data pass on the Pilot over Carnarvon. Their acquisition time will be 11 hours 05 minutes 34 seconds.

03 20 32 23 P Roger, the ACQ time.

03 20 32 26 CC Roger.

03 20 36 11 CC Gemini-5, this is Canary CAP COM. Flight would like to know if you have recycled the valve on the M-1 Experiment.

03 20 36 20 C No, I checked it, it was still ON. I'll go ahead and recycle.

03 20 36 26 CC Roger.

CARNARVON

03 21 06 02 CC Gemini-5, we have a Pilot oral temp. Stand by for Surgeon.

03 21 06 07 CC Gemini-5, Carnarvon Surgeon. Observe your first blood pressure coming up.

03 21 06 53 CC We have your blood pressure. Standing by for your exercise on your mark.

03 21 07 03 C Stand by ...

03 21 07 06 CC Roger.

03 21 08 19 CC We have your second blood pressures. Standing by for water and food report.

03 21 08 23 C Roger. Water ... 19 pounds 6 ounces and ...

03 21 08 34 CC Roger. Stand by for Carnarvon CAP COM.

03 21 08 46 CC Gemini-5, Carnarvon.

03 21 09 14 CC Okay. I'll give you a mark at 11 hours 10 minutes in about 40 seconds.

CONFIDENTIAL

CONFIDENTIAL

363

03 21 09 49 CC 10 seconds to go.
03 21 09 56 CC 4, 3, 2, 1. MARK.
03 21 10 03 CC 11:10.
03 21 10 06 C Roger. Got it. Thank you.
03 21 10 42 CC Hi, Gemini-5. We have visual contact.
03 21 10 46 C Pretty good. We're topping you right now so we ought to be flashing at you.
03 21 10 52 CC Roger.
03 21 11 00 CC Got a report that they're having a little trouble staying on with the C-band beacon tumble.
03 21 11 07 C The next time we come over we'll be, we'll be in the HOR SCAN.
03 21 11 14 CC Roger.
03 21 13 22 CC We've got a minute till IOS.
03 21 13 26 C Gemini-5. Roger.
03 21 19 11 P Memo for the tape at 4 days 09 hours 00 minutes ...

GUAYMAS

03 21 44 47 P Thank you, Guaymas ... We are at standard Green. Platform's powered up. Rate gyros are on.
03 21 44 54 CC Okay. I've got your switch actuation.
03 21 45 10 CC What position is your ECS O₂ switch in?
03 21 45 13 P ECS O₂ Heater is off.
03 21 45 15 CC Roger. Thank you, Pete.
03 21 45 23 CC Okay. You're looking pretty good down here. How you doing?
03 21 45 27 C Just fine.

CONFIDENTIAL

CONFIDENTIAL

03 21 45 29 CC Okay. We'll stand by if you need anything.

TEXAS

03 21 49 04 CC Gemini-5, Houston CAP COM.

03 21 49 08 P Go ahead, Houston. Gemini-5.

03 21 49 10 CC Roger. Would you place your OAMS Heater circuit breaker to open for 10 seconds please? And then close.

03 21 49 23 C It's working. We can see the amps on the gage.

03 21 49 27 CC Okay. We wanted to check it down here too.

03 21 49 30 CC How about your Quantity Read to ECS O₂, please?

03 21 49 34 P Say again.

03 21 49 36 CC Your Quantity Read to ECS O₂.

03 21 49 40 C Roger. We noticed that the OAMS is reading awful cold.

03 21 49 44 CC Roger. And did you have any luck with your M-1 when you recycled the valve?

03 21 49 52 C ... is off rate. It's just flat quit running and nothing's making any noise any more.

03 21 49 58 CC Okay, fine. Good, try anyway. Could we have a food report from the Pilot, please?

03 21 50 13 P Roger. My last meal was 1A at 04:04:00:00.

03 21 50 22 CC Roger. Understand. Could we have it for the last 24 hours, please? We didn't get it at Carnarvon.

03 21 50 35 P 3B at 03:22:00:00.

03 21 50 41 CC Roger. And you can turn ECS O₂ Quantity Read back, and I have some information on the carrier for your D-6. It'll be heading 255 degrees; there will be one destroyer one mile astern.

03 21 51 03 P Roger.

CONFIDENTIAL

CONFIDENTIAL

365

03 21 53 15 C Houston, the Bio-med Recorders were changed at 11:53.

03 21 53 20 CC Roger. Understand. 11:53.

03 21 56 41 C Comment for the tape. Any time when the sun is anywhere near the window, or looking into the window, this reticle is almost useless. The sunlight hits on the reflecting mirror, just causing any vision on anything to be extremely difficult.

03 21 57 00 P Houston, Gemini-5. No joy.

03 21 57 03 CC Gemini, Houston. Say again.

03 21 57 05 C Roger. No joy on 134.

03 21 57 08 CC Roger. Understand. For your 067, the Canaries, the cloud coverage is 0.3 to 0.4, and for the 091 D-6 the weather's poor.

03 21 57 33 P Well, see if we can't get going ... get this pitch to ...

03 21 57 35 C Okay.

03 21 57 40 P ... another one in the middle of no place, 091. Las Palmas, right on the corner of the round island ...

03 21 57 54 C Right on the east side of the little fat round island.

03 21 58 02 P Oh! 091, Mombasa Airdrome. That's right on the shoreline and well away over on the east coast at 12:24, so we got plenty of time to study that one.

03 21 58 45 P Okay, this one is yaw left 11--

03 21 58 50 C ... Las Palmas.

03 21 58 57 C Just about to power up there.

03 21 59 02 P Good ...

03 21 59 06 P Boy, you really pulled the chain.

CONFIDENTIAL

CONFIDENTIAL

03 21 59 09 C Boy, I was really beat! I was tired!

03 21 59 18 P I told them to knock off this night stuff ... HF checks, one thing or another, housekeeping, and so forth.

03 21 59 38 P It's so darn quiet in the cockpit when one guy is doing something it bothers the other guy. Okay, this is acquired at 08:13.

03 21 59 59 C 11 degrees left yaw in it?

03 22 00 02 P Yes.

03 22 00 02 CC Gemini-5, Houston. Place your T/M switch to COMMAND, please.

03 22 00 07 C T/M to COMMAND.

03 22 00 09 CC Roger.

03 22 00 22 C What's the time on it?

03 22 00 26 P 08:13.

03 22 00 28 C Okay.

03 22 00 30 P Put it in the right place in the map. Look, here's the Mombasa Airdrome he wants us to take a picture of up here instead of showing it right here.

03 22 01 16 C By golly, you're needing a shave, bear.

03 22 01 18 P Time is 04 days 12 hours 10 minutes 00 seconds, and we got four good pictures of the airdrome at Las Palmas. D-6/067.

CANARY

03 22 05 56 CC Gemini-5, this is Canary CAP COM.

03 22 06 00 P Go ahead, Canary, Gemini-5.

03 22 06 02 CC Roger. A reminder that there will be a medical data pass on the Command Pilot over Carnarvon; their AOS time is approximately 12 hours 40 minutes.

CONFIDENTIAL

CONFIDENTIAL

367

03 22 06 16 P Roger. 12:40.

03 22 06 20 CC That's all we have for you. We're standing by.

03 22 06 24 P Okay, that's fine. Thank you.

03 22 22 24 P The tape is on and the time is 04 days 12 hours 23 minutes ... seconds. We're standing by for a D-6, Sequence No. 091, Mode 08. However, the weather looks pretty bad looking over there right now.

03 22 23 08 P Boy, it's amazing. You know, you don't notice too much on that pulse out the window. It's amazing when you fire the pulse how I can see that in the landmarks on the ground.

03 22 23 23 C Oh, I bet.

03 22 23 24 P That lens is really fantastic.

03 22 23 42 P Coming up on 24 in 15 seconds.

03 22 23 49 C That looks like--oh yes, I got it, I got it.

03 22 23 54 P You got it?

03 22 23 54 C Yes.

03 22 23 57 P Okay.

03 22 23 58 C In my reticle.

03 22 24 01 C The reticle is useless coming down against those clouds.

03 22 24 11 P Okay, I got the coastline ... airfield.

03 22 24 13 C Okay, I got the airfield.

03 22 24 21 P Still no airfield.

03 22 24 25 C I got the airfield in sight. You ought to have it in sight now.

03 22 24 33 P Yes. Let me know when we are approaching ...

03 22 24 37 C Okay.

CONFIDENTIAL

CONFIDENTIAL

03 22 24 59 P There's the airfield! Stop! Can you come left or move to the left?

03 22 25 04 C Yes.

03 22 25 06 P Move a little bit left. Beautiful! Oh, don't jam! Oh, you son-of-a-gun! Come left again ...

03 22 25 23 C We're well past the 90.

03 22 25 24 P Okay.

03 22 25 30 P Good pictures.

03 22 26 30 C 35mm camera is still jamming at crucial times.

CARNARVON

03 22 40 54 CC Gemini-5, Carnarvon, we have a valid oral temp on the Command Pilot. Request the Pilot to start fuel cell purge.

03 22 41 05 CC Stand by for Surgeon.

03 22 41 16 CC Gemini-5, Carnarvon Surgeon standing by for your first blood pressure.

03 22 41 17 P Roger.

03 22 41 26 P Commencing hydrogen purge on my mark. MARK.

03 22 41 30 P Purge complete.

03 22 41 51 P Starting Cell 2 Hydrogen purge.

03 22 42 01 C Oh, he's broken another ring on the blood pressure cuff.

03 22 42 07 CC Roger.

03 22 42 16 CC Let's go ahead with the exercise.

03 22 42 21 P Roger.

03 22 42 27 P O₂ purge on No. 1 started.

03 22 42 30 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

369

03 22 42 40 P Exercise stop.

03 22 43 07 P Give me a mark at 1 minute of purge.

03 22 43 10 CC Roger.

03 22 43 14 C Exercise complete.

03 22 43 16 CC Roger. We'd like a food report now for the past 24 hours.

03 22 43 24 P Roger.

03 22 43 30 CC We've had ...

03 22 43 33 P Okay.

03 22 43 39 C Okay food report. Now you want all day 3? On day 3 on Command Pilot, I had 3C, 3A and 3B.

03 22 43 58 CC Understand 3C, 3A and 3B.

03 22 44 03 C That's right. On day 4, give you day 4 here, I had 1A.

03 22 44 10 CC Roger. Water report.

03 22 44 14 C Water report. At present I have drunk 20 pounds and 3 ounces of water.

03 22 44 22 CC Roger. Sleep report.

03 22 44 25 C Sleep report, I just finished about 7 hours of sleep.

03 22 44 29 CC Understand 7 hours.

03 22 44 29 CC MARK.

03 22 44 32 C Affirmative.

03 22 44 33 CC Mark 2 minutes on O₂ purge.

03 22 44 35 P Roger. Signal when to commence.

03 22 45 15 P For the tape, we broke the second O-ring on the blood pressure bulb 04 days 12 hours 45 minutes.

CONFIDENTIAL

CONFIDENTIAL

03 22 45 19 C Well, for the recorder, we finally passed the GT-4 crew's mark, which is a milestone, and we're still clanking along in the old covered wagon.

03 22 45 24 CC Gemini-5, Carnarvon. Flight would like to know if you feel you need the platform for the D-6 experiment.

03 22 45 39 C I think so. I think it would make it a lot better if we could use it.

03 22 45 43 CC Roger.

03 22 46 34 P Hydrogen and O₂ purge on Sections 1 and 2 complete. Crossover off.

03 22 46 39 CC Roger.

03 22 46 42 CC Surgeon would like to know about how long you had the oral temp probe in your mouth.

03 22 46 49 C I guess for a couple of minutes.

03 22 46 51 CC Roger.

03 22 46 53 CC Could you give us a readout of your OAMS quantity, pressure, and temp?

03 22 47 02 P Okay, the fuel gage reads 26%, temperature is 61, and the pressure is 1350.

03 22 47 14 CC Roger.

03 22 47 30 C Would you give us Quantity Read on Fuel Cell O₂?

03 22 47 40 P Want the onboard readings too?

03 22 47 43 CC Roger, Fuel Cell O₂ and H₂.

03 22 47 46 P Roger, Fuel Cell O₂ 90%, 120 psi.

03 22 47 55 C Hydrogen.

03 22 48 00 P 67%, 77.

03 22 48 03 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

371

03 22 48 03 CC Roger.
03 22 48 31 CC We have nothing else. Standing by.
03 22 48 35 P Gemini-5 standing by.

CANTON ISLAND

03 23 02 55 CC Gemini-5, Gemini-5, Houston. Over.
03 23 03 14 CC Gemini-5, Gemini-5, this is Houston.
03 23 03 50 CC Gemini-5, Gemini-5, Houston. Over.
03 23 03 55 C Go ahead Houston, Gemini-5, here.
03 23 03 59 CC Gemini-5, Houston. Be advised that the weather for your S-8/D-13 is too bad and we will have to scrub your S-8/D-13. We would like to replace it with a D-6.
03 23 04 15 C Roger, will replace the S-8/D-13 with a D-6.
03 23 04 20 CC I have some D-6 information for you here Gemini-5, for a selected target. Are you ready to copy?
03 23 04 28 P Okay.
03 23 04 33 C He's ready.
03 23 04 35 P Go ahead Houston.
03 23 04 38 CC Roger, Gemini-5, Houston. Be advised that time will be 04:13:25:30, Sequence No. 025, Mode 19, Remarks, pitch down 30, yaw left 8, speed 1/1000, f-stop is 4. Your weather is 2 to 3-tenths. Over.
03 23 05 28 P Roger, 04:13:25:30, and 025, 19, pitch down 30, yaw left 8, 1000, and 4.
03 23 05 39 CC Roger. Good morning to you.
03 23 05 43 P How're you this morning?
03 23 05 44 CC Just fine.
03 23 05 47 P We're the same.

CONFIDENTIAL

CONFIDENTIAL

03 23 05 49 CC Very good.

03 23 05 52 C Say, if I switch now I'll have every piece of gear of the spacecraft out in my lap.

03 23 05 57 CC Very, very good. That sounds like old home week.

03 23 06 02 C Among other household chores.

03 23 06 06 CC Say again.

03 23 06 09 C As well as doing other household chores.

03 23 06 11 CC Roger.

03 23 06 14 C There's a live ... at the moment.

03 23 06 17 CC Roger.

GUAYMAS

03 23 17 52 CC Gemini-5, Guaymas CAP COM, turn your T/M Control Switch to the REAL TIME & ACQ-AID position.

03 23 18 19 CC Gemini-5, Guaymas CAP COM, turn your T/M Control Switch to the REAL TIME & ACQ-AID position.

03 23 18 26 CC Okay, thank you.

03 23 18 27 C Roger.

03 23 18 39 CC How are you doing up there?

03 23 18 41 C Fine.

03 23 18 42 CC Okay, you're looking real good here on the ground. We'll stand by if you need anything.

03 23 18 46 C All right, thank you.

03 23 20 42 CC Gemini-5, Guaymas.

03 23 20 44 C Go ahead, Guaymas, Gemini-5.

03 23 20 46 CC Put your T/M Control Switch back to the COMMAND position.

CONFIDENTIAL

CONFIDENTIAL

375

03 23 28 08 CC Gordo, Chris says you sound like your old self this morning.

03 23 28 13 C Yes, I finally got a good night's sleep.

03 23 28 15 CC Yes, I got that 7 hours; that's cheating.

03 23 28 17 P Yes, sure is.

03 23 28 19 C I've sort of been saving up.

03 23 28 21 CC Roger.

03 23 28 44 P Okay, I'm ready for the updates.

03 23 28 47 CC All right. 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, 3 seconds later. Did you find that one Pete?

03 23 29 13 P Yes.

03 23 29 14 CC Okay, under the Remarks for that particular thing, the test time has been changed from 14:57:31 to 14:57:33.

03 23 29 25 P Roger.

03 23 29 28 CC Okay, you have another D-4/D-7. This one is at 16:28:03. The time on that has been changed to 16:28:07.

03 23 29 41 P Roger.

03 23 29 43 CC Okay, now right after that particular experiment there's an S-7 and right after that is a D-6. You're 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 or something so that you don't have to dismantle all your equipment there. And we realize that it's very time critical there.

03 23 30 09 P Roger.

CONFIDENTIAL

CONFIDENTIAL

BERMUDA

03 23 30 41 CC Gemini-5, Houston here again. Did you get the O-rings fixed in the blood pressure bulb?

03 23 30 46 C Roger, we got two new O-rings in.

03 23 30 49 CC Okay, very good. Have you used any of your blue bags yet?

03 23 30 54 C Have we what?

03 23 30 57 CC What's the blue bag status?

03 23 30 59 C There's still just one.

03 23 31 01 CC Very good.

03 23 31 06 C Just great.

03 23 31 07 CC Roger.

03 23 32 44 CC Gemini-5, Houston again. We would like to have you give us a GO for your D-4/D-7 at 14:56:53 over Carnarvon, if it is possible.

03 23 32 55 C Roger Houston, will do.

03 23 32 57 CC Okay.

03 23 33 07 CC Just think, you only have 96 hours 23 minutes and 54 seconds to retrofire time.

03 23 33 13 P Listen, that was a momentous milestone to shift Bio-med Recorders.

03 23 33 19 CC Roger, you're halfway there.

03 23 33 22 C Yes, Roger.

03 23 33 27 CC Hey, is your beard getting itchy yet?

03 23 33 30 P Yes.

03 23 33 33 CC Did you take any curlers along to curl it?

03 23 33 37 C No, but we should have.

CONFIDENTIAL

CONFIDENTIAL

377

03 23 33 44 CC You can always braid it and tie your mike up with it.

03 23 33 47 C Fine.

03 23 33 58 C All the sensors are itching a lot worse than the beard.

03 23 34 01 CC Roger.

03 23 34 07 CC Gemini-5, Gordo, this is MCC Surgeon. Do you have any skin reaction around the rest of the skin, since we did this cleansing bit?

03 23 34 21 C Pete's cuffs, the M-1 cuffs are itching him an awful lot.

03 23 34 26 CC Okay, we'll talk some later on the next revolution about those cuffs.

03 23 34 36 CC Congrats; you guys are doing great.

03 23 34 39 C Yes.

CANARY

03 23 40 52 CC Gemini-5, this is Canary CAP COM. Would you switch your Quantity Read to the ECS O₂ position, please. Thank you.

03 23 41 00 P Roger.

03 23 41 02 C How are you this morning?

03 23 41 03 CC Mighty fine, and you?

03 23 41 04 C Feel fine.

03 23 41 05 CC Good.

03 23 41 17 C We got some good pictures going over you awhile ago.

03 23 41 20 CC Hey, mighty fine.

03 23 41 24 CC Okay, could we get Quantity Read to Fuel Cell O₂, please?

CONFIDENTIAL

CONFIDENTIAL

03 23 41 32 CC Roger.

03 23 41 44 CC Okay, would you switch Quantity Read to Fuel Cell H₂? Thank you.

03 23 42 04 CC Roger, we have it now, thank you very much, so you can go back to OFF.

03 23 42 09 C Okay.

03 23 42 10 CC Roger, it looks real good here on the ground.

03 23 42 12 C Roger, everything is GO here.

03 23 42 14 CC Roger, we're standing by.

03 23 43 17 C What?

03 23 43 42 CC Gemini-5, Flight just advised that during the tracking over the States they have reconfirmed your orbit as 107.4 by 164.6.

03 23 43 57 C 107.4 by 164.6.

03 23 44 01 CC Roger.

03 23 44 03 C Roger, thank you.

03 23 54 39 P For the recorder, the time is 04 days 13 hours 56 minutes. Platform alining preparing for D-6 089 Mode 19. Recorder off.

03 23 55 34 C One comment to make when in ... the outside the window daytime reticle used, white lights must be used to do any platform work in order to see it.

04 00 00 17 P The airfield at--what's that airfield ...?

04 00 00 22 C ... airfield at Maui.

04 00 00 25 P Maui was covered by clouds. We took one picture in the vicinity of it.

04 00 00 41 P Okay, you can go to SEF and think about finding ...

04 00 00 54 C I've been thinking about that for days.

04 00 00 56 P Yes.

CONFIDENTIAL

CONFIDENTIAL

379

CARNARVON

04 00 15 29 P Hello, Carnarvon, Gemini-5.

04 00 15 31 CC Gemini-5, Carnarvon.

04 00 15 32 P Roger, we have the computer in CATCH UP to keep the green light out while we're tracking up here, and I'll leave it there, unless you want it in some other position.

04 00 15 44 CC No, that's all right; leave it there. Are you GO for 77-1?

04 00 15 50 P Roger, and we'll be GO for D-4/D-7 424 Alpha.

04 00 15 57 CC Roger.

04 00 16 01 P We'll give you a call when we're tracking.

04 00 16 05 CC Roger. We're GO on the ground for 77-1. I'll update your T_R.

04 00 16 09 P Thank you.

04 00 16 49 CC Gemini, Carnarvon. Be advised that 424 Alpha is GO on the ground.

04 00 16 54 P Roger. I haven't got your T_R yet.

04 00 16 58 CC About 10 seconds.

04 00 16 59 P Okay.

04 00 17 04 CC Transmitting T_R.

04 00 17 08 P We got it.

04 00 17 09 CC Roger, you're in sync.

04 00 18 35 P Carnarvon, Gemini-5.

04 00 18 37 CC Go ahead.

04 00 18 38 P Are we just about overhead you now?

04 00 18 46 CC In about 30 seconds.

CONFIDENTIAL

CONFIDENTIAL

04 00 18 50 P Roger. Good look at Perth.

04 00 18 54 CC Roger.

04 00 18 55 P And we'll give you a call just the second tracking starts.

04 00 19 02 CC Roger.

04 00 20 23 CC That time I gave you was the Mark time ... approach, you're south of us.

04 00 20 31 P Roger.

04 00 23 06 P Carnarvon, we're going to skip this 410 Charlie if we can't find the proper star.

04 00 23 12 CC Roger.

HAWAII

04 00 43 22 CC Gemini-5, Hawaii CAP COM.

04 00 43 25 C Go ahead, Hawaii, Gemini-5.

04 00 43 27 CC 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 GO from you.

04 00 43 36 C Roger. You have a 424 Alpha GO. Understand a UHF Type 6 over the States.

04 00 43 42 CC That's Roger.

04 00 43 43 C Roger.

04 00 44 06 CC 424 Alpha is on schedule and counting.

04 00 44 10 C Roger. Very good. We're on schedule too.

04 00 44 20 CC Roger.

04 00 44 21 C And counting.

04 00 44 36 CC T minus 14 and counting.

04 00 45 39 C Roger.

04 00 45 58 CC Roger. We have a built-in hold of 3 minutes.

CONFIDENTIAL

CONFIDENTIAL

381

04 00 46 03 C Roger.

04 00 51 24 CC Gemini-5, Gemini-5, Houston.

04 00 51 28 C Roger, Houston, Gemini-5.

04 00 51 30 CC Roger, the weather for your D-4/D-7 is clear and visibility is very good.

04 00 51 37 C Very good. We're on the line, right on ...

04 00 51 41 CC Okay.

04 00 53 18 C We just finished off our sausage and eggs that Pete cooked this morning, and he's making the coffee, now.

04 00 53 25 CC Very good. Were those scrambled or over?

04 00 53 28 C Over easy.

04 00 53 29 CC Okay. How is he as a cook?

04 00 53 37 C He's a pretty good cook.

04 00 53 39 How is he as an eater?

04 00 53 42 P But good, but good!

04 00 53 47 CC Roger.

04 00 54 01 P We got Catalina and San Clemente very clear; looks like San Diego and Los Angeles are clobbered in.

04 00 54 09 CC Roger. How's the weather out West today; is it pretty good?

04 00 54 16 P Yes, all across the country it is; cloud deck's right up, you know, from the Pacific right up to the coast.

04 00 54 24 CC Right. How about in the southeastern U.S.; is it pretty clear over there or is it clouded over?

04 00 54 32 C It's fairly cloudy over there. It looks like a lot of it will probably break up and it's about heavy cumulus.

CONFIDENTIAL

CONFIDENTIAL

04 00 54 41 CC Okay, I got some information for your D-6 on the carrier as soon as you complete that D-4/7.

04 00 54 47 C Okay. We're coming out there over the Gulf of California now.

04 00 54 59 CC Roger. Our plot board agrees with you.

04 00 55 01 P 53, no 56--

04 00 55 04 P Very good. Okay, we have White Sands in sight from here.

04 00 55 20 CC Okay, very good. I was just going to ask you to give me a call when you had it.

04 00 55 24 P Yes.

04 00 55 24 C Where is it?

04 00 55 27 P Yes, dead ahead 12 o'clock.

04 00 55 28 P ... is off my side. But it'll slip over to you. I wouldn't do anything. I wouldn't do any pulling. Oh, wait a minute. You're supposed to be yawed.

04 00 55 36 C 10 degrees left.

04 00 55 39 P No, not that much is it?

04 00 55 40 C Yes.

04 00 55 41 P Yes, you're right. See it coming up? You got it in sight? You see where the clouds are?

04 00 55 51 C Yes.

04 00 55 52 P Left of the clouds.

04 00 55 53 C Oh, yes, yes, I'm yawed off a little too much.

04 00 55 55 CC We're still going right along with the test on the ground.

04 00 55 56 P Well now--

04 00 55 57 C ...

CONFIDENTIAL

CONFIDENTIAL

383

04 00 55 59 C Very good.

04 00 56 01 C I guess we are in pretty good shape. I'm rolled just a tad; that's one thing.

04 00 56 12 P Okay, what time is--lift-off is--

04 00 56 20 C Track is on where, over on this side?

04 00 56 22 P Right on the far side in the middle.

04 00 56 24 C On the far side in the middle.

04 00 56 25 P ...

04 00 56 47 CC We're still GO on the ground.

04 00 57 06 C We're tracking now.

04 00 57 08 CC Okay, very good. We've got about 23 seconds.

04 00 57 20 CC Fifteen.

04 00 57 23 C Roger, we're right on it.

04 00 57 24 CC Very good. 2, 1, GO. Ignition.

04 00 57 46 P ... rocket down the track.

04 00 57 48 C There it goes. We see it.

04 00 57 52 CC Okay, very good, very good.

04 00 57 58 C Burn out now.

04 00 58 00 C We're tracking right on it.

04 00 58 02 CC Very good.

HOUSTON

04 00 58 24 CC Have any comments on that particular one?

04 00 58 28 C Roger. We could see it visually very good. We were right on the money. I think, tracking there.

04 00 58 33 CC Okay. How about the water breaking?

CONFIDENTIAL

CONFIDENTIAL

04 00 58 37 C I could see something. I don't know if it was water or smoke. It probably was the water.

04 00 58 43 CC Okay, fine. Are you ready for your short briefing on your D-6?

04 00 58 48 C Roger, go ahead.

04 00 58 50 CC Okay. The weather in the area is 0.2 to 0.3 cloud coverage, and it's getting better, and it's completely clear right over the carrier.

04 00 59 00 C Roger. Very good.

04 00 59 02 CC 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.

04 00 59 41 C I hope we can find them this time; we've been looking for them enough times.

04 00 59 46 C I figured an old Navy guy like you could find the carrier.

04 00 59 49 P I had the wake yesterday, but we lost it so that we couldn't track.

04 00 59 53 CC Roger.

04 00 59 55 C The weather hasn't been too good out over the water there.

04 00 59 58 CC I gathered that from your comment yesterday. Today it looks like it should be pretty good there.

04 01 00 03 C Okay, I hope so.

04 01 00 05 P A lot depends on the sun angle.

04 01 00 07 CC Okay.

04 01 00 10 P Say, could you get a reading for me for how many pictures they have on this 3401 film.

04 01 00 19 CC On the 3401?

CONFIDENTIAL

CONFIDENTIAL

385

04 01 00 22 P That's right. I've made quite a few pictures now, and I'm afraid I might run out.

04 01 00 26 CC Okay.

04 01 00 47 C Passed north Lake Charles.

04 01 00 54 C And New Orleans. We have the Cape in sight.

04 01 01 04 CC Very good. You've got 70 frames on the 3401.

04 01 01 11 C Okay.

04 01 01 12 P I got plenty left.

04 01 01 13 CC Okay.

04 01 02 20 CC Gemini-5, Houston. Do you have your primary scanners on now?

04 01 02 25 C Negative. We're on SECONDARY.

04 01 02 31 CC Could you switch over to PRIMARY for a couple of minutes here. We'd like to get some data off of them.

04 01 02 35 C Going to PRIMARY. That's a good idea.

04 01 02 47 CC Say again, please.

04 01 02 49 C I say, that's a good idea; we've been wanting someone to check that one.

04 01 02 51 CC Okay.

04 01 03 32 P Well, we may have a few cloud problems.

04 01 03 34 CC Okay.

04 01 03 36 P We'll give her a good go, though, here.

04 01 03 39 CC Say again.

04 01 03 40 P I say, we'll give it a go.

04 01 03 42 CC Okay.

CONFIDENTIAL

CONFIDENTIAL

04 01 04 52 P Dead ahead twelve o'clock. I can see it turning, bigger than heck.

04 01 04 57 P We got it in sight at this time.

04 01 04 59 CC Roger, I knew an old carrier pilot could find the carrier.

04 01 05 50 C Very good.

04 01 05 51 P Okay, we saw him that time.

04 01 05 53 CC Okay. According to figures, you must have been just about over him when you saw him. Is that right?

04 01 06 01 P Let's see. I'd say we were about 50 degrees pitch.

04 01 06 05 C We got him a fair way out.

04 01 06 07 CC Well, very good. Okay. You got some pictures of him that time then.

04 01 06 11 P Six of them.

04 01 06 12 CC Very good.

04 01 06 15 C This 35mm camera is still jamming, incidentally. Pete's had about four jams now over the last couple of days on it ...

04 01 06 27 CC Okay. Have you been able to clear the jam each time without any trouble?

04 01 06 30 C No. He managed to get it clear, but it still isn't right.

04 01 06 34 CC Okay.

04 01 07 07 CC Gemini-5, Houston here. If you are through with that experiment it would be nice if you could come up to around a 000 attitude or either BEF or SEF, so that we could get some data off your scanner.

04 01 07 22 C Okay, swinging around; we'll be on SEF momentarily.

CONFIDENTIAL

CONFIDENTIAL

387

04 01 07 26 CC Okay.

04 01 07 45 CC Gemini-5, Houston. Could you read what was on the carrier?

04 01 07 51 C I could see the carrier, but not that well. It took up about maybe a tenth of the picture frame ...

04 01 08 10 CC Okay, I think we're getting LOS.

BERMUDA

04 01 08 53 CC Gemini-5, are you still reading Houston?

04 01 09 01 C Go ahead, Houston.

04 01 09 02 CC I just wondered if we still had voice contact with you. Did you ever get up to SEF or any level attitude?

04 01 09 08 C Yes, we're coming there slowly right now. We're just staying at PULSE so we don't use too much fuel.

04 01 09 13 CC Roger.

04 01 09 15 CC Okay. If we don't get this in over this pass, when you're over one of the stations that has T/M, it might be a good idea to sort of fork off in a zero-zero attitude, adjust so the horizon scanners are locked on so that we can get about a minute's worth of data.

04 01 09 31 C Okay. Maybe--

04 01 09 35 C You should have gotten some data as we crossed the coast of Florida, because we were still 000 then.

04 01 09 42 CC Okay. Very good.

04 01 09 51 C Okay. We're approaching 000 now.

04 01 09 55 CC Okay. Very good.

04 01 19 13 P I'd like to report the transmitter time right now, D-4/D-7, 35 seconds.

CONFIDENTIAL

CONFIDENTIAL

04 01 19 49 C That's the end of the first measurement. Give me a mark when commencing the second measurement.

CARNARVON

04 01 50 10 CC Gemini-5, Carnarvon CAP COM.

04 01 50 12 C Roger. Carnarvon, Gemini-5.

04 01 50 13 CC Roger. Be advised you have a medical pass on the Pilot at Hawaii. Your acquisition time is 16 hours 15 minutes.

04 01 50 24 C Roger, 16:15.

04 01 50 27 CC Roger, and are you GO for Sequence 423 Baker?

04 01 50 33 C Roger, we are.

04 01 51 32 CC Gemini-5, Carnarvon. Things are GO on the ground; we're standing by.

04 01 51 36 C Okay. Very good. You might pass the word on back at Mission Control Center that I lined everything up carefully, very carefully, and I got the primary scanner on and--pitched us down to about 30 to 35 degrees. We're in--

HAWAII

04 02 15 48 CC Gemini-5, Hawaii CAP COM. We copy your oral temp. You can start your blood pressure.

04 02 15 53 C Okay.

04 02 16 03 CC Gemini-5, this is Hawaii Surgeon. Your cuff is full-scale.

04 02 16 47 CC We have a good blood pressure. Give me a mark when you begin your exercise.

04 02 16 50 C Roger.

04 02 16 51 C MARK.

04 02 17 36 CC Gemini-5, Hawaii Surgeon. Full-scale here.

04 02 18 13 CC Now we have a good blood pressure. Standing by for your water and sleep report.

CONFIDENTIAL

CONFIDENTIAL

389

04 02 18 25 P Roger. The Pilot's drunk 20 pounds 12 ounces. Last meal was 1B at 04:10:00:00, and I logged about 6 hours of sleep last night.

04 02 18 48 CC You had 6 hours sleep last night?

04 02 18 51 P Yes, in pieces.

04 02 18 52 CC Roger.

04 02 18 58 CC Okay, that's fine. Thank you, Gemini-5. Hawaii Surgeon out.

04 02 19 07 CC Gemini-5, Hawaii CAP COM.

04 02 19 10 C Go ahead, Hawaii CAP COM.

04 02 19 11 CC Roger. We'd like to know your status for 423 Bravo.

04 02 19 14 C We're GO on 423 Bravo.

04 02 19 16 CC Roger. We're continuing to count; however, there's high cirrus clouds, may move into the area.

04 02 19 21 C Okay.

04 02 19 23 CC Would you place your OAMS Heater Switch to OFF.

04 02 19 29 P Roger. OAMS Heater Switch to OFF.

04 02 20 09 CC We're still counting on time.

04 02 20 12 CC Okay?

CALIFORNIA

04 02 25 16 CC Gemini-5, Gemini-5, Houston. Over.

04 02 25 19 C Go ahead, Houston, Gemini-5.

04 02 25 22 CC Roger, we're still going along fine on 423 Bravo. There's a low deck of scattered clouds at about 500 feet. It extends down to the south and west and is probably the stuff blown in off the water. There's a high deck of cirrus, broken cirrus, at about 35,000 feet but both of these decks are

CONFIDENTIAL

CONFIDENTIAL

clearing off, though, so there's at least a 50 percent chance of it being clear.

04 02 25 49 C Roger. We're in position, ready to go.

04 02 25 53 CC Okay.

04 02 26 24 CC We're still on schedule, Gemini-5.

04 02 26 27 C Roger.

04 02 26 44 P I can see an airplane to the south of us down there contrailing just bigger than heck.

04 02 26 49 CC Roger.

04 02 27 10 CC One minute.

04 02 27 12 C Roger.

04 02 27 55 C The weather's going to be good, all right?

04 02 27 58 CC Understand the weather's going to be good.

04 02 28 00 C Right, breaking up very nicely.

04 02 28 03 CC Okay, we've got about 4 seconds.

04 02 28 05 C Roger.

04 02 28 11 CC Ignition.

04 02 28 17 CC It's on its way.

04 02 28 19 P We have it, Flight.

04 02 28 21 CC Very good.

04 02 28 51 CC He's tracking right on our course.

04 02 29 19 CC Second stage.

04 02 29 22 P Say again.

04 02 29 23 CC Second stage.

04 02 29 40 C You can't do this in Pulse Mode.

CONFIDENTIAL

CONFIDENTIAL

391

04 02 29 43 CC You can't do it in Pulse - is that right?
04 02 29 45 C That's right.
04 02 29 46 CC Okay.

TEXAS

04 02 31 16 CC Have you completed your tracking yet?
04 02 31 18 P No. We never did, Gordo never did get on him. We never caught up with him once we saw him.
04 02 31 23 CC Okay.
04 02 31 25 CC You know 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.
04 02 31 38 C Thank you.
04 02 31 39 P Thank you.
04 02 31 41 CC Listen, I've got some other things for you, too, here. We'd like to know how you're keeping track of your water. Are you assuming that one gulp is 1 ounce?
04 02 31 52 C That's right. We calibrate our gulps. Our gulps are approximately 25 cc's or approximately 1 ounce.
04 02 31 59 CC Okay, fine. And then you're assuming that the amount of water that you put in with the food is what's called for on the bag. Is that correct?
04 02 32 05 C That's right.
04 02 32 06 CC Okay, we need this pretty accurately because we're using it to check on the fuel cell output.
04 02 32 13 C Okay.
04 02 32 14 CC Are these gulps any larger than the ones you're using on the ground, Gordo?
04 02 32 21 P I think we've probably been underestimating slightly.

CONFIDENTIAL

CONFIDENTIAL

04 02 32 26 CC You think you're drinking a little more than you're estimating, is that right?

04 02 32 29 P Sort of think so.

04 02 32 31 C I kind of think so. I think the gulps may be a little larger than the amount on the ground.

04 02 32 34 CC Okay, because of the higher pressure?

04 02 32 36 C Right.

04 02 32 36 P Affirm.

04 02 32 38 CC Okay, we suspected that might be it; we just wanted to make sure.

04 02 32 48 CC When you do this S-7, we'd like to know in which direction you did it, and whereabouts the particular clouds were with respect to Florida so that we can get the airplanes to take pictures of the same clouds.

04 02 33 02 P Okay, we'll do it going in the orbital plane--I think is the best--and we'll pitch down 90.

04 02 33 12 CC Okay. Just after you've taken the pictures let us know where it was and we'll dispatch the aircraft to that particular spot.

04 02 33 19 C Okay.

04 02 33 21 CC 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 it in a pretty low power configuration.

04 02 33 32 C Okay.

04 02 33 48 CC The weather for your next D-6 still looks very good.

04 02 33 54 C Okay.

04 02 34 04 CC I might add here that we've had some pretty good explanations on why your IVI's were driving in

CONFIDENTIAL

CONFIDENTIAL

393

the windows yesterday, so I wouldn't worry about that any longer. I can give you an explanation if you're interested.

04 02 34 17 C Okay. We can get it from you later.

04 02 34 18 CC Okay.

04 02 34 31 P Now we're passing right over the top of you, right now.

04 02 34 34 CC Just a second. I'll run out.

04 02 34 38 CC You know we ought to put a glass ceiling in here so we can look up and see you.

04 02 34 42 P Yes.

04 02 34 49 CC How's the weather down here today?

04 02 34 52 C I saw some thunderstorms back there.

04 02 34 55 CC Roger.

04 02 34 58 C A big one down there by Lake Charles.

04 02 37 19 P Okay, Him. The only thunderstorms in Florida are right at the very tip and we're just about to pass over them now. They're all the way down by Key West.

04 02 37 28 CC Okay, very good.

04 02 37 49 CC Gemini-5, Houston.

04 02 37 51 P Go ahead.

04 02 37 52 CC I was talking to Jane this morning, Pete, and she said to tell you everything's going along fine. She's having a nice time on the ground and hopes you're having a nice time in the air.

04 02 38 00 P Oh. Thank you very much.

04 02 38 47 CC Gemini-5, Houston. We have another 3 or 4 minutes. We'll just stand by in case you've got anything.

CONFIDENTIAL

CONFIDENTIAL

04 02 38 52 P Okay. We got the thunderstorm pictures and we're just taking some more photographs of Cuba.

04 02 38 59 CC Okay.

04 02 39 03 C Just scenic shots.

04 02 39 21 CC Gemini-5, Houston. How--what's the thunderstorm situation across the southern United States?

04 02 39 29 P Well, there was some. I didn't see them in the western part because we were recovering from having turned around BEF following 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. And there were none at Florida until you got all the way down to Key West.

04 02 39 54 CC Roger.

04 02 39 56 CC How are they out over the ocean there? Are there any at all out there?

04 02 39 59 P Oh yes, there's quite a few out here today.

04 02 40 02 CC Okay.

04 02 40 33 CC Gemini-5, this is Houston Surgeon. Pete, can you tell me something about this interference with sleep that you were reporting last night? Is this just due to the fact that Gordo has activities that require him to move around in the spacecraft? Is it just the movement of the other guy?

04 02 40 52 P That HF check where you're transmitting every 5 minutes for an hour and a half doesn't help the other guy when he's sleeping.

04 02 40 58 CC Okay. You're hearing everything he says, even? Are you wearing the headset?

04 02 41 00 P Actually, there have been several things scheduled where both guys had to participate during one or the other's sleep period.

04 02 41 10 CC Okay, so it's still scheduling as well as the--

CONFIDENTIAL

04 02 41 13 C ... I can't purge the fuel cells from my side, so I have to wake Pete up to purge the fuel cells because I can't reach the switches from here and I can't bring up the platform here without crawling all over him with the swizzle stick and then lighting the light over on his side. Things like that just cause a lot of interference.

04 02 41 32 CC 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.

04 02 42 27 CC Gemini-5, Houston.

04 02 42 29 C Go ahead, Houston, Gemini-5.

04 02 42 32 CC What do you think about the HF check from the ground to the spacecraft? Do you think that'll bother you? I don't imagine it would, would it?

04 02 42 38 C No, that wouldn't bother.

04 02 42 40 CC Okay.

04 02 42 45 CC I'll try to go over some of these things with the Flight Planner before I leave today, Gordo.

04 02 42 49 C Okay. I think they're just kind of loading down some of those night periods with things that are really preventing sleep pretty much.

04 02 42 58 CC Okay. I think I know what you mean by the swizzle stick and getting the IGS power on and those kind of things.

04 02 43 04 C Roger.

04 02 43 06 P Yes. That old platform business last night kept us both going for awhile.

04 02 43 10 CC What did you have the platform up for last night?

04 02 43 13 P We never did get it up. We decided against it. But talking to Houston about it last night with what they wanted us to do, we had poor communications and one thing and another. That made up an hour or so.

CONFIDENTIAL

04 02 43 25 CC Oh, Roger, I know what you're talking about. Okay. We'll get that straightened out, Pete. Yes, we're working on that now, Pete.

04 02 43 35 P Okay.

CARNARVON

04 03 24 37 CC Gemini-5, Carnarvon CAP COM.

04 03 24 59 CC Gemini-5, Carnarvon CAP COM.

04 03 25 04 C Roger, Carnarvon. Gemini-5 reading you loud and clear. Over.

04 03 25 07 CC Roger. I have a Flight Plan update when you're ready to copy.

04 03 25 13 C Roger. Wait one.

04 03 25 21 C Okay, ready to copy.

04 03 25 24 CC Title HF; 18:00:00, Sequence No. 04. Remarks, begin test at 19:25:00. This is HF Test starting right after Hawaii's LOS. Next item S-7, Sierra 7, 19:44:02. Sequence No. 03. Pitch down 90. Next item is S-7, 21:09:50, Sequence No. 03. Pitch down 90. Storm Doreen. Did you copy?

04 03 26 44 C Roger, we got those three.

04 03 26 46 CC Okay, that's all the Flight Plan update. The PLA medical pass on the Command Pilot over Hawaii, their AOS time is 17:51.

04 03 27 00 C Okay.

04 03 27 01 CC Okay, and next we've got a PLA update when you're ready to copy.

04 03 27 09 C Just a second.

04 03 27 25 P Ready to copy.

04 03 27 27 CC Roger. Area 65-4, 20:45:18, 12 plus 10, 18 plus 06. Area 66-3, 22:02:46, 14 plus 21, 19 plus 31. Area 67-3, 23:38:00, 13 plus 09, 18 plus 41.

CONFIDENTIAL

CONFIDENTIAL

397

Area 68-3. This is the 5th day. 01:12:44,
12 plus 16, 18 plus 00. Area 69 Delta, 02:05:50,
20 plus 14, 25 plus 03. Area 70 Delta, 03:39:43,
19 plus 31, 24 plus 13. Weather is good in all
areas except 66-3 and 67-3. Weather is marginal.
Do you copy?

04 03 29 49 P Got them all.
04 03 29 50 CC Very good.
04 03 30 01 CC Everything looks good here; standing by.
04 03 30 04 P Our status is Green up here.
04 03 30 06 CC Roger.
04 03 31 20 CC We have your Quantity Read and ECS O₂. We have a
good readout on ground.
04 03 31 26 C Okay, fine.

HAWAII

04 03 51 48 CC Gemini-5, Hawaii CAP COM. We copy your oral temp.
You can start your blood pressure.
04 03 52 12 CC Gemini-5, this is Hawaii Surgeon, and your cuff is
full-scale.
04 03 52 47 CC We have good blood pressure. Give me a mark on
your exercise.
04 03 52 51 C Roger.
04 03 53 12 C ... now.
04 03 53 49 C Ending exercise, now.
04 03 53 51 CC Roger.
04 03 53 06 CC Gemini-5, Hawaii Surgeon. Cuff is full-scale.
04 03 54 51 CC We have good blood pressure. Standing by for your
water and sleep report.
04 03 55 15 CC Standing by for water.

CONFIDENTIAL

CONFIDENTIAL

04 03 55 16 C No sleep since last night when I report on that. Water report: I have got 21 pounds and 13 ounces of water, plus I was just eating--in the process of eating now, which I have added to that.

04 03 55 34 CC You are in the process of eating now. What meal would that be?

04 03 55 43 C Just a second here.

04 03 55 48 C It's 1B.

04 03 55 50 CC Roger. Understand 21 pounds 13 ounces, no sleep since last night and eating 1B.

04 03 55 55 C Roger.

04 03 55 58 CC Thank you. Hawaii Surgeon out.

04 03 56 01 CC Gemini-5, Hawaii CAP COM. On this HF Test we're going to stop it for about 10 minutes over the States and we'll resume the test at 18:14:00.

04 03 56 13 C Roger.

GUAYMAS

04 04 04 01 CC Gemini-5, Guaymas CAP COM.

04 04 04 04 C Go ahead, Guaymas, Gemini-5.

04 04 04 09 CC How are you doing?

04 04 04 10 C Roger. Doing fine.

04 04 04 13 CC Okay. You are looking good here on the ground. I'd like a readout of your OAMS propellant quantity, pressure and temperature, please.

04 04 04 18 C Roger. OAMS propellant quantity is 20 percent. Temperature is 75 degrees, and pressure is 100 and--1350.

04 04 04 45 CC Say again the pressure.

04 04 04 47 C 1350.

CONFIDENTIAL

CONFIDENTIAL

399

04 04 04 49 CC Roger. I copy that. Thank you. I will be standing by if you need anything else.

04 04 04 54 C Okay, fine. Thank you.

TEXAS

04 04 07 10 CC Gemini-5, Gemini-5, Houston.

04 04 07 13 C Roger, Houston. Gemini-5. Go ahead.

04 04 07 16 CC Roger. I have some information here for you that I'd like to read up to you. One is the map and star updates. Ready to copy?

04 04 07 25 C Wait one second here and we will be.

04 04 07 27 CC Okay. While you're getting ready, I've got some questions. Can you tell me if the Command Pilot is doing the M-9 with the left or the right eyepiece?

04 04 07 37 C With the right eyepiece.

04 04 07 39 CC Okay. I'd also like to know if each pilot is getting five readings when you do the M-9 experiment.

04 04 07 50 CC Okay.

04 04 07 53 C They've always been the same.

04 04 07 54 CC Okay. Have you been able to get successive S-6 pictures on successive passes over the same particular piece of weather?

04 04 08 07 C There are two or three times when we have.

04 04 08 10 CC Very good.

04 04 08 14 CC Can you give us a film and voice tape report on what you have taken and what you have left?

04 04 08 23 C We've got lots of voice tapes yet. We haven't used much of it. We're on our fifth voice cartridge now of tape.

CONFIDENTIAL

CONFIDENTIAL

04 04 08 35 CC You say you have 10 left?

04 04 08 37 C We have 18 left.

04 04 08 39 CC 18 left. Roger.

04 04 08 41 P You've taken 2-F.

04 04 08 45 C We've used two full 70mm film magazines plus about one-third of another one.

04 04 08 56 P On the D-6 pictures on the 3401, we've probably taken 50 or 60 pictures now. I'd have to add it up. But that's the only one that we'd be low on. The 8443 we've got plenty left. Probably 55 pictures left, and on the 3401 I think we probably have 50 pictures left.

04 04 09 22 CC Okay. And you've taken two full 70mm film packs plus one-third of another one.

04 04 09 30 P That's correct. We completed S-1. We're still on our first 16mm camera package. We've got three of those left.

04 04 09 42 CC Okay. You've got three 16mm packs left.

04 04 09 49 C We've got a question for you.

04 04 09 50 CC Okay.

04 04 09 51 C We're in the middle of this HF Test now and the write-up of the HF Test calls to be stabilized in Horizon Scan.

04 04 10 01 CC Roger.

04 04 10 02 C Is it desirous to use our last horizon scanner for an HF pass like this?

04 04 10 08 CC 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.

04 04 10 20 C Okay.

CONFIDENTIAL

CONFIDENTIAL

401

04 04 10 28 CC Gemini-5, we'd also like to have you keep your power level down so that we don't use up too much of the reactants.

04 04 10 38 C Roger. We're completely powered down now.

04 04 10 42 CC Okay, very good.

04 04 10 48 P We're ready for the map update.

04 04 10 50 CC Okay. 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. The star update is 0:16:41.

04 04 11 26 P Roger on the star update.

04 04 11 28 CC Okay. Dr. Berry would like to talk to you here for a couple of minutes.

04 04 11 32 CC 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're seeing down here, it looks really excellent. All the rates and the pressures are still well within normal ranges; no abnormal changes at all. We think you're 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're going to try and help with that. Are you still comfortable as far as the spacecraft is concerned or are you having any more times when you feel cool?

04 04 12 13 C Every time we are powered down at night it gets pretty cool in here, but we'll overcome that some way.

04 04 12 20 CC Very good. Listen, Pete, we have checked on this cuff business and we feel that you 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're having with the cuffs, you may try and remove those cuffs, if you think you can do it. It's up to you.

CONFIDENTIAL

CONFIDENTIAL

- 04 04 12 51 P Okay. I'm going to try and take them off because when the heat load is up you 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.
- 04 04 13 04 CC That's right, Pete, and I think you ought to--if you are going to--you can cut--feel free to cut through the cuffs if you want. Just be careful when you're using the scissors there.
- 04 04 13 16 P 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.
- 04 04 13 23 CC Okay, fine. Well, 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 some comparison with the four days that we've had.
- 04 04 13 36 P Okay, sorry it has run out of air. We heard it running two or three times back during test time and told them about it. Nobody seemed to pay much attention to it, so I guess it's been leaking now.
- 04 04 13 47 CC Oh boy. We need a new gas supply. You might breathe on it awhile.
- 04 04 13 58 C Are you still there, Chuck?
- 04 04 14 00 CC Yes sir.
- 04 04 14 02 C One of the problems on this sleep cycle here that--some of our sleep cycles have been falling during the normal East Coast daytime cycle.
- 04 04 14 14 CC Roger. Okay.
- 04 04 14 16 C ... sleepy then. We were a little bit--you know, you just don't go to sleep very easily then. Whereas during the Cape nighttime cycle, we always seem to get sleepy.
- 04 04 14 27 CC Okay. Are you doing better with these nap times

CONFIDENTIAL

CONFIDENTIAL

403

now, Gordo, as the days go on? Is it easier to go to sleep during the nap periods or not?

- 04 04 14 36 C Oh, I don't think we've ever had trouble with the nap period. We power down for those periods of 30 or 40 minutes several times during the day and get little naps, but for the long sleep periods we really had trouble getting any length--you know, lengthy sleep.
- 04 04 14 50 CC 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.
- 04 04 15 04 C Yes, well that was the big thing. On the longer sleep period there are just too many interferences where you just couldn't settle down and sleep.
- 04 04 15 13 CC I think we've got that squared away now, Gordo.
- 04 04 15 15 C Okay. Real fine.
- 04 04 15 19 P We still look good up here. No problems.
- 04 04 15 23 CC Very good. We're going to keep it that way for the rest of the time now.
- 04 04 15 28 C We feel lots better since we got our suits off, but ...
- 04 04 15 34 CC Which suit?
- 04 04 15 44 CC You want to check my pulse rate?
- 04 04 15 51 CC Gordo, tell Pete about ...
- 04 04 15 53 C Yes.

HAWAII

- 04 05 27 16 CC Gemini-5, Hawaii CAP COM.
- 04 05 27 18 C Go ahead, Hawaii, Gemini-5.
- 04 05 27 20 CC Roger. All systems look good. We'd like a list

CONFIDENTIAL

CONFIDENTIAL

of experiments that you have completed today.
We'd like you to relay them to Guaymas.

04 05 27 30 C Okay.

04 05 27 31 CC And if you don't get all of them to Guaymas, you can relay them to the CSQ on the next revolution.

04 05 27 37 C Okay, fine.

04 05 27 54 C Hawaii, Gemini-5 here.

04 05 27 57 CC Go ahead.

04 05 27 58 C Roger. We completed all the experiments that were assigned for today except one portion of 410 Charlie, D-5/D-7, 410 Charlie.

04 05 28 11 CC Roger.

04 05 28 12 C ... were deleted by the time we got there for one reason or another. Due to weather.

04 05 28 18 CC Okay.

04 05 28 19 C All that were assigned, we completed.

04 05 28 21 CC Okay.

GUAYMAS

04 05 37 33 CC Gemini-5, Guaymas CAP COM.

04 05 37 37 C Go ahead, Guaymas, Gemini-5.

04 05 37 39 CC Okay, you're looking good here on the ground. How are you doing?

04 05 37 41 C Roger. Doing fine; everything is Green here.

04 05 37 43 CC Okay, I'd like the amount of time left on your D-4/D-7 experiment recorder.

04 05 37 58 C Stand by just one minute.

04 05 38 00 CC Okay.

CONFIDENTIAL

CONFIDENTIAL

405

04 05 38 13 C Roger. 16 minutes time left on it.

04 05 38 16 CC What did you say, 16 minutes, Gordo?

04 05 38 19 C That's affirmative.

04 05 38 20 CC Okay, did you complete D-6 134-08, and the time on that was 04:11:55:55?

04 05 38 34 C What was the time on that again?

04 05 38 35 CC Okay, it was the 4th day, 11:55:55.

04 05 38 52 C Okay, let me look it up in our D-6 log. I have it here that we did, but let me doublecheck it.

04 05 38 56 CC Okay.

04 05 39 36 C Negative, we didn't; we didn't complete that one.

04 05 39 40 CC Okay, thanks very much.

04 05 39 50 C Just a minute - we did get 134, though, 15:04:40, and the 4th day.

04 05 39 59 CC On the 4th day, all right.

04 05 40 12 C We didn't get it first time but we got it today.

04 05 40 15 CC Say again.

04 05 40 17 C We didn't get that one the first time, but we did get it today.

04 05 40 20 CC Okay.

COASTAL SENTRY QUEBEC

04 06 42 28 CC Gemini-5, CSQ CAP COM.

04 06 42 33 C Roger, CSQ, Gemini-5. Read you loud and clear.

04 06 42 37 CC Roger. ... GO on the ground and I have some information on a tropical storm that they'd like you to look at. Over.

CONFIDENTIAL

CONFIDENTIAL

04 06 42 44 C Okay. We're GO here. Just a minute, let me get my ... copy.

04 06 43 42 C Okay, we're here. Ready to copy.

04 06 43 45 CC Roger. Weather Bureau estimates tropical storm Doreen 200, that's 200 nautical miles left of course SEF. Closest approach time 21:09:19. They would like to know the time and distance to the eye of the storm when you estimate that you are at closest approach. Over.

04 06 44 19 C Okay. The time ... estimated distance to the eye of the storm. Is that affirmative?

04 06 44 26 CC Roger. They'd like the time and the estimated distance. Over.

04 06 44 30 C Okay, fine.

04 06 44 50 C Okay, I've got that.

04 06 44 52 CC CSQ.

04 06 44 55 C ...

04 06 45 18 C Was there anything else, CSQ?

04 06 45 21 CC CSQ has nothing further. We're standing by.

04 06 45 24 C Okay, fine. Thank you.

04 06 46 01 CC Gemini-5, CSQ.

04 06 46 04 C Go ahead, CSQ.

04 06 46 06 CC Roger. You can open your OAMS Heater circuit breaker now.

04 06 46 10 C Okay. Open OAMS Heater circuit breaker.

04 06 46 13 CC Be advised that you are showing up visually, bright and clear again today.

04 06 46 18 C Roger. Very good.

04 06 46 28 C Roger. OAMS Heater circuit breaker is open already.

CONFIDENTIAL

CONFIDENTIAL

407

04 06 46 33 CC CSQ, Roger.
04 06 47 00 C ... over you on that pass.
04 06 47 04 CC Say again, please.
04 06 47 06 C Did we come directly over you on that pass?
04 06 47 08 CC 60 degrees elevation angle.
04 06 47 11 C Roger.

HAWAII

04 07 01 01 CC Gemini-5, Hawaii CAP COM.
04 07 01 04 C Go ahead, Hawaii, Gemini-5.
04 07 01 06 CC Roger. All systems are GO.
04 07 01 09 C Roger. It's good up here.
04 07 02 09 CC I've got a map and star update for you when you're ready to copy.
04 07 02 14 C Okay. Go ahead.
04 07 02 16 CC Time is 22:04:19.
04 07 02 21 C Okay.
04 07 02 23 CC Under Remarks, 65.5 degrees east longitude. Revolution 66.
04 07 02 32 C Okay.
04 07 02 33 CC The stars are the same time under Remarks 00:04:23.
04 07 02 43 C Roger. I've got that.
04 07 02 47 C Thank you very much.
04 07 02 49 CC Roger.

ROSE KNOT VICTOR

04 07 23 11 CC Gemini-5, RKV CAP COM.

CONFIDENTIAL

CONFIDENTIAL

04 07 23 14 C RKV, Gemini-5.

04 07 23 17 CC Roger. We'd like to get your estimate of the time of closest approach and the distance to the eye of the storm Doreen.

04 07 23 25 C Roger. I estimate the eye of the storm was 250 nautical miles to the left of our course. At the time of closest approach it was 21:09:30.

04 07 23 40 CC Roger. I copy.

04 07 23 42 C And pass on to MCC that I got both S-7 photographs and Weather Bureau photographs of it. Over.

04 07 23 51 CC Roger. I understand.

04 07 24 04 CC Gemini-5, we'd like for you to cycle through your Quantity Read Switch. You don't need to give us the spacecraft readout.

04 07 24 11 C Okay.

04 07 24 25 CC Hold it on this one for a moment.

04 07 24 27 C All right.

04 07 24 49 CC Okay. Fuel Cell Hydrogen.

04 07 25 10 CC Gemini-5, you may turn the switch to the OFF position.

04 07 25 16 CC Thank you.

04 07 25 17 C Roger.

04 07 25 21 CC All systems look real good here on the ground. We have nothing else for you this pass. We'll be standing by.

04 07 25 27 C Okay, fine. How's your weather doing?

04 07 25 29 CC It looks real good down here. The seas are real calm and clear.

04 07 25 33 C Good.

CONFIDENTIAL

CONFIDENTIAL

409

COASTAL SENTRY QUEBEC

04 08 18 04 CC Gemini-5, CSQ CAP COM.
04 08 18 08 P This is Gemini-5. Go ahead, CSQ.
04 08 18 11 CC Roger. We have you GO on the ground, and we'd like to remind you that you have a Cabin Lighting Survey at Hawaii at heads-up attitude.
04 08 18 21 P This is Gemini-5, Roger. We're GO up here.
04 08 18 26 CC CSQ has nothing further. We're standing by.
04 08 18 29 P ...

HAWAII

04 08 36 10 CC Gemini-5, Hawaii CAP COM.
04 08 36 14 P Hello, Hawaii CAP COM, Gemini-5. Go.
04 08 36 17 CC Roger. We've got you Green from the ground. How are you doing?
04 00 36 21 P Green up here.
04 08 36 48 CC Would you cycle your Quantity Read Switch to Fuel Cell O₂.
04 08 37 21 CC Fuel Cell H₂.
04 08 38 15 CC Be advised your orbit is 106.9 by 164.2 and your orbit lifetime is 14-1/2 days from now.
04 08 38 27 P Get serious.
04 08 38 33 P Roger. Give me the--what was it, 164--
04 08 38 36 CC It was 106.9 by 164.2.
04 08 38 44 P Okay. Thank you.
04 08 38 57 P How's the weather down there today?
04 08 39 00 CC Real nice. The sun is shining.

CONFIDENTIAL

410

CONFIDENTIAL

04 08 39 03 CC Real nice. The sun is shining.
04 08 39 06 P We haven't been able to pick up the islands yet.
We're drifting slightly.
04 08 39 14 CC How are you doing on that Cabin Lighting Survey?
04 08 39 16 P Okay. I'm working on it right now.

ROSE KNOT VICTOR

04 08 56 58 P ...
04 08 57 00 CC Roger. We have nothing for you this pass. All
systems look good on the ground.
04 08 57 05 P Okay. Want us to go through the ... read for you,
or do you need it?
04 08 57 11 CC Negative. I don't believe we need it this time.
Thank you.

COASTAL SENTRY QUEBEC

04 09 53 49 CC Gemini-5, CSQ CAP COM.
04 09 53 53 C This is Gemini-5, go ahead CSQ.
04 09 53 57 CC Roger. We have you go on the ground and we'd like
to remind you that you have a medical data pass at
the RKV acquisition time 00:31:25. Do you copy?
04 09 54 11 C Roger.
04 09 54 19 CC CSQ has nothing further. Standing by.
04 09 57 03 C ...
04 09 57 13 CC Gemini-5, CSQ, you were not readable, say again.
04 09 57 17 C Roger, I just said we're getting a good look at
Japan right now. It's some of the best weather
we've ever had.
04 09 57 25 CC Roger. Copy.
04 09 57 27 C It's very pretty down there.

CONFIDENTIAL

CONFIDENTIAL

411

HAWAII

04 10 10 45 CC Gemini-5, Hawaii CAP COM.

04 10 10 50 C Hello, Hawaii, Gemini-5, go ahead.

04 10 10 53 CC Roger. Would you give me a readout on ECS O₂ tank temperature please?

04 10 11 04 C Roger. ECS O₂, I don't have a temperature.

04 10 11 15 CC Roger.

04 10 11 18 P Would you check and find out when our next fuel cell purge is due please?

04 10 11 27 CC 01:00:00, you won't be over a site.

04 10 11 33 P Say again.

04 10 11 34 CC 01:00:00, purge Sections 1 and 2; you won't be over a site.

04 10 11 42 P Okay.

04 10 11 56 P You want FC O₂ and FC H₂?

04 10 12 02 CC Negative.

04 10 12 59 CC Would you confirm your ECS O₂ heater circuit breaker is off, or switch is off.

04 10 13 07 P Roger. It's off.

04 10 13 08 CC Okay.

04 10 13 09 C It's venting, it looks like.

04 10 13 24 CC We're about a minute from LOS.

04 10 13 27 P Roger. We're Green here.

04 10 13 29 CC Roger.

ROSE KNOT VICTOR

03 10 31 40 CC Gemini-5, this is RKV. We have a valid temperature.

CONFIDENTIAL

CONFIDENTIAL

Standing by for your blood pressure.

04 10 32 13 CC Gemini-5, this is RKV Surgeon. Your cuff is full-scale.

04 10 32 35 CC Gemini-5, RKV Surgeon. We have a good pressure. Give me a mark when you start your exercise, please.

04 10 32 42 P Stand by. MARK.

04 10 33 26 CC Gemini-5, RKV Surgeon. Your cuff is full-scale.

04 10 34 10 CC Gemini-5, RKV Surgeon. We have a good blood pressure. Standing by for your water report.

04 10 34 20 P 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 1C at 04:22:00:00 plus some extra goodies we had left lying around.

04 10 34 45 CC That was Meal 1C?

04 10 34 47 P That's affirmative.

04 10 34 49 CC Roger, thank you, and back to our CAP COM.

04 10 34 54 CC Gemini-5, this is RKV CAP COM. All systems are good on the ground.

04 10 34 58 C Gemini-5, GO up here.

04 10 35 00 CC Roger.

COASTAL SENTRY QUEBEC

04 11 27 39 CC Gemini-5, CSQ CAP COM.

04 11 27 42 P CSQ, Gemini-5. We hear you loud and clear. Our status is Green.

04 11 27 47 CC Roger. We have you GO on the ground also. I have a map update. Are you ready to copy?

04 11 27 56 P Ready to copy.

04 11 27 58 CC Roger. Map 02:32:13. Longitude 3 degrees west,

CONFIDENTIAL

CONFIDENTIAL

413

Rev 69, Star 02:32:13, 00-36-00.

04 11 28 35 P Roger.
04 11 28 37 CC Also be advised that the RKV Pass 68 will be UHF
6 pass. Over.
04 11 28 48 P Roger.
04 11 28 56 CC Gemini-5, I'd like to get a fuel cell purge status
when you have time.
04 11 29 01 P Roger. We were purged at 01:00.
04 11 29 07 CC Copy.
04 11 29 15 CC CSQ has nothing further. Standing by.
04 11 29 19 P This is Gemini-5. Standing by.

ROSE KNOT VICTOR

04 12 07 02 CC Gemini-5, RKV CAP COM. Comm check, how do you
read?
04 12 07 05 C Roger. I read you loud and clear. We're very
fine here.
04 12 07 08 CC Roger. All systems are GO on the ground. I have
some landing area update for you.
04 12 07 14 C Okay. Stand by one.
04 12 07 31 C Okay, ready to copy.
04 12 07 33 CC Roger. For this update all bank angles will remain
the same; that is roll left 51, roll right 59.
04 12 07 41 C Okay.
04 12 07 42 CC 71 Delta, 05:15:56, 17 plus 39, 22 plus 17. 72-2,
06:52:39, 15 plus 51, 20 plus 41. 73-2, 08:28:11,
14 plus 25, 19 plus 25. 74-1, 09:51:11, 15 plus 56,
20 plus 50. 75-1, 11:26:35, 14 plus 31, 19 plus 33.
Do you copy?

CONFIDENTIAL

CONFIDENTIAL

04 12 09 10 P Roger. Would you give me the GMTTC on 73-2 again please?

04 12 09 19 CC Roger. 73-2, 08:28:11.

04 12 09 26 P Roger. We copy.

04 12 09 28 CC Roger. The weather is good in all areas.

04 12 09 30 C Roger. Very good.

04 12 09 33 CC 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.

04 12 09 42 C Roger.

04 12 09 44 CC 03:01:07.

04 12 09 50 C Roger. 03:01:07.

04 12 09 53 CC Roger.

04 12 10 08 P RKV, Gemini-5.

04 12 10 11 CC Go ahead.

04 12 10 12 P We just had one of our more spectacular sights of our flight. Coming into the sunset just before you acquired us, either our cryo-hydrogen or our cryo-oxygen tank vented, and of course it all froze when it came out, and it looked like we had seven million stars passing by the window. It was really quite a sight.

04 12 10 37 CC Roger. Did you recognize any of the stars?

04 12 10 41 P ...

04 12 10 43 CC Roger. I copy.

04 12 11 11 CC Gemini-5, RKV. We have just received your tape dump.

04 12 11 15 C Roger. Very good.

04 12 11 19 C Everything looks good here.

CONFIDENTIAL

CONFIDENTIAL

415

04 12 11 21 CC Roger. We have about 1 minute before LOS. We'll be standing by.

04 12 11 26 C Gemini-5, standing by. Thank you.

04 12 11 29 CC You're welcome. Over and out.

HOUSTON, TEXAS

04 13 03 45 CC Gemini-5, CSQ. We have a valid temperature and have you GO on the ground. Standing by for blood pressure.

04 13 04 07 CC Gemini-5, we have cuff at full-scale.

04 13 04 44 CC Gemini-5, we have a valid blood pressure. Give me a mark when you start to exercise.

04 13 04 50 P Starting exercise. MARK.

04 13 05 22 P ... exercise.

04 13 05 29 CC Gemini-5, your cuff is full-scale.

04 13 06 04 CC Gemini-5, this is the--we have a valid blood pressure. Standing by for your sick report.

04 13 06 12 P Roger. I have ...

04 13 06 18 CC Gemini-5, Houston Surgeon. We meant your water report.

04 13 06 23 P Roger. 24 pounds 6 ounces.

04 13 06 26 CC Roger.

04 13 06 29 P And I had Meal 1C 04:22:00:00.

04 13 06 42 CC Roger.

04 13 06 48 P ...

04 13 06 50 CC Gemini-5, CSQ. Negative and we have nothing further. Standing by.

04 13 06 54 P Okay, fine. Thank you.

CONFIDENTIAL

CONFIDENTIAL

ROSE KNOT VICTOR

04 13 41 31 CC Gemini-5, RKV. Comm check. How do you read?

04 13 41 36 P Gemini-5, reading you loud and clear.

04 13 41 38 CC Roger. All systems are GO on the ground. I have a tracking pass update for you.

04 13 41 42 P Roger. Stand by one.

04 13 41 54 P Okay. Go.

04 13 41 56 CC Cabin lighting 04:30:00, nominal; S-7, 04:39:56, Sequence 01. MSC-1, 05:40:00, nominal. Apollo Landmark 07:14:27. Sequence 207. Pitch 30 down. Yaw 3 right. Do you copy?

04 13 43 16 P Roger. Got that.

04 13 43 19 CC That's it. We'll be standing by.

04 13 43 21 P Okay, fine. Thank you very much.

COASTAL SENTRY QUEBEC

04 14 36 26 CC Gemini-5, CSQ.

04 14 36 34 P CSQ, Gemini-5.

04 14 36 37 CC Roger, we'd like for you to cycle your Cryogenic Quantity Readout Switch through the positions, please, for about 10 seconds in each position, and we would also like to get your onboard readout.

04 14 36 54 P ... onboard readout ...

04 14 36 57 CC That's affirmative, CSQ.

04 14 37 07 P Roger. ECS O₂ is 81 percent, 850 psia.

04 14 37 16 CC Copy.

04 14 37 20 P Fuel Cell O₂ 83 percent and 130 psia.

04 14 37 29 CC Copy.

04 14 37 37 P Fuel Cell Hydrogen 55 from--stayed under 55 percent, 780 psia.

CONFIDENTIAL

CONFIDENTIAL

417

04 14 37 51 CC CSQ here copies.

04 14 37 54 CC Houston would also like to know if you have purged the fuel cells between the CSQ and the RKV on the last LOS.

04 14 38 03 P ... time, fuel cells were purged at 01:00.

04 14 38 14 CC Roger. Understand that is one end of Flight Plan between CSQ and RKV they thought you might have picked up without being notified to do.

04 14 38 23 P Negative.

04 14 38 24 CC Roger.

04 14 38 28 P We did, however, notice the shorter CSQ last time. The jets going into flight ... very large and out of planning. We checked the pressures and it appeared to be the ECS O₂ which was up to very high vent pressure.

04 14 38 46 CC Roger. Copy.

04 14 39 05 CC Houston would also like to know if the running report over the RKV in last revolution looked like 068, if it looked like a lot of stars, when it looked like a lot of stars. Was that at sunset or sunrise after the purge?

04 14 39 23 P That was just at sunset and not any time at all during ... purge and what it appeared to be that we had just had a very large amount of venting going on back there, and we assumed that it was the ECS O₂. They looked like a lot of swallows ...

04 14 39 50 CC Roger. That's the same one you reported previously, right?

04 14 39 54 P Roger. ... we haven't seen it since.

04 14 39 56 CC Roger, copy.

04 14 42 04 CC Gemini-5, CSQ has nothing further. Standing by.

04 14 42 08 P Okay. Fine. Thank you.

CONFIDENTIAL

CONFIDENTIAL

04 15 16 23 CC Roger. All systems look good here on the ground.
 04 15 16 26 P Okay. All fine here. Thank you.
 04 15 16 28 CC Roger. We'll be standing by.
 04 15 16 30 P All right.

ROSE KNOT VICTOR

04 15 16 04 CC ... COM.
 04 15 16 05 C Go ahead, RKV, Gemini-5.
 04 15 16 08 CC Roger. I have a reminder for you to do the
 S-8/D-13 01 and 02 when the Pilot awakes on Rev 73.
 04 15 16 21 C Roger. Will do.

CANARY ISLANDS

04 15 38 27 CC Gemini-5, this is Canary CAP COM. We have nothing
 for you. Everything looks good on the ground;
 we're standing by.
 04 15 38 36 C Roger, Canary. Thank you very much. Everything
 looks good up here.
 04 15 38 41 CC Roger.
 04 15 38 53 P Gemini-5 is putting the Acq-Aid Beacon off one
 minute; purge MSC-1 experiment.
 04 15 38 59 CC Roger, Gemini-5.

ROSE KNOT VICTOR

04 16 51 53 CC RKV CAP COM.
 04 16 51 56 C RKV, Gemini-5. Go ahead.
 04 16 51 59 CC Roger. We don't have anything special for you this
 pass. All systems look good here on the ground.
 04 16 52 05 C Okay. Gemini-5. Everything looks good here.
 04 16 52 12 CC Have you had any indications of venting since the

CONFIDENTIAL

CONFIDENTIAL

419

last time you reported it?

04 16 52 18 C Negative. We haven't had any visual signs of it. We had had a few little indications in the yaw, been yawed off ... some venting perhaps earlier.

04 16 52 31 CC Roger. I understand.

04 16 52 40 C When we get our rates killed down without ever putting ... I mean they keep building every now and then so I think it's varying a little.

04 16 52 50 CC Roger. I understand.

04 16 55 32 CC Gemini-5, RKV CAP COM. We have about 2 minutes before LOS. All systems are good. We'll be standing by.

04 16 55 38 CC Roger.

04 16 55 39 C Okay, fine. Thank you.

CANARY

04 17 13 12 CC Gemini-5, this is Canary CAP COM. We are having a tape dump at this time. Everything looks good on the ground. We are standing by. We have nothing else for you.

04 17 13 22 C Okay, fine. We're just ... Apollo Landmark there over Canary.

04 17 13 30 CC Canary, Roger.

04 17 14 09 C We have the island in sight. Approximately straight overhead in about 20 seconds.

04 17 14 20 CC Roger.

04 17 15 52 C We're straight overhead.

04 17 15 56 CC Canary, Roger.

CARNARVON

04 17 50 01 CC Gemini-5, Carnarvon, we have nothing for you this pass. Standing by.

CONFIDENTIAL

CONFIDENTIAL

04 17 50 08 C Gemini-5 ... Green here.

HOUSTON

04 18 34 44 CC Gemini-5, Houston CAP COM.

04 18 34 50 CC Gemini-5, Gemini-5, Houston CAP COM.

04 18 35 13 CC Gemini-5, Houston CAP COM.

04 18 35 17 C Roger, Houston CAP COM.

04 18 35 20 CC Hello there; we'd like to give you some instructions for Radar Test 10, Gordo.

04 18 35 32 C Say again.

04 18 35 33 CC I'd like to give you some instructions for Radar Test 10. Are you ready to copy?

04 18 35 41 C Roger. Wait one second and we will be.

04 18 35 49 C Go ahead.

04 18 35 52 CC Configuration - same as 8 plus following: Computer RENDEZVOUS, MDIU address 69, Rate Gyros ON, Scanners SECONDARY, Questar Mode 01, speed 60 ground, speed 30 stars. Copy so far?

04 18 36 30 P No, you're fading in and out - start over.

04 18 36 35 CC Okay. Configuration - same as 8 plus Computer RENDEZVOUS, MDIU address 69, Rate Gyros ON, Scanners SECONDARY, Questar Mode 01, speed 60 ground, speed 30 stars. You copy that time?

04 18 37 20 CC Gemini-5, did you copy that time?

04 18 37 21 P After Questar Mode 01, speed 60, you faded.

04 18 37 27 CC Roger. Speed 60 ground, speed 30 stars.

04 18 37 33 P You faded again. Say again.

04 18 37 37 CC Questar Mode 01, speed 60 ground, speed 30 stars. Copy that time, Pete?

CONFIDENTIAL

CONFIDENTIAL

421

04 18 37 53 P Yes, speed 60 ground, 30 stars.

04 18 37 56 CC Roger. Procedure, read out 69 until it updates, then switch to CATCH UP for 5 seconds and back to RENDEZVOUS. Copy okay?

04 18 38 16 P Yes.

04 18 38 17 CC Repeat throughout pass. If 69 readouts are bad, Radar - STANDBY for 1 second, then ON. Copy okay?

04 18 38 37 C Let's see, if the readouts are bad, switch to STANDBY for 1 second and then back ON. Let me write it down.

04 18 38 54 CC Ready for more?

04 18 38 58 P Go ahead, just a minute.

04 18 39 08 P All right.

04 18 39 10 CC Take four photos of ground when radar is bore-sighted. Okay?

04 18 39 23 P Take four photos of ground when radar is bore-sighted.

04 18 39 26 CC Roger. Aline platform before next dark. During alinement Computer CATCH UP and operate radar in both ON and STANDBY. Copy okay?

04 18 39 51 P Okay.

04 18 39 54 CC That's just to check it, to get some data points; you won't actually be locking on anything. Okay, further instructions. Point at ... Australis - that's near your zenith - and take one photo. Copy okay?

04 18 40 21 C Point at ... Australis and take one photo?

04 18 40 25 CC That's correct. This is just after you get in the dark.

04 18 40 27 CC Point at Canopus and take one photo.

04 18 40 36 C Point at Canopus and take one photo?

CONFIDENTIAL

CONFIDENTIAL

- 04 18 40 38 CC Roger. And this test should finish up our requirements on the Radar Test program, we hope.
- 04 18 40 48 C Okay, this is the next night side after the one we're in. Is that affirm?
- 04 18 40 52 CC Next night side after what?
- 04 18 40 55 C I said, that's the next night side when we do that?
- 04 18 40 58 CC Right following the Radar Test - that's correct. You'll get an update on when to do the Radar Test.
- 04 18 41 07 C Okay, will we get an update on when to bring on our platform and radar, etc.?
- 04 18 41 14 CC That's correct; that'll be in your Carnarvon update later on today.
- 04 18 41 21 C Oh, okay.
- 04 18 41 22 CC Looks like we may lose LOS here pretty quick. I've got a couple other quick questions. On this rendezvous illumination test that was sent up to you, I think it was probably pretty lengthy. I'd like to boil that down to a much, much simpler test. And do you think you could do something like that for us in a leisure time - we'll schedule it ahead next day or so - a leisure time and do it without the platform. This would be to get some visual sighting type data or feasibility of a star background for GT-6 type operation.
- 04 18 42 03 P Yes, we'll really have difficulty doing it without a platform. We're venting fairly badly, at least venting enough that it keeps setting up rates on us while, you know, while we're just drifting.
- 04 18 42 21 CC Roger.
- 04 18 42 23 C I think we probably wouldn't be getting anything worthwhile in that type thing; we're going to need a platform to tell where we're at with, you know, to be able to damp the rates.

CONFIDENTIAL

CONFIDENTIAL

423

- 04 18 42 33 CC I see; well, we'll see how that works out. I'm going to try to write out a very simple procedure tonight and we'll be getting back with you on that one.
- 04 18 42 41 C Okay, at least I think we'll need the rate gyro with the needles on that, if not on the platform.
- 04 18 42 47 CC Okay, that's a good point. Another quick comment - we'll probably lose you very quickly here - the water storage capacity is still in question. We're still working on that one.
- 04 19 42 59 C On the hydrogen and oxygen?
- 04 18 43 02 CC No, on the water storage capacity.

CANARY

- 04 18 47 01 CC Gemini-5, this is Canary CAP COM.
- 04 18 47 05 C Go ahead, Canary, Gemini-5.
- 04 18 47 08 CC Roger, Gemini-5, if the Pilot is awake, we would like to do a purge.
- 04 18 47 15 C All right.
- 04 18 47 16 CC Okay, we'd like to start out with the Quantity readings first. We'll need about 15 seconds in each position.
- 04 18 47 23 C Okay, ECS O₂.
- 04 18 47 25 CC Roger. Would you give me a readout?
- 04 18 47 31 CC We'd like a spacecraft readout on these quantities.
- 04 18 47 34 C Roger. We're reading 80 percent quantity, and we're reading 845 psia.
- 04 18 47 44 CC Roger.
- 04 18 47 46 C Fuel Cell O₂, we're reading 88 percent; we're reading 140 psia.
- 04 18 48 00 CC Okay.

CONFIDENTIAL

CONFIDENTIAL

04 18 48 04 C Fuel Cell Hydrogen, we're reading 52 percent; and we're reading 770 psia.

04 18 48 18 CC Roger.

04 18 48 29 CC Okay, we're ready for your purge.

04 18 49 02 P Stand by for hydrogen on Cell 1 - on my mark - MARK. Complete, stand by for hydrogen on Cell 2 - MARK.

04 18 49 12 P Okay, complete with hydrogen on Section 1.

04 18 49 20 P Starting the oxygen on Section 1, starting now.

04 18 49 39 CC Okay, while you're 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 it's progressing approximately normal.

04 18 51 25 P The Section 1 oxygen purge complete - starting Section 2.

04 18 51 31 CC Roger, Gemini-5. While you're making this purge, Flight advises that they are keeping an eye on fuel cell water production. Should have a good hack on it within the next day. Everything appears to be normal on it.

04 18 53 31 P Section 2 oxygen purge complete, crossover valve OFF.

04 18 53 36 CC Roger. Would you switch to Fuel Cell H₂ please?

04 18 53 56 CC Roger. We're about to have LOS here, Gemini-5. Thank you. You can go back to the normal.

04 18 54 02 P Roger.

CARNARVON

04 19 21 26 C Gemini-5, Carnarvon. We have a valid oral temp. Stand by for Surgeon.

04 19 21 42 CC Gemini-5, this is Carnarvon Surgeon. We're standing by for your first blood pressure.

CONFIDENTIAL

CONFIDENTIAL

425

04 19 21 51 CC Cuff full-scale.

04 19 22 31 CC Gemini-5, we have a good blood pressure. Will you give us a mark when you begin your exercise?

04 19 22 37 P Stand by. MARK.

04 19 23 24 CC Cuff is full-scale.

04 19 23 56 CC We have a good blood pressure, Gemini-5. Would you give us your water and sleep report, please?

04 19 24 07 P Roger. The Pilot's water is 24 pounds. The last meal was 3B 05:09:00:00, and I slept about 4-1/2 hours.

04 19 24 29 CC Roger. Copy that. Thank you, Gemini-5. Carnarvon Surgeon out.

04 19 24 34 CC Gemini-5, Carnarvon CAP COM. We have a Flight Plan update. Will you prepare to copy?

04 19 24 38 C ... to copy.

04 19 24 42 CC Are you ready to go?

04 19 24 43 C Ready to copy.

04 19 24 44 CC Roger. Apollo Landmark. All these are on the 5th day. 10:25:02, Sequence No. 208, pitch down 30, yaw left 8 degrees. Next item S-5, Sierra 5, 10:27:00, Sequence No. 02. Next item D-4/D-7, 10:27:00, Sequence No. 414, do remarks or do while doing S-5. Next item platform, 10:50:00, Remarks, power up. Next item radar, 11:30:00, Remarks, radar on for warm-up. Next item platform, 11:20:00, Remarks, aline SEF. Next item map update, 11:27:52, Remarks, Rev 74, 140.1 degrees west, right ascension zero hours 24 minutes. Do you copy?

04 19 27 02 C Got it all.

04 19 27 03 CC Okay. Next item Radar Test, 11:43:41, Sequence No. 10, Remarks, pitch down 30, yaw right 23. Next item Delta-6, D-6, 12:05:16, Sequence No. 74, Mode 01, Remarks, pitch down 30, yaw right 19,

CONFIDENTIAL

CONFIDENTIAL

speed 60. Next item D-4/D-7, 12:05:16, Sequence No. 415. Next item platform, 12:15:00, Remarks, aline SEF. Do you copy?

04 19 28 42 C Affirmative.

04 19 28 43 CC Okay. Next item Radar Test, 12:34:20, Sequence No. 10, Remarks, star Cetus. Next item power down, 12:50:00, Remarks, radar, platform, rate gyros, and computer off. Do you copy?

04 19 29 35 P Affirmative.

04 19 29 36 CC Okay, we've got about 20 seconds to LOS. We'll get the rest of this up to you on our next pass.

04 19 29 42 P Roger.

04 19 29 43 CC Everything looks good down here. We're standing by.

04 19 29 46 P Great up here.

TEXAS

04 20 08 52 P Anybody read, Gemini-5?

04 20 08 58 CC Gemini-5, Houston.

04 20 09 00 P Oh, Houston, Gemini-5 here.

04 20 09 02 CC Hi. You look good on the ground. Got any questions? We're standing by.

04 20 09 06 P No, you got anything for us after 12:50:00?

04 20 09 10 CC Roger, but we thought we'd let you get into Carnarvon and get a little rest here.

04 20 09 15 P You guys are okay.

04 20 09 18 CC Good morning.

04 20 09 19 P Morning.

04 20 09 21 CC All set for another bright day?

CONFIDENTIAL

CONFIDENTIAL

427

04 20 09 24 P Oh, yes.

04 20 09 25 CC 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 it's coming along pretty well. Kind of tight but you got it there.

04 20 09 45 P Okay. We've been keeping track of it here and of course it has been going down pretty fast but we expected this.

04 20 09 53 CC That's right.

04 20 09 56 CC Pete, it looks like your tightest constraint is going to be the storage space for the water you produce.

04 20 10 05 P Okay.

04 20 10 07 CC How's that for a surprise?

04 20 10 10 P Nothing surprises me after lift-off.

04 20 10 21 CC Got any comments about the weather up north?

04 20 10 26 P We were talking about that. I don't know, we're going to take a look at it today.

04 20 10 36 CC Okay. Been trying to get this water system settled down to see just what our possibilities might be.

04 20 11 23 P Houston, have you--have the other stations been getting all our telemetry and everything all right? We've really built up rates, 2-1/2 to 3 degrees per minute here when this thing vents.

04 20 11 36 CC Yes, as far as I know they've all been getting good T/M.

04 20 11 40 P Okay.

04 20 11 47 CC Gemini, Houston here. We've had a little problem with the dump tape and we think maybe the tape's getting a little dirty but it's nothing significant.

CONFIDENTIAL

CONFIDENTIAL

04 20 12 15 P Yes, Gordo and I figure we've been up long enough now that, to set that ... on reentry to get brushed up.

04 20 12 21 CC We'll see if we can't work one in for you.

04 20 12 24 C Okay. Is this the real thing? I thought we were in the simulator all along.

04 20 12 39 CC Just pretend like you're in the simulator.

04 20 12 42 P That's what we've been doing.

04 20 12 53 CC Guess you know you've got about 3 hours to go here for a big event.

04 20 13 01 P Is that what it is? We didn't know exactly what the time was. Could you give us the GMT?

04 20 13 08 CC Yes, I think it's just about exactly 3 hours from now.

04 20 13 14 CC We'll get it for you.

BERMUDA

04 20 13 30 CC Gemini, Houston. The GMT is 13:06:00.

04 20 13 34 P Roger, we copy. 13:06:00. Thank you.

04 20 13 38 CC Do a couple rolls and a loop.

04 20 13 41 P We haven't got the fuel ...

04 20 13 47 C All we've been doing ... is rolling and rolling.

04 20 13 52 CC Very good.

04 20 14 12 P We sure passed a big milestone today. We got into the left-hand food box for the first time and didn't find any Christmas presents in the food.

04 20 14 22 CC Have you gone all the way through it yet?

04 20 14 25 P Say again.

04 20 14 26 CC Have you gone all the way through it yet?

CONFIDENTIAL

CONFIDENTIAL

429

04 20 14 29 C No, not yet.

04 20 14 31 CC Never know.

04 20 14 34 CC Have you been in the pouch under the right panel?

04 20 14 38 P Yes, we have, as a matter of fact.

04 20 14 40 C What do you think we've been wearing?

04 20 15 40 P Houston, do you still read us?

04 20 15 43 CC Roger.

04 20 15 45 P Could you give us the GMT counting, please?

04 20 15 47 CC Roger. In about 10 seconds it will be 10:16:00.
2, 1--

04 20 16 00 CC MARK.

04 20 16 04 P That's pretty good. I'm 2 seconds slow.

04 20 16 07 CC Oh, very good.

04 20 16 08 P Two seconds fast, I mean.

04 20 16 12 CC Roger, I understand.

CANARY

04 20 22 43 CC Gemini-5, this is Canary CAP COM. We have nothing for you this pass. You're looking good here on the ground.

04 20 22 48 C Roger, Canary, we read you.

CARNARVON

04 20 55 54 CC Gemini-5, Carnarvon CAP COM.

04 20 55 58 C Go ahead, Carnarvon, Gemini-5.

04 20 56 00 CC Okay, we have the rest of your Flight Plan update when you're ready to copy.

04 20 56 05 C Wait one.

CONFIDENTIAL

CONFIDENTIAL

04 20 56 15 P Fire away.

04 20 56 17 CC Roger, first item, Delta-6, D-6, 13:14:23.

04 20 56 26 P All right, Gemini-5, we're ready to copy.

04 20 56 29 CC Roger. First item is Delta-6, D-6, 13:14:23, Sequence No. 20.

04 20 56 43 P Just getting you.

04 20 56 44 CC Say again.

04 20 56 46 C I say, you're fading; we're just beginning to get you.

04 20 56 50 CC Roger, I'll start again with that first item. It's Delta-6, D-6, 13:14:23, Sequence No. 20, Mode No. 15, Remarks, pitch down 30, yaw left 6 degrees, speed 30. Are you copying okay now?

04 20 57 24 P Just fine, yes.

04 20 57 26 CC Okay, next item. Delta-6, D-6, 13:21:40, Sequence No. 53, Mode No. 15, Remarks, pitch down 30, yaw left 6 degrees, speed 60. Next item, Delta-6, D-6, 13:33:35, Sequence No. 66, Mode No. 15, Remarks, pitch down 30, yaw right 7 degrees, speed 60. Next item, D-4/D-7, 14:05:08, Sequence Nos. 410 Charlie and 407. Next item, D-4/D-7, 14:34:51, Sequence No. 425 Alpha, pitch down 30, yaw left 03. Next item, D-4/D-7, 14:46:46, Sequence No. 424 Baker, Mode No. 01, Remarks, pitch down 30, yaw left 4 degrees, speed 60.

04 21 00 13 P What was the speed on the D-4/D-7, 14:34:51?

04 21 00 17 CC Say again.

04 21 00 18 P Never mind, go ahead.

04 21 00 21 CC You got it okay?

04 21 00 22 P Yes.

04 21 00 24 CC Okay, on with the Remarks from this D-4/D-7 at

CONFIDENTIAL

CONFIDENTIAL

431

46:46. The test time is 14:47--Stand by one.

04 21 00 49 CC Okay, that test time is 14:47:41; duration is 8 seconds. Do you copy?

04 21 01 02 P Roger.

04 21 01 04 CC Okay, the next item is Delta-6, D-6, 14:55:40, Sequence No. 134, Mode No. 01, Remarks, pitch down 30, yaw 0, speed 60. Next item, Sierra-5, S-5, 15:19:48, Sequence No. 02. Next item, S-8/D-13, 16:22:50, Sequence No. 03, Remarks, pitch down 30, yaw right 33. Next item, S-7, Sierra-7, 16:26:50. Negative, that time is 16:26:54, Sequence No. 02, Remarks, pitch down 30, Key West area. Next item is Delta-6, 16:33:07, Sequence No. 055, Mode No. 01, pitch down 30, yaw right 1 degree, speed is 60. D-4/D-7, 16:32:59, Sequence No. 416. Do you copy?

04 21 03 31 P Yes, in other words, that's just before the D-6 you just gave me.

04 21 03 35 CC Right, that last one, the D-4/D-7--whoops, stand by--I've got a correction after that. I'll change that last one.

04 21 03 49 CC Okay, that last time is the same time as the D-6, 16:33:07.

04 21 03 57 CC Did you copy?

04 21 04 02 CC Did you copy?

04 21 04 03 P Affirmative, you got any more?

04 21 04 05 CC No, we're not going to have time for the PLA update. We'll catch you later.

04 21 04 10 P Okay.

04 21 04 13 CC Everything looks good here.

04 21 04 15 P It's GO here.

CONFIDENTIAL

CONFIDENTIAL

GUAYMAS

04 21 34 07 CC Gemini-5, Guaymas CAP COM, do you read? Turn you T/M Control Switch to the REAL TIME and ACQ-AID position.

04 21 34 47 CC Gemini-5, Guaymas CAP COM.

04 21 34 49 C Go ahead, Guaymas, Gemini-5.

04 21 34 51 CC Okay, how are you doing?

04 21 34 53 C Roger, just fine. We've got everything powered up.

04 21 34 56 CC Okay, you're looking good here on the ground. I've got a correction to your Flight Plan update and I've got some PLA updates. So let me know when you're ready to copy.

04 21 35 05 C Okay, wait a second.

04 21 35 33 C Okay, ready to copy.

04 21 35 35 CC Okay, the Flight Plan update is D-4/D-7, Sequence 424 Bravo; it was at the fifth day, 14:46:46. Change the time on that to the fifth day, 14:46:54.

04 21 35 59 C Okay.

04 21 36 01 CC Okay, the D-4/D-7, Sequence 415 on the fifth day, 12:05:16, add the Remarks column, recorder on for 3 minutes.

04 21 36 24 C All right.

04 21 36 25 CC Okay, I got your PLA's. Are you ready to copy?

04 21 36 28 C I'm ready.

04 21 36 30 CC Okay, the weather is good in all areas, the bank angle is roll left 51, and roll right 69 on all cases. Area 76-1, 13:01:53, 13 plus 15, 18 plus 27. 77-1, 14:37:31, 12 plus 09, 17 plus 40. 78-4, 17:24:26, 14 plus 27, 21 plus 13. 79-4, 18:59:42, 13 plus 11, 16 plus 00. 80-4, 20:34:29, 12 plus 12, 17 plus 43, over.

CONFIDENTIAL

CONFIDENTIAL

433

04 21 37 58 C Okay.
04 21 37 59 CC You got them all?
04 21 38 01 C Right.
04 21 38 02 CC Okay, that's it.
04 21 38 04 CC We'll stand by if you need anything.
04 21 38 06 C Okay, thank you.

BERMUDA

04 21 45 55 C Hello, Houston, Gemini-5.
04 21 45 57 CC Gemini-5, Houston, go.
04 21 45 59 C No joy, radar locked up, and the needles pointed and they pointed right at the Cape, but we never did get range reading, and I keep breaking lock and putting it back on and breaking lock and putting it back on, but we never got any range readings.
04 21 46 13 CC Roger, that's what we were afraid of. Okay, try and give the other part of the test a whirl when you get over to it.
04 21 46 21 C Okay.
04 21 49 27 CC Gemini,--Houston.
04 21 49 30 C Right, Houston, Gemini-5.
04 21 49 32 CC Roger. We got a correction to the correction in your D-4/D-7 at 12:05:16. We added recorder ON for 3 minutes to Remarks. We would like to delete that statement now. Copy?
04 21 49 48 C Okay.
04 21 49 51 CC Okay, and be advised your Canaries medical data acquisition time is 11:55:34.
04 21 50 04 C Okay.

CONFIDENTIAL

CONFIDENTIAL

04 21 50 15 CC And, Gemini-5, Houston, now you can place your T/M Switch to COMMAND, please.

04 21 50 30 CC Gemini, Houston.

04 21 50 32 C Roger, we got you.

04 21 50 34 CC Okay, fine, and thank you for the ECS O₂ readings.

04 21 50 39 C You're welcome.

CANARY ISLANDS

04 21 56 41 CC Gemini-5, this is Canary CAP COM. We have a valid oral temp; would you inflate your blood pressure cuff?

04 21 56 51 C Roger.

04 21 57 11 CC Gemini-5, reading your cuff full-scale.

04 21 57 43 CC Gemini-5, we have a good blood pressure. Give me a mark when you begin exercise.

04 21 57 49 C Starting my exercise, MARK.

04 21 58 22 C Ending exercise.

04 21 58 32 CC Gemini-5, Canary Surgeon, your cuff is full-scale.

04 21 59 12 CC Gemini-5, we have good blood pressure again. Standing by for your water, food and sleep report.

04 21 59 20 C Roger. I've now had 25 pounds 5 ounces of water. I had Meal 3B at 05:09:00:00; I had approximately 3-1/2 hours of sleep last night.

04 21 59 43 CC Roger, we read all that. Is that your total sleep for the past 24 hours? Over.

04 21 59 50 C No, just in the last night period.

04 21 59 57 CC Roger, Canary Surgeon again. Houston is asking if you can give us a total for the past 24 hours. Over.

04 22 00 04 C About 4-1/2 hours, I guess.

CONFIDENTIAL

CONFIDENTIAL

435

04 22 00 06 C Roger, we copy.

04 22 00 14 CC Okay, Gemini-5, we have nothing more for you. You're looking good here from the ground. We have about 2-1/2 minutes to go of pass time.

04 22 00 24 C Okay, real fine.

CARNARVON

04 22 31 39 CC Gemini-5, Carnarvon.

04 22 31 42 P Roger, Carnarvon, Gemini-5.

04 22 31 45 CC Roger. We'd like to have you place your Quantity Read Switch at ECS O₂.

04 22 31 50 P Roger. Carnarvon, are you ready to copy a little problem?

04 22 32 01 CC Go ahead.

04 22 32 02 P Roger. Our yaw left No. 7 OAMS attitude thruster is out.

04 22 32 12 CC Roger. I've got a continuous indication here on the ground of the OAMS yaw left thruster.

04 22 32 19 P Okay. Well, it's not working at all and we powered the radar down and powered down the gyros and powered down everything but the platform. Standing by to see what Flight wants to do.

04 22 32 35 CC Roger. You didn't do any Radar Test over Africa, then?

04 22 32 39 P No.

04 22 32 40 CC Roger. Would you care to FC--quantity read FC O₂?

04 22 32 49 P Carnarvon, 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 5 minutes ago.

04 22 33 06 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

04 22 33 23 CC Be advised Flight copies the problem and they're taking a look at it now. They'll let you know.

04 22 33 29 P Okay.

04 22 34 11 CC Flight advises that they'll keep an eye on this thruster problem and watch it with the OAMS heater on and see what happens. They'll advise you later.

04 22 34 22 P Okay. Well, we don't intend to do any more of the experiments unless they want us to because we're down to about 12 percent fuel.

04 22 34 33 CC Roger. I understand.

04 22 34 49 CC I'd hold off on the experiments. They'll get with you again on it.

04 22 34 54 P Okay.

04 22 35 08 CC Gemini, Carnarvon. Did the thruster stick on or off?

04 22 35 13 P It stuck off. It would not fire and we've isolated it to the No. 7 thruster, and it will not operate.

04 22 35 23 CC Roger.

04 22 35 29 P Did your indication of the No. 7 thruster go off now?

04 22 35 36 CC It's on now. It was on the first part of the pass, went off and came back on by the time you started talking.

04 22 35 42 P Okay. You say it's back on now?

04 22 35 44 CC It's on now.

04 22 35 46 P Okay. I've got the circuit breaker open now.

04 22 35 53 CC Okay.

04 22 36 01 CC Turn your circuit breaker back on. Okay, I lost indication.

CONFIDENTIAL

CONFIDENTIAL

437

04 22 36 13 P It may be that one of those solenoids froze up open.

04 22 36 17 CC Roger.

04 22 36 23 CC Have you tried to back up electronics?

04 22 36 25 P Yes. We'll bring you up to date. We tried Secondary ACME Bias Power, and Secondary Attitude Drivers and Secondary ACME Logic.

04 22 36 36 CC Roger.

04 22 36 38 P With no success.

04 22 36 39 CC I understand.

04 22 36 51 CC Flight agrees, the valve must be stuck.

04 22 36 59 CC Okay. You can turn your Quantity Read Switch to OFF.

04 22 37 19 P I just opened the No. 8 circuit breaker and it checked No. 7 again. When you said it went out.

04 22 37 33 CC Is your platform still on?

04 22 37 35 P That's affirmative.

04 22 37 38 CC Okay, okay. Request you power down your platform.

04 22 37 41 P Okay.

04 22 38 17 C Okay. We're all powered down. MDI is OFF, platform OFF, MDIU OFF.

04 22 38 22 CC Roger.

GUAYMAS

04 23 08 07 CC Gemini-5, Guaymas CAP COM. If you read, turn your T/M Control Switch to the REAL TIME and ACQUISITION position. Thank you.

04 23 08 15 C Ready when you are, Guaymas.

CONFIDENTIAL

CONFIDENTIAL

04 23 08 17 CC All right.

04 23 08 18 CC Stand by for Houston.

04 23 08 20 C Okay.

04 23 08 29 CC Gemini-5, Houston.

04 23 08 32 C Howdy, Houston. Gemini-5 here.

04 23 08 35 CC Roger. Have you got No. 7 working yet?

04 23 08 39 C Negative. We're powered down and just sitting here waiting on you to get on the line.

04 23 08 46 CC Okay. Here's what we'd like to have you do. We'd like to have you turn off Circuit Breaker No. 8, and turn on Circuit Breaker No. 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.

04 23 09 01 C All right. We already tried it once, but we'll try again.

04 23 09 05 CC Okay. Yes, I imagine you've tried everything, but we want to do a couple of little tests here to see what we get.

04 23 09 11 C Okay. That didn't succeed.

04 23 09 14 CC Okay. Now we'd like to try and find out what the problem is and we're going to do a little test here to see if maybe the problem is one of the solenoid valves has failed. And what we want to do is to look at the common control bus voltage. I've got a procedure here. I'll read out step by step. I want to brief you first. We'll look at the common control bus voltage and we'll pulse both the No. 7 and the No. 8 jets one at a time and have you watch the common control bus voltage. Now, if we've lost one of the solenoids on "7", the drop in common control bus voltage will be half what it will be when you pulse No. 8. Now, if both of the solenoids are working on "7" and they're both working on "8", ready to go through this thing step by step now?

CONFIDENTIAL

CONFIDENTIAL

439

04 23 10 03 C Roger. We have No. 7 open now.

04 23 10 06 CC Okay. I'll read off the steps. First we want to go to the common control bus on the voltmeter.

04 23 10 11 C Roger. We're on it.

04 23 10 12 CC Okay. Turn squib--just a moment. We're going to actually do the manipulation over Texas, Gordo, but we can make a few steps here and we'll be ready to go when we get there. We would like to have you turn Squib Batteries 1 and 2 OFF.

04 23 10 34 C Okay. Squib Batteries 1 and 2 coming OFF.

04 23 10 38 CC Okay. We'd like to have you turn OAMS No. 7 circuit breaker--we'd like to have that closed.

04 23 10 46 C You'd like to have OAMS Circuit Breaker No. 7 closed?

04 23 10 50 CC That's right.

04 23 10 51 C Okay.

04 23 10 52 CC And we'd like to have No. 8 circuit breaker open.

04 23 10 55 C Okay.

04 23 10 57 CC And we'd like to have you in Direct Control Mode.

04 23 11 00 C Okay.

04 23 11 07 CC Okay, Gordo. We'll stand by till we get solid T/M over Texas and then we'll have you start manipulating the controller.

04 23 11 14 C Okay.

04 23 11 21 P Houston, Gemini-5.

04 23 11 23 CC Go ahead, Gemini-5. Houston here.

04 23 11 26 P I don't see any big problem if it stays out. We could just go to pitch on the Roll Logic and that

CONFIDENTIAL

CONFIDENTIAL

ought to take care of everything as far as getting platform a line and so forth.

04 23 11 39 CC Roger. That's right. We just wanted to see if what we could--if this is a heater problem or if we really lost part of the electronics or whether we had a valve stuck.

04 23 11 47 P Okay.

04 23 11 53 CC We'll plan on skipping that D-6 over Texas this time, Gemini-5.

04 23 12 00 C All right.

04 23 12 02 P Hey, could you give us a readout on our OAMS fuel; is our gage correct?

04 23 12 12 CC Yes, Gemini-5, your gage is correct.

04 23 12 58 CC Okay, Gemini-5, we'd like to have you observe the common control bus voltage very carefully and go ahead and move the attitude handle to yaw left.

04 23 13 10 C Okay. Going left now.

04 23 13 13 CC Okay, you just have to make--these can be short pulses here. About a second or so.

04 23 13 20 CC Okay.

04 23 13 23 CC Is that a 0.4 drop?

04 23 13 26 C About 1-volt drop.

04 23 13 28 CC One volt, okay. Very good. Now we'd like to have you turn off the No. 7 circuit breaker and close the No. 8 circuit breaker.

04 23 13 43 P Okay.

04 23 13 44 CC Now, we'd like to have you yaw left again and observe the drop.

04 23 13 57 P It was only about half of what No. 7 was. Suppose we got a short in there?

CONFIDENTIAL

CONFIDENTIAL

441

04 23 14 02 CC I don't know. We'll think about that for awhile. Okay, you can now turn your Squib Batteries 1 and 2 back ON.

04 23 14 13 P You get the same indications on the ground?

04 23 14 25 CC Stand by one, we're looking at the data here now.

04 23 14 42 CC Gemini-5, Houston. It looks on the ground like they both dropped about the same amount.

04 23 14 52 P Okay.

04 23 14 53 CC We'd like to have you return the circuit breakers to the condition where No. 8 is closed; leave No. 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.

04 23 15 12 P Okay. You want us to leave No. 7 open, you say?

04 23 15 19 P Okay.

04 23 15 24 P Computer is in Prelaunch. Power is ON.

04 23 15 27 CC Roger, we'll be sending you an update shortly.

04 23 15 31 P Wait till we get it warmed up here.

04 23 15 45 CC Gemini-5, you can turn your T/M switch back to COMMAND.

04 23 15 52 P Roger, back--

04 23 16 13 C Looks like good weather down there.

04 23 16 18 CC Gemini-5, you have a GO to 92-1.

04 23 16 23 C --good.

04 23 16 25 CC These numbers are so big that I can't even count that high.

04 23 16 29 C What is it?

04 23 16 31 CC Say again?

CONFIDENTIAL

CONFIDENTIAL

04 23 16 33 C --is it?

04 23 16 38 CC 92-1 is the--is the orbit you have a GO for.

04 23 16 42 C Yes, I was just kidding you.

04 23 16 44 CC Oh, okay. You were cutting out and I couldn't read you very well.

04 23 16 48 C Oh, okay.

04 23 16 55 CC The Flight Director would like to speak to you for just a moment.

04 23 16 58 P ...

04 23 16 59 CC Good morning, Gordo.

04 23 17 01 C Chris, how are you?

04 23 17 03 CC How does it feel for the United States to be the new record holder?

04 23 17 07 C At last, huh?

04 23 17 09 CC Roger. Congratulations.

04 23 17 14 C We thought maybe you had slept too well last night; you had to let us do ... we had so we'd see if we could put you to work this morning.

04 23 17 24 CC Seems that John Hodge does that to me every morning.

04 23 17 39 P Houston, Gemini-5.

04 23 17 40 CC Go ahead.

04 23 17 41 P You want the readouts for, on our part, for the 92-1 GO?

04 23 17 49 CC Roger.

04 23 17 51 P 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 5300,

CONFIDENTIAL

CONFIDENTIAL

443

right secondary O₂ 5300. Those readings were taken back when we were powered up.

04 23 18 15 CC Roger, and will you say what that LB was again please?

04 23 18 19 P Roger. LB 8.6.

04 23 18 21 CC Roger.

04 23 18 24 CC And I'd like to add my congratulations also.

04 23 18 27 P Thank you.

04 23 18 39 CC Have you gone to PITCH on your Roll Jets?

04 23 18 43 P No, we haven't.

04 23 18 45 CC You might as well go ahead and do that, and I'm not sure we're going to have any great solution on how to get this thing to work again.

04 23 18 50 P Okay.

04 23 18 55 C 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 awhile, all the thrusters were exceedingly sluggish and we saw great globs of liquid coming out of them and drifting by us when we were firing them in Pulse Mode.

04 23 19 19 CC Roger. Roger. That's interesting, isn't it?

04 23 19 22 C And ... went to Direct to see if we could clear them out and it didn't seem to, and we were getting big globules of liquid going by us but they cleared out.

04 23 19 36 CC Okay. We were wondering about a drop in fuel here and that might have been where we lost all of it.

04 23 19 43 C Could be. Well, during that last tracking experiment we were having great difficulty to get all of the Radar Test there. We were having quite a bit of trouble holding our attitude and currently we're

CONFIDENTIAL

CONFIDENTIAL

having to go to Direct to get platform aline, and then we were fiddling around trying to find which thruster it was giving us the problem.

- 04 23 02 05 CC Roger.
- 04 23 20 06 P Yes, well another was--as we do get these tumbling rates pretty high out of the venting hydrogen so when we first started alining the platform, we apparently had intermittent operation on No. 7 and we'd attribute the fact that we'd start drifting off, too, to the fact that the hydrogen tank was venting. And then we finally got smart after awhile and decided to look at something else.
- 04 23 20 32 CC Roger.
- 04 23 20 34 C Yes, this venting has been giving us 2 to 3 degrees rate here for the last half day or so.
- 04 23 20 44 CC Okay, have you noticed has it built up in just the last half day?
- 04 23 20 48 P Yes. It seems to have built up just the last half day or so.
- 04 23 20 54 CC Okay.
- 04 23 20 56 C ... We drifted the first night if you remember, and the thing stayed pretty low, and last night's 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.
- 04 23 21 20 CC Okay. Well the venting should start going down.

BERMUDA

- 04 23 21 54 CC Gemini-5, we'd like to have you power down your computer at this time. We have a good load in it.
- 04 23 21 59 P Roger. Computer coming down.
- 04 23 22 01 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

445

04 23 22 13 CC Gemini-5, friendly backups send congratulations and Godspeed for the rest of your mission.

04 23 22 21 P Thank you.

04 23 23 47 CC Gemini-5, Houston.

04 23 23 51 P Go ahead.

04 23 23 52 CC We'd like to have you turn your Cryogenic Gaging system OFF.

04 23 23 59 P Okay, coming to OFF.

04 23 24 01 CC Another thing. We've watched your source pressure on your OAMS power from Carnarvon 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 and it couldn't very well have been from the sticking thrusters.

04 23 24 18 C Okay.

04 23 24 25 CC We're going to take a little look at the Flight Plan again, Gordo, and match up the fuel remaining with the experiments remaining. Okay?

04 23 24 33 C Okay.

04 23 24 40 CC Can you give us one more propellant quantity readout from your onboard gaging system?

04 23 24 46 C Roger. We are reading about 12 percent, a reading of the propellant quantity gage.

04 23 24 57 CC Okay. Very good.

CONFIDENTIAL

CONFIDENTIAL

CANARY

04 23 31 17 CC Gemini-5, this is Canary CAP COM.

04 23 31 20 P Go ahead, Canary, Gemini-5.

04 23 31 22 CC Roger. We'd all like to extend our congratulations to you. We have nothing else for you. We're standing by. Everything looks good from the ground.

04 23 31 30 C Okay. Everything's good here. Thank you very much.

04 23 31 32 CC Roger.

TANANARIVE

04 23 56 03 CC Gemini-5, Gemini-5, this is Houston. Over.

04 23 56 16 CC Gemini-5, Houston. Do you read?

04 23 56 26 CC Gemini-5, Gemini-5, Houston. Over.

04 23 56 30 C Go ahead, Houston, Gemini-5 here.

04 23 56 33 CC Roger, Gordo. We'd 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, okay?

04 23 57 08 CC Houston here, transmitting in the blind. I would like to have you scrub 410 Charlie.

04 23 57 16 C Roger, Houston. We got that and will scrub it.

04 23 57 20 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

447

CARNARVON

05 00 10 06 CC Gemini, Carnarvon. Could you tell us why you had the platform up?

05 00 10 10 C Roger, when we got there, it had only scrubbed one thing and we needed the platform for some of those others. Over.

05 00 10 17 CC Roger, I understand.

05 00 10 19 C So we have now powered the platform back down.

05 00 10 21 CC Roger.

05 00 10 29 CC Would you verify that the Roll Jets Switch is in the PITCH position?

05 00 10 35 P Affirmative.

05 00 10 48 CC Gemini, Carnarvon. Do you have any other questions at this time on the Flight Plan?

05 00 10 53 C Negative. I don't think so.

05 00 10 56 CC Roger.

05 00 11 03 C You might pass on to Flight also on a small failure we had. Our onboard voice tape failed sometime yesterday.

05 00 11 11 CC Roger.

05 00 11 13 C We have no onboard recording.

05 00 11 14 CC Roger.

05 00 12 55 CC Gemini-5, looks like your OAMS Source Pressure is holding nicely.

05 00 13 01 P Okay, fine. Thank you.

HAWAII

05 00 31 29 CC Gemini-5, this is Hawaii. We have a valid temperature. Standing by for blood pressure.

CONFIDENTIAL

CONFIDENTIAL

05 00 31 46 CC Gemini-5, this is Hawaii CAP COM.

05 00 31 51 P Roger. Sending blood pressure now.

05 00 31 57 CC Gemini-5, this is Hawaii Surgeon. Your cuff is full-scale.

05 00 32 30 CC Now we have a real good blood pressure. Give me a mark when you begin your exercise.

05 00 32 34 P MARK.

05 00 34 03 CC Now particularly, we're interested in a summary for the last 24 hours if we can have one.

05 00 34 10 P Roger. Wait one.

05 00 34 13 CC Roger.

05 00 34 20 P Okay. Water is 26 pounds. I already gave the last meal I ate, which was 3B at 05:09:00:00. Had about 6 hours sleep over the last 24.

05 00 34 41 CC Roger, 6 hours sleep. On the meals you have eaten, we have estimated from your past report that it's 1D, 1C and 3B. Is this correct for the past 24 hours?

05 00 34 55 P That sounds about right.

05 00 34 56 CC All right.

05 00 34 58 C ... put CAP COM back on ...

05 00 35 04 CC Okay, that should do it. Hawaii Surgeon out.

05 00 35 07 C Okay.

05 00 35 10 CC Gemini-5, Hawaii CAP COM. We hold you Green on the ground.

05 00 35 14 C Roger. We're Green here except for our Control System. And we do not have a yaw-left thruster. Over.

05 00 35 23 CC I understand. No left thruster.

CONFIDENTIAL

CONFIDENTIAL

449

05 00 35 26 C That's right. We've tried it at PULSE and in DIRECT, and we can see it fire a very faint fire from it in DIRECT up here; we were getting no thrust down on it.

05 00 35 39 CC Very--

05 00 35 40 C No. 8 thruster. Right. That's No. 8 thruster. No. 7, we have the circuit breaker open on it.

05 00 35 47 CC Roger, I understand.

05 00 35 50 C And we are in--Roll Jets are in the PITCH position.

05 00 35 59 CC Roger.

05 00 36 18 CC Gemini, have both No. 7 and No. 8 failed now?

05 00 36 23 C That is correct.

05 00 36 26 CC Roger.

05 00 36 51 CC Gemini-5, Hawaii standing by.

05 00 36 52 C Okay. Very fine. Thank you.

GUAYMAS

05 00 42 47 CC Gemini-5, Guaymas CAP COM.

05 00 43 06 CC Gemini-5, Guaymas CAP COM. Over.

05 00 43 09 P Go ahead, Guaymas. Gemini-5.

05 00 43 12 CC Okay. Have you tried the other attitude thrusters?

05 00 43 20 P Yes, we have pitch up, down and roll right and left.

05 00 43 24 CC Are they working normally?

05 00 43 26 P Roger.

05 00 43 28 CC All right.

05 00 44 05 CC Did you try complete secondary electronics on the thruster No. 8?

CONFIDENTIAL

CONFIDENTIAL

05 00 44 11 C No, we haven't.

05 00 44 17 CC Okay. Flight says leave it alone at this time.

05 00 44 21 C Okay.

05 00 47 24 CC Okay. You're looking good here on the ground, Gemini.

05 00 47 27 P Okay, very fine.

05 00 48 12 CC Gemini-5, Houston.

05 00 48 14 C Go ahead, Houston. Gemini-5.

05 00 48 16 CC We'd like to have you purge Sections 1 and 2. Start at any time you like now.

05 00 48 21 C Okay. Suppose we'll start them in just a minute.

05 00 48 27 CC I was going to give you some more Flight Plan stuff. We were going to scrub S-7 because of the weather, but I guess we don't have to worry about that, do we?

05 00 48 34 C Well, there'll be some way around this.

05 00 48 36 CC Yes. Say, do you want to check your TONE-VOX Circuit Breaker? That powers the tape recorder. I wonder if it had popped off on you.

05 00 48 46 C I'll check that later.

05 00 48 48 CC Okay.

05 00 49 16 C Gemini over Dallas and Fort Worth. Everything else seems to be agreeable.

05 00 49 18 CC Roger.

05 00 49 29 C What do all the pulse people down there think? Do we go a little ... on that off stuff?

05 00 49 34 CC I don't know. They're still working on it, Gordo.

05 00 49 37 C Okay. I figured they probably were.

CONFIDENTIAL

CONFIDENTIAL

451

05 00 49 49 CC Gordo, we think that the mixture ratio was off for some reason. We don't know exactly why yet.

05 00 49 56 P Yes, we could see this thruster was actually burning but we're not getting any thrust out of it. We could see it--as a matter of fact, it puts out a brighter flame than the normal thruster firing.

05 00 50 08 CC Yes, that's a pretty indication we've got a bad mixture ratio on it. Did you see anything like that on the other one, or did it just fail?

05 00 50 15 P No, it was just not ... It didn't do anything at all on the other one.

05 00 50 20 CC Okay. Yes, we're working on it down here and, I guess, why don't we just hold the experiments in abeyance until we get something figured out here.

05 00 50 30 C Okay. The only thing that I could think of, Jim, is last night I got to where we were just drifting in this hydrogen venting and it was giving us--let me remember right--left roll and right yaw--

05 00 50 49 P Left yaw and right roll.

05 00 50 50 C --left yaw and right roll.

05 00 50 51 P And we spent a lot of time corkscrewing around like that and the tendency to keep that side out on the sun, any time we were in it, was fairly good. That would be the way we were drifting.

05 00 51 05 CC Okay. You're getting left yaw and right roll and you say that side of the spacecraft was in the darkness quite a bit.

05 00 51 10 C Yes.

05 00 51 16 CC Okay. That sounds like a nifty maneuver.

05 00 51 20 P That's with this hydrogen purge and it just may be from the hydrogen venting.

05 00 51 23 C The hydrogen venting ...

05 00 51 29 CC I knew you guys weren't very coordinated but left

CONFIDENTIAL

CONFIDENTIAL

yaw and right roll, I don't know.

05 00 51 35 P Got to purge fuel cells, Jim.

05 00 51 39 CC Roger.

05 00 31 40 P Okay. We're starting the hydrogen purge on No. 1 right now.

05 00 51 42 CC Okay.

05 00 51 59 P No. 2 hydrogen going.

05 00 52 02 CC Roger.

05 00 52 37 P No. 1 oxygen going.

05 00 52 43 CC Gemini-5, this is MCC Surgeon. How did the sleep go last night?

05 00 52 50 C Oh, we got about 3 hours each, 3-1/2 hours each, I guess.

05 00 52 56 CC Yes, I heard the times, but was it easier? Was the Flight Plan working out better last night?

05 00 53 04 C Little bit better.

05 00 53 07 CC Hey, did Pete get the cuffs off?

05 00 53 10 C Yes, we got them off.

05 00 53 13 CC Okay. How's the skin now with the cuffs off?

05 00 53 19 C Whole lots better.

05 00 53 22 CC You having any more trouble around the sensors, Gordo?

05 00 53 26 C Yes.

05 00 53 28 P Hey, I see a carrier and a destroyer steaming right straight into Jacksonville!

05 00 53 33 CC Very good.

05 00 53 40 P Hey, the weather was really clear across the U.S.!

CONFIDENTIAL

CONFIDENTIAL

453

05 00 53 45 CC You know that was our trouble with the S-7. We didn't have any sunny side for you to take pictures of.

05 00 54 41 P Okay. Commencing No. O₂ purge.

05 00 54 44 CC Roger.

05 00 55 39 P I think I see there's a recovery carrier or another large ship making a big wake down there.

05 00 55 46 CC You're a real homing pigeon for these aircraft carriers, aren't you?

05 00 55 48 P Yes.

05 00 55 52 P If the sun was just right today and the spacecraft holds just right.

05 00 55 56 CC Okay.

05 00 56 08 CC How was the weather out around Laredo? Do you think there is any chance of seeing that S-8/D-13 target?

05 00 56 14 C We are having small fluffy clouds out there.

05 00 56 19 CC Okay. You think you can control the spacecraft, Gordo, so that you could do the S-8/D-13?

05 00 56 28 C No, we wanted to do it.

05 00 56 31 CC Say again.

05 00 56 32 C We want to do S-8/D-13.

05 00 56 34 CC You want to do it. Roger. We'd like to have you do it too.

05 00 56 47 C Hello, you say can we control the spacecraft to do it?

05 00 56 50 CC Yes, can you control it?

05 00 56 56 C I don't know. We might be able to.

05 00 56 58 CC Okay. Well don't expend a lot of fuel doing it;

CONFIDENTIAL

CONFIDENTIAL

we're trying to save some fuel here too.

05 00 57 04 C

Okay.

CARNARVON

05 01 39 49 CC

Gemini-5, Carnarvon.

05 01 40 02 CC

Gemini-5, Carnarvon.

05 01 40 09 P

Go ahead, Carnarvon. This is Gemini-5.

05 01 40 11 CC

Roger. I have a Flight Plan update for you. Are you ready to copy?

05 01 40 16 P

We want ...

05 01 40 18 CC

Also be advised that Flight requests that you use no fuel until advised. Do all experiments until advised.

05 01 40 29 P

Ready to copy Flight Plan.

05 01 40 31 CC

Roger. Item Map, 15:55:49, longitude 151.4 East, Rev 77. Next item Star 15:55:49, Remarks, zero hours 19 minutes. Do you copy?

05 01 41 08 P

Roger.

05 01 41 10 CC

Did you copy this one about the fuel?

05 01 41 13 P

Roger.

05 01 41 14 CC

Okay, and they want you in the powered-down configuration and this is the list of items they wish you to have powered up. Voice Control Center, one suit fan, two coolant pumps, ACQ-AID Beacon, UHF Receiver, DCS Receiver, TCM Tape Recorder, Bio-Med Recorder No. 2, the DC-DC Converter, the OAMS Heater and the RCS Heater, the Water Line Heater, as necessary, the cabin lights. Do you copy?

05 01 42 24 P

I got all of it but one. Voice Control, one suit fan, two cool pumps, one ACQ-AID. What was the next thing?

05 01 42 31 CC

Next one was the UHF Receiver, followed by DCS Receiver.

CONFIDENTIAL

CONFIDENTIAL

455

05 01 42 38 P ... DCS, TCM Tape, Bio-Med Recorder No. 2, DC-DC Converter, RCS and OAMS ...

05 01 42 47 CC Roger. They're trying to work up some test on this attitude thruster problem and they haven't got anything as yet.

05 01 43 00 P Okay.

05 01 43 03 CC They have several thoughts; Thruster 7 and 8 are right on the end of the manifold; it's possibility of clogging toward the end of the manifold or it could be low on fuel or oxidizer or both. They're working on the problem.

05 01 43 22 P Roger.

05 01 43 32 CC Also Flight would like the Scanner Heaters left on.

05 01 43 36 P Okay.

05 01 43 37 CC You can turn your primary ACME power off.

05 01 43 44 P Roger.

05 01 44 01 CC Okay. We've got your telemetry off; we got a look at it and it looks okay. We'd transmitted it off.

05 01 44 08 P Okay.

05 01 44 10 CC We're standing by.

05 01 44 11 P Roger.

HAWAII

05 02 07 15 CC Gemini-5, Hawaii CAP COM.

05 02 07 42 CC Gemini-5, Hawaii CAP COM.

05 02 07 45 C Roger, Hawaii CAP COM, Gemini-5 here.

05 02 07 48 CC Roger. For your power-up configuration we'd like you to add the Horizon Scanner Heater Circuit Breaker on.

CONFIDENTIAL

CONFIDENTIAL

05 02 07 58 C Roger. You--for the power-up configuration.

05 02 08 04 CC The way you are now.

05 02 08 05 C Do you want the Scanner Heater Circuit Breaker on?

05 02 08 08 CC That's affirm.

05 02 08 11 C Roger. We have it on.

05 02 08 16 CC All of your systems are GO.

05 02 08 19 C Roger. Thank you.

05 02 08 21 CC We're standing by.

05 02 08 22 C Okay, mighty fine.

TEXAS

05 02 22 03 CC Gemini-5, Houston.

05 02 22 21 CC Gemini-5, Houston here. I have a few things for you when you get your radios ready.

05 02 22 27 C Roger, Houston, Gemini-5 here. Radio transmitters warmed up.

05 02 22 33 CC Okay. How are your vehicle rates with the venting in drifting flight now?

05 02 22 41 C Oh, we've a couple. 3 degrees in pitch and a little bit in roll; mostly just in pitch right now.

05 02 22 51 CC Okay. Do you find these rates to be objectionable at all?

05 02 22 55 C No.

05 02 22 56 CC Okay. I've got a little briefing on the OAMS situation here. The OAMS Heaters are ON now and the tester is coming up on TCA-10, which is the one that has the temperature sensor on it. Now all the thrusters are okay except 7 and 8, and since these are on the same side of the spacecraft, they're subject to the same kind of ambient heat load; they'd probably be subjected to just about the same temperature. Also, these particular thrusters are pretty

CONFIDENTIAL

CONFIDENTIAL

457

far down the manifold. Now, if the temperature is a problem and we can get the OAMS Heaters to bring TCA No. 10 temperature up to around 60 degrees or so, we'd like to fire up the ACME again and try 7 and 8 in the Direct Mode to see if this is what the problem was. Okay?

05 02 24 05 CC Gemini-5, Houston. Did you get that message?

05 02 24 07 C We missed your last one, over.

05 02 24 12 CC Okay. Did, did you get the OAMS thruster briefing about the temperatures?

05 02 24 16 C We got that ...

05 02 24 18 CC Roger. Okay, you got that. Be advised that we're considering a lot of drifting flight now because we're not really sure what the state is; you know, the different mixture ratios we get from the different thrusters. How do you feel about spending a day or two in drifting flight to make sure that we've got enough fuel for the last day or so, and to keep down the vehicle rates that we're going to get from the Hydrogen Test.

05 02 24 47 C Well, I don't know. Hadn't really considered it.

05 02 24 55 CC Okay. Well, why don't you think about it for a while. It looks to us down here that there may be any one of a number of things wrong and if we're getting low on fuel, we don't want to run out of fuel with 3 days to go. We want to save some of the fuel to keep down the rates due to the venting. So we don't want to run the thing dry so far in advance.

05 02 25 17 C All right.

05 02 25 19 CC So, what you ought to plan on tentatively is very few experiments, probably no experiments for the next day or two, till we get a better handle on what your fuel state is; and then on the last day we can expect to power up and do some more S-8/D-3's and that type of thing.

05 02 25 40 C Okay.

CONFIDENTIAL

CONFIDENTIAL

HOUSTON

05 02 25 51 CC Okay, Gemini-5. We're going UHF-6, now.

05 02 26 00 CC Gemini-5, Houston here. Could you tell us what your Blue Bag situation is.

05 02 26 06 C Roger. It still hasn't changed.

05 02 26 09 CC Oh, very good, very good.

05 02 26 14 C We just passed over the U.S. and were drifting slowly around. The weather is quite pretty there today. And we just came over Houston just a few seconds ago and saw Houston quite clearly.

05 02 26 31 CC Gordo, have you ever been able to see the Domed Stadium?

05 02 26 34 C No, we didn't see the Domed Stadium this time, either.

05 02 26 39 CC Roger.

05 02 26 41 C Very little or small, little puffy cu overhead ... and then we were drifting into a fairly good rate here too, which doesn't give us a great long look at anything.

05 02 26 53 CC Okay.

05 02 26 55 C We just went on out past Florida. Saw Florida.

05 02 27 01 P Say, one thing, Jim, I'd like you to consider on the last day's worth of experiments, fuel permitting; let's not load us too badly, though, because we're going to have quite a re-stowage problem, you know.

05 02 27 14 CC Right, I understand that. I 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 an hour to go; we still had some things out. So I think probably 3 hours would be a good time to use there.

05 02 27 32 P That was our feeling, that we needed at least 3 hours.

CONFIDENTIAL

CONFIDENTIAL

459

05 02 27 35 CC Okay. Well, don't worry about that. We won't load you up so you can't get all the stuff stowed.

05 02 27 40 P Very good.

05 02 27 45 C We're right over Key West now. It's really a nice day down there, too.

05 02 27 49 CC Roger.

05 02 27 51 C Saw the airfield at Key West.

05 02 27 53 CC Have you ever noticed Florida, the Gulf Coast, and the Atlantic Coast outlining those little puffy clouds like we saw?

05 02 28 00 C Yes. It is right now.

05 02 28 02 CC That's really classical weather, isn't it?

05 02 28 04 C Yes, it sure is. Can also see a big storm right down off the tip of Florida and the Gulf.

05 02 28 14 CC Roger. Say, were you ever able to see the eye of Doreen or does it just look like a big--

05 02 28 20 C Yes, got some pictures of it.

05 02 28 22 CC Is the eye actually ... does it actually look like an open spot or is it just all clouded over?

05 02 28 27 C It looked kind of like a semi-open spot. It built up very, very heavy and then right in the immediate eye of it was sort of like a sunken-in place. Kind of convex.

05 02 28 38 CC Oh, very good. All the storms we passed over were all just flat. You could never really pick out any center to them.

05 02 28 43 C No, this one had a very well-defined eye.

05 02 28 46 CC Roger.

05 02 28 47 C It looked like the center of a big whirlpool, you know.

05 02 28 49 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

05 02 28 59 C Say, Jim, would you pass my wife a message.

05 02 29 03 CC I'd love to.

05 02 29 04 C Tell her she owes me a dollar.

05 02 29 08 CC Okay, I'll tell her that. You want to collect it yourself or do you want me to mail it to you?

05 02 29 13 C No, I'll collect it. I just want you to tell her that, though.

05 02 29 16 CC Okay.

05 02 29 22 CC Hey, Dr. Berry says that she's already called up and admitted she owes you a dollar.

05 02 29 27 C Very good.

05 02 29 38 C I got a good look at the Guantanamo Naval Base near Cuba.

05 02 29 42 CC Very good.

05 02 29 58 CC Gemini-5, Houston again. Have you been able to see anything of Australia yet in the daylight?

05 02 30 34 CC Gemini-5, Houston, have you been able to see Australia in the daylight, yet?

05 02 32 29 CC Gemini-5, Houston.

05 02 32 31 P Go ahead, Houston, Gemini-5.

05 02 32 34 CC 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.

05 02 32 46 P Right. I'm really keeping my eye on Gordo when I say that.

05 02 32 53 CC So would I, Pete. So would I.

CARNARVON

05 03 14 56 CC Gemini-5, Carnarvon.

CONFIDENTIAL

CONFIDENTIAL

461

05 03 15 06 CC Gemini-5, Carnarvon CAP COM.

05 03 15 15 P Go ahead Carnarvon, Gemini-5.

05 03 15 17 CC Roger. Be advised we'd like you to turn your Fuel Cell Section 2 Power Switch off on my cue and also turn off the Pump A in the Secondary Loop and I'll go on to explain why shortly.

05 03 15 38 P Okay.

05 03 15 40 CC Stand by on that until we get our summaries out.

05 03 15 42 CC Okay, also be advised we have a Medical Pass on the Command Pilot at Hawaii and then AOS time is 17:41.

05 03 15 54 P Roger. 17:41.

05 03 15 58 CC Roger.

05 03 16 13 CC Okay, would you go ahead and place Section 2 Power Switch OFF and turn off the Pump A in Secondary Loop.

05 03 16 25 P Roger, Power Switch is OFF. Pump on the Secondary Loop is OFF.

05 03 16 31 CC Okay, what we're doing here is--the best computations at Houston on the H₂O produced is running about 0.03 to 0.031 pounds of water per amp-hour. And what this is giving them is it shows that Tank B will be out of drinking water at about the end of the flight, based upon the present power consumption.

05 03 17 03 P I see.

05 03 17 04 CC Okay, what they're going to do is bring up Section 2 about every 20 hours until the H₂ stops venting. And then they'll have a look at that for one or two orbits. And if it has stopped venting at that time they'll leave the H₂. They'll bring Section 2 up and leave it up for 6 to 10 hours and get an H₂ usage rate. And they'll recompute a water usage. Then they'll take the water usage rate they had earlier in the mission before the H₂ venting--

CONFIDENTIAL

CONFIDENTIAL

and this is what I'm speaking of--and compute a new usage rate on the total water production.

05 03 18 03 P Roger.

05 03 18 05 CC Okay, we'll continue purging both sections on the present purge cycle. And Flight said they had worked out some power curves for your batteries toward the end of the mission, if necessary, and they look real good. And looks like they're going to try to make it the 8 days.

05 03 18 30 P Roger.

05 03 18 31 CC Okay, you got any questions on that readout?

05 03 18 35 P No, I don't believe so.

05 03 18 39 CC Okay.

05 03 18 42 P Our status is Green up here.

05 03 18 44 CC Roger. Looks good down here also.

05 03 20 09 CC We've got about a minute to LOS. Standing by.

05 03 20 16 P Roger.

05 03 20 28 P Carnarvon CAP COM, is the Surgeon listening?

05 03 20 32 CC Roger, he's listening.

05 03 20 34 P Would the Surgeon pass on from the Pilot to Doctors Bishop, Wade, and Murray Austin our regards please?

05 03 20 41 CC Roger, will do.

05 03 20 42 P Thank you.

05 03 20 59 CC We'll see you tomorrow.

05 03 21 02 P Okay.

HAWAII

05 03 41 50 CC Gemini-5, this is Hawaii. We have a valid temperature; standing by for blood pressure.

CONFIDENTIAL

CONFIDENTIAL

463

05 03 42 08 CC Gemini-5, Hawaii Surgeon. Your cuff is full-scale.

05 03 42 44 CC Gemini-5, we have a valid blood pressure. Give me a mark when you begin your exercise.

05 03 42 56 C MARK.

05 03 42 58 CC MARK.

05 03 43 34 CC Gemini-5, Hawaii Surgeon. Your cuff is full-scale.

05 03 43 59 CC Gemini-5, Hawaii Surgeon. Your cuff is full-scale.

05 03 44 36 CC Gemini-5, we have a valid blood pressure; standing by for your water and sleep report.

05 03 44 46 C Roger. The Command Pilot has had 27 pounds 2 ounces of water, and I just finished Meal 3C.

05 03 44 56 CC Gemini-5, Hawaii Surgeon. Could you give me some data on your sleep?

05 03 45 01 C Roger, I had about 2 hours of sleep in the last 7 or 8 hours.

05 03 45 12 CC Roger, Gemini-5. I repeat, 24.2 pounds of water. Is that affirmative?

05 03 45 18 C 27.2

05 03 45 20 CC I understand, 27.2 pounds of water. Thank you, Gemini-5, Hawaii Surgeon out.

05 03 45 27 C Roger.

05 03 45 30 CC Gemini-5, this is Hawaii CAP COM. We hold your systems Green on the ground.

05 03 45 35 C Roger. All systems look Green here. Thank you.

05 03 45 38 CC Hawaii standing by.

05 03 45 40 C Roger.

CALIFORNIA

05 03 50 43 CC Gemini-5, Gemini-5, this is Houston. Be advised

CONFIDENTIAL

CONFIDENTIAL

we don't have much information for you on this pass. I'm just transmitting in the blind; you needn't acknowledge. We'll play you some music until we get Texas T/M acquisition, then we'll have you flip a few switches. You don't even have to bother coming up on transmit this pass. Here comes the music now.

05 03 51 08 CC MUSIC (Dixieland)
 05 03 55 49 C Sounding good.
 05 03 55 51 CC How do you like that, GT-5?
 05 03 55 56 CC Gemini-5, Houston here. I've got some switching positions that I'd like to have you go to. You don't have to acknowledge this. We'd like to have you put your Cryogenic Gaging Switch on ECS O₂.

TEXAS

05 03 56 39 CC Gemini-5, Houston here. We'd like to have you put your Cryogenic Gaging Switch to ECS O₂.
 05 03 56 45 C Roger.
 05 03 56 46 CC Oh, you're up. How did you like the music?
 05 03 56 48 C It was great.
 05 03 56 49 CC Listen, if we ever get through with some switching here, we'll give you some more.
 05 03 56 53 C Okay.
 05 03 56 57 CC How are your rates up there now?
 05 03 57 00 P Oh, about 3 degrees I guess.
 05 03 57 04 CC Okay, gage your Cryogenic Gaging to Fuel Cell O₂.
 05 03 57 19 CC Okay, we'd like to have you go to Fuel Cell H₂.
 05 03 57 23 C Okay, we get particles going by fairly frequently, so I think we're still venting a couple items.
 05 03 57 32 CC Okay, you say things are going by quite often so

CONFIDENTIAL

CONFIDENTIAL

465

you think you're still venting. Right?

05 03 57 37 C Roger.

05 03 57 39 CC Okay. We ... you can go ... put your Cryogenic Gaging Switch back to OFF. Be advised that it may be possible for you to get another fix on the storm Doreen.

05 03 57 51 C Okay.

05 03 57 53 CC 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'd like to have the time that you passed over it and where you thought the center of the storm was with respect to you.

05 03 58 14 C Okay, we'll try.

05 03 58 16 P ... Jim.

05 03 58 17 CC Go ahead.

05 03 58 20 CC Gemini-5, do you have anything else for Houston?

05 03 58 25 C No, I don't believe so.

05 03 58 38 CC Okay, if you don't have anything else, we'll give you the music again, okay?

05 03 58 32 C All right.

05 03 58 33 CC Here we go. I'll test the music contact.

05 03 58 38 CC Too late.

05 03 58 39 CC MUSIC (Dixieland)

COASTAL SENTRY QUEBEC

05 04 57 37 CC Gemini-5, CSQ CAP COM.

05 04 57 55 CC Gemini-5, CSQ CAP COM.

05 04 58 09 C Roger, CSQ CAP COM, Gemini-5 here. Over.

CONFIDENTIAL

CONFIDENTIAL

05 04 58 12 CC Roger, Gemini-5. We'd like you to place your T/M Switch to REAL TIME and ACQ-AID position, please.

05 04 58 18 C Okay.

05 04 58 23 CC And CSQ has a block update for you. Let me know when you're ready to copy. Over.

05 04 58 29 C Copy.

05 04 58 34 C We're ready.

05 04 58 36 CC Roger. 81-3, 21:52:20, 14 plus 37, 19 plus 41. 82-3, 23:27:38, 13 plus 22, 18 plus 35. 83-3, 01:02:52, 12 plus 19, 17 plus 53. 84-Bravo, 02:38:41, 11 plus 34, 17 plus 45. 85-Delta, 03:27:55, 19 plus 36, 24 plus 40. Do you copy?

05 05 01 03 C Roger.

05 05 01 04 CC Okay, be advised the weather is good in all areas and it's standard bank angles. Over.

05 05 01 11 C Roger. Weather good. Standard bank angles.

05 05 01 14 CC And also be advised that if your Delta-P lights on Section 2 come on, you should go to the Cross-over momentarily. Over.

05 05 01 23 C Say again.

05 05 01 24 CC Roger. If Delta-P lights come on in Section 2, you should open the crossover valve momentarily. Over.

05 05 01 32 C Okay, will do.

05 05 01 36 C Will you pass back to MCC we have one minor little difficulty and we think it's all right but they might just be aware of it. A partial pressure of CO₂ gage starts climbing, and we increased the suit flow and ... the suit--decreased the suit temperature and heat flow and rechecked if the gage went back down, and we have run a ECS O₂ tank test on it which shows that it is below 4mm of mercury. And the gage is surprisingly back down to zero point but they might just want this for informational purposes.

CONFIDENTIAL

CONFIDENTIAL

467

05 05 02 21 CC Roger. Copy.

05 05 02 48 CC Gemini-5, CSQ.

05 05 02 51 C Go ahead, CSQ.

05 05 02 53 CC Roger. Flight would like to know how high the ECS O₂ rose.

05 05 02 58 C When we found it, it was up just above lmm of mercury.

05 05 03 04 CC It what?

05 05 03 05 C ... just above 1/10 of a mercury.

05 05 03 09 CC 1/10 of a millimeter?

05 05 03 10 C Right.

05 05 03 11 C But it's been riding clear down off the bottom peg So this was quite a change, then.

05 05 03 18 CC Roger. Copy.

05 05 03 39 CC Gemini-5, CSQ.

05 05 03 43 C Go ahead.

05 05 03 44 CC Houston advises that that sounds normal to them.

05 05 03 48 C Okay.

05 05 03 53 C Yes, I guess that was lmm - it's the first mark. It's marked at 10, 15, and 20 on the gage and I believe each one of the marks is 10--is lmm.

05 05 04 05 CC CSQ copy.

05 05 04 08 C It was up above the first mark, anyway.

05 05 04 54 CC Gemini-5, CSQ.

05 05 04 56 C Go ahead, CSQ.

05 05 04 58 CC Houston advises that it makes them feel warm to know the gage works properly, over.

CONFIDENTIAL

CONFIDENTIAL

05 05 05 02 C Ha, ha. Yes, well we just wanted to recheck it with the tape, which kind of confirmed.

05 05 05 17 CC Gemini-5, CSQ advises go to the COMMAND position with the T/M Switch. Over.

05 05 05 23 C Roger.

HAWAII

05 05 18 18 CC Gemini-5, Hawaii CAP COM.

05 05 18 21 C Go ahead, Hawaii, Gemini-5.

05 05 18 24 CC Roger. We'd like to run a test on Thruster 7 and 8 We'd like you to bring up the ACME in the Pulse Control Mode and stabilize with the adapter toward the sun without using your yaw thrusters.

05 05 18 39 C Okay, we'll do that.

05 05 18 41 CC Okay, 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.

05 05 18 48 C Okay.

05 05 18 50 CC We'd like you to do that at Guaymas.

05 05 18 53 C You want us to do that at Guaymas?

05 05 18 55 CC That's affirmative.

05 05 18 56 C Okay, fine.

05 05 18 57 CC Okay, and as soon as you are finished the evaluation, we'd like you to power down again.

05 05 19 02 C Okay.

05 05 19 12 C We still are apparently venting quite a bit because our drift rates have gotten up to around 6 degrees per second and tumbling.

05 05 19 20 CC Roger.

05 05 21 25 CC We'd like you to start stabilizing about now, Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

469

05 05 21 43 CC Gemini-5, Hawaii CAP COM.
GUAYMAS

05 05 24 32 CC Gemini-5, Gemini-5, Houston.

05 05 24 43 CC Gemini-5, Gemini-5, Houston.

05 05 24 57 CC Gemini-5, Gemini-5, this is Houston. Over.

05 05 25 16 CC Gemini-5, Gemini-5, Houston.

05 05 25 27 C Go ahead, Houston, Gemini-5.

05 05 25 30 CC Roger. Have you started to slow down your rate now and stabilize with the adapter toward the sun?

05 05 25 38 C We're just starting.

05 05 25 39 CC Okay, very good. We'd like to have you turn on your T/M at 19:26. We're going to Real Time and Acquisition right now. We'd like to have you turn it back to COMMAND at 19:34, if we haven't told you to do it by then.

05 05 26 01 C Okay.

05 05 26 03 CC What do you think of those tumbling rates that you've got now? We'd like your opinion of them.

05 05 26 08 C Well, they're getting up a little bit high, but they aren't too bad yet.

05 05 26 19 CC Okay, what do you think you can live with, about twice that much, or 50% more, or a little bit more, or what?

05 05 26 32 P Wait a minute, we're just damping things down.

05 05 26 33 C Just a second, we're damping.

05 05 26 35 CC Okay. How are those other thrusters working, Gordo?

05 05 26 45 C They seem to be working all right.

05 05 26 46 CC Very good.

CONFIDENTIAL

CONFIDENTIAL

05 05 26 59 P 7 and 8 on together, or one at a time?

05 05 27 02 CC We want them one at a time, and we want you to thrust for about 1 second on each one and we want your evaluation of their performance, but we'll call you and tell you when we've got good T/M. We'd like to watch that T/M also.

05 05 27 20 C Okay.

05 05 27 29 CC Okay, 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.

05 05 27 42 C No. 7 is on, I'm thrusting on my mark; 3, 2, 1, MARK.

05 05 27 52 C No joy.

05 05 27 53 CC Roger, no joy.

05 05 27 55 CC We'd like to have you do it on No. 8 now, please.

05 05 27 59 C All right, No. 8 is on, I'm thrusting now; 3, 2, 1, MARK. No joy.

05 05 28 11 CC 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.

05 05 28 22 C Roger.

05 05 28 28 C No. 8 is on now. Negative in Rate Command.

05 05 28 39 CC Okay, try 7.

05 05 28 41 C No. 7 is on now and nothing in No. 7.

05 05 28 49 CC Okay, you can go ahead and power back down; we'll think some more here.

05 05 28 54 C All right.

05 05 28 57 CC Don't forget to turn your T/M off; just a second, we'll see if we need anymore. Okay, leave it on for a couple of more minutes and I'll give you another call.

CONFIDENTIAL

CONFIDENTIAL

471

05 05 29 06 C Okay.

05 05 29 23 P Houston, Gemini-5.

05 05 29 26 CC Go ahead.

05 05 29 28 P We passed ... 19:24:45, 20 miles north of track.

05 05 29 35 CC Roger, 19:24:45, 20 miles north of your track.

05 05 29 50 CC 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.

05 05 29 58 C Yes, they were and they stayed on.

05 05 30 01 CC Okay.

05 05 31 01 CC Gemini-5, Houston. Are both of your circuit breakers open at this time?

05 05 31 04 C Roger, 7 and 8 Circuit Breakers are open at this time.

05 05 31 08 CC Okay, very good.

05 05 31 11 C We are reading 42% on fuel cell hydrogen at the present time.

05 05 31 18 CC Roger, understand 42% on fuel cell hydrogen.

05 05 31 22 C Roger. It's gone down from 52 to 42 since we talked to you last.

05 05 31 27 CC Okay.

05 05 31 56 CC Gemini-5, Houston. You can put your T/M Switch back to COMMAND now.

05 05 32 01 C Okay, back in COMMAND.

COASTAL SENTRY QUEBEC

05 06 32 24 CC Gemini-5, CSQ.

05 06 32 51 CC Gemini-5, CSQ CAP COM.

CONFIDENTIAL

CONFIDENTIAL

05 06 33 29 CC Gemini-5, CSQ CAP COM.

05 06 33 48 C CSQ, Gemini-5.

05 06 33 51 CC Roger, Gemini-5, CSQ has you GO on the ground. I have a map update. Are you ready to copy?

05 06 33 57 C Roger, just one second.

05 06 34 21 C Roger, we're ready.

05 06 34 23 CC Roger. Map, 20:23:38, longitude 83 degrees East, Rev 80. Star, 20:23:38, 00:14:22. Did you copy?

05 06 35 01 C Roger, we got that.

05 06 35 06 CC Also Houston advises we let you continue to conserve fuel and only damp out the rates when you feel they're becoming unacceptable. When you do bring up the ACME, they'd like you to go through any alternate procedures you can think of to get the thrusters back in. Over.

05 06 35 25 C Okay, fine.

05 06 35 27 CC Also, there's a slight change on the Delta-P light-on procedure. If you get a Delta-P light, they'd like you to turn on the Crossover Valve Switch, then perform a short purge on Section 2 to reset the regulators. Over.

05 06 35 44 C Roger, understand go to Crossover and do a short purge on 2.

05 06 35 50 CC That's affirmative, and we'd like an experiment status if you have it ready; if not, Hawaii will copy. Over.

05 06 36 00 C Roger, we'll get to Hawaii.

05 06 36 02 CC CSQ.

05 06 36 29 CC Gemini-5, CSQ has nothing further; we're standing by.

05 06 37 10 CC Gemini-5, CSQ.

CONFIDENTIAL

CONFIDENTIAL

473

05 05 37 32 C Go ahead, CSQ, Gemini-5.

05 06 37 35 CC Roger, just to advise you that you are showing up bright again today at about 30-degree elevation angle.

05 06 37 41 C Oh, very good, thank you.

05 06 38 13 CC Gemini-5, CSQ.

05 06 38 16 C Go ahead.

05 06 38 17 CC Roger. The Surgeons would like to know if you did any exercises or exerted yourself at the beginning of the pass. Over.

05 06 38 27 C Negative, did they ask if they had scared me a little bit ... asleep.

05 06 38 34 CC CSQ, Roger.

05 06 38 38 C We both had dropped off and woke up when you were calling us.

05 06 38 43 CC Roger.

HAWAII

05 06 51 44 CC Gemini-5, Hawaii CAP COM.

05 06 51 49 C Go ahead, Hawaii. Gemini-5.

05 06 51 51 CC You have a fuel cell purge over Hawaii this pass.

05 06 51 56 C Okay.

05 06 52 07 CC Hawaii's ready to copy.

Editor's note: Voice comments overridden by noise through this time: 05:06:52:08 to 05:06:52:43

05 06 52 44 C Hydrogen OFF No. 1. Hydrogen ON No. 2. Hydrogen OFF No. 2. Oxygen ON No. 1. Complete on No. 1 on oxygen. Oxygen ON on No. 2, second. NOW. Oxygen is OFF on second. NOW.

05 06 57 14 CC Roger, Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

ROSE KNOT VICTOR

05 07 12 29 CC Gemini-5, RKV CAP COM.

05 07 12 39 CC Gemini-5, RKV CAP COM.

05 07 12 41 C Go ahead, RKV, Gemini-5.

05 07 12 44 CC Roger. Your systems are all Green, GO on the ground.

05 07 12 49 C Okay. We're on the Green here.

05 07 12 51 CC Roger. We'd like to confirm that your OAMS Heater Circuit Breaker is closed.

05 07 12 57 P That's Charlie. It is closed.

05 07 13 00 CC Roger. We'd like an experiment status from you at this time.

05 07 13 05 P Okay. Ready to copy?

05 07 13 06 CC Roger.

05 07 13 07 P Experiment status as of 05:21:00:00. UHF Test Nos. 1, 2, 3 and 6 complete. D-1 Sequence 1, 2 and 3 complete. D-2, testing. D-6, 72 pictures. D-4/D-7, the following sequences are complete: 405, 408, 409, 410. Still copy?

05 07 13 42 CC Roger.

05 07 13 43 P 410A, 410B, 411, 414, 420, 422, 423A, 423 Bravo, 424A, 425A. On D-4/D-7 we have 16 minutes of record time left.

05 07 14 10 CC 16?

05 07 14 11 C That's affirmative.

05 07 14 14 P Testing D-13, we've completed to date all onboard Flight Plan tests.

05 07 14 22 CC Roger.

05 07 14 23 P On S-1 it is complete. On S-5/6 we've taken three magazines' worth and have over 210 pictures. On

CONFIDENTIAL

CONFIDENTIAL

475

S-7 we've taken 23 pictures, which include 8 groups of clouds, plus the calibration card pictures. M-1 experiment broke at 04:00:00:00, give or take a couple of hours.

05 07 15 02 CC What was the number of that one again?

05 07 15 05 P Say again.

05 07 15 06 CC Which experiment was that?

05 07 15 09 P M-1.

05 07 15 11 CC Roger.

05 07 15 13 P The M-3 Exercisers have only been used on programs by the Pilot; the Command Pilot has used them a few times other than that.

05 07 15 22 CC Roger.

05 07 15 24 P ... 1 has been done once on Day 1, once on Day 3, once on Day 4.

05 07 15 33 CC Good.

05 07 15 34 P On the Apollo Landmarks, we have photographed 207, 208, 212, 213.

05 07 15 43 CC Good.

05 07 15 44 P Cabin Lighting, run 4 surveys.

05 07 15 48 CC Say again.

05 07 15 49 P On the Cabin Lighting, we have run 4 surveys.

05 07 15 52 CC Good.

05 07 15 53 P The Humidity Sensor, we have at least 1 reading per day.

05 07 16 01 CC Roger.

05 07 16 01 CC Good.

05 07 16 02 P On the Millimeter Camera we've taken one and a

CONFIDENTIAL

CONFIDENTIAL

quarter magazines. We have two and three-quarter magazines left. With regard to remarks, the D-6, we're almost out of Film 3401.

05 07 16 24 P Do you read?

05 07 16 25 CC Roger.

05 07 16 27 P That's it.

05 07 16 28 CC Okay. What size film was it you gave me where you had two and three-quarter magazines left?

05 07 16 36 P 16mm.

05 07 16 37 CC Right. Thank you.

05 07 16 40 C We have also taken about 50 S-5/S-6 photographs with the extra 35mm film pack.

05 07 16 54 CC Roger. Well, that's the status.

05 07 17 10 CC Okay. Could you give us the scores from your vision test.

05 07 17 14 P Okay. I'll get you one here. There's only one that you haven't gotten.

05 07 17 19 CC Okay.

05 07 17 29 P Okay. Last night at 05 days 08 hours 40 minutes, the Command Pilot has 10 wrong; and on the M-9, the scores were 95, 95, 94, 96, 96.

05 07 17 50 CC Roger.

05 07 17 52 P On the Pilot, the S-8/D-13 were 6 wrong. M-9 scores were 95, 93, 92, 98, 98.

05 07 18 04 CC Good. We'd also like to get an evaluation of the mode of failure on the tape recorder and approximately what time it happened.

05 07 18 15 P We don't have any idea what time it happened because we just realized that we'd done a lot of talking on the tape and hadn't gotten a record light, and it should stop running.

CONFIDENTIAL

CONFIDENTIAL

477

05 07 18 26 CC Roger. Understand.

05 07 19 05 CC Gemini-5, RKV CAP COM. We have nothing else for you this pass. We'll be standing by.

05 07 19 10 C Okay, fine. Thank you. ...

COASTAL SENTRY QUEBEC

05 08 08 31 CC Gemini-5, CSQ.

05 08 08 34 P This is Gemini-5, go ahead CSQ.

05 08 08 37 CC Roger, we have you GO on the ground and Houston advised on your tape recorder problem. Confirm that the TONE-VOX Circuit Breaker is closed and also try changing the tape cartridge. Over.

05 08 08 52 P Roger, we've done both.

05 08 08 55 CC Roger. They'd also like to know what cabin lights you have on.

05 08 09 00 P ... configuration right now, we have just one light on.

05 08 09 06 CC Copy. One light on.

05 08 09 09 P Right, Right Pilot's light.

05 08 09 11 CC Copy.

05 08 09 59 CC Gemini-5, CSQ.

05 08 10 02 P Go ahead.

05 08 10 03 CC Roger. We'd like your OAMS Heater Circuit Breaker on at this time if it's not already on. Over.

05 08 10 08 P ...

05 08 10 13 P Roger. It's been on since this morning.

05 08 10 16 CC CSQ copy.

05 08 10 38 CC CSQ has nothing further. We're standing by.

05 08 10 41 P ...

CONFIDENTIAL

CONFIDENTIAL

HAWAII

05 08 26 14 CC Gemini-5, Hawaii CAP COM.

05 08 26 17 P Go ahead, Hawaii.

05 08 26 18 CC Roger, all systems are GO. We'd like a quantity read of Fuel Cell H₂. Just put the switch over; you don't have to give us a reading.

05 08 27 04 CC Would you go back to ECS O₂ please?

05 08 27 34 CC Okay, you can put the switch to OFF now.

05 08 28 29 CC How are your rates doing, Gemini-5?

05 08 28 36 CC Gemini-5, how are your rates doing?

05 08 29 08 P Hawaii, Gemini-5. Do you read?

05 08 29 10 CC I read you loud and clear.

05 08 29 12 P Okay, the rates are about 6 degrees per second.

05 08 29 14 CC Roger.

05 08 29 18 P That's only of one axis.

05 08 29 21 CC Which one?

05 08 29 22 P Well, the vehicle is tumbling and it changes axis, but that's the big rotation.

05 08 29 28 CC Okay.

05 08 29 32 P It's mostly in pitch with a little yaw.

05 08 29 35 CC Roger.

05 08 29 45 CC How do you feel about those rates, Pete?

05 08 29 47 P They're all right.

05 08 29 49 CC They don't bother you?

05 08 29 50 P No.

CONFIDENTIAL

CONFIDENTIAL

479

05 08 31 00 P You read, Hawaii?
05 08 31 02 CC Roger.
05 08 31 03 P How much electrical power do you show us drawing down there?
05 08 31 06 CC Stand by.
05 08 31 13 CC 15 amps on main bus.
05 08 31 16 P Okay.

ROSE KNOT VICTOR

05 08 46 43 CC Gemini-5, RKV CAP COM.
05 08 46 46 P Go ahead, RKV.
05 08 46 48 CC I have some Flight Plan updates for you. You can acknowledge when you're ready to copy.
05 08 46 52 P All right.
05 08 46 56 P Gemini-5, ready to copy.
05 08 46 58 CC Roger. Cabin Lighting, 5:23:59:26. Heads Down, S-8/D-13, 6:01:50:00, Sequence 01 and 02, nominal.
05 08 47 29 P Roger.
05 08 47 30 CC MSC-1, 6:05:20:00, nominal.
05 08 47 43 P Roger.
05 08 47 44 CC We would like for you to open your OAMS Heater Circuit Breaker for about 30 seconds so we can get some readouts.
05 08 47 52 P Roger. Heater Circuit Breaker is coming off, NOW.
05 08 47 57 CC Roger.
05 08 48 13 CC Gemini-5, you may close the Circuit Breaker at this time.
05 08 48 17 P Roger. Close.

CONFIDENTIAL

CONFIDENTIAL

05 08 48 19 CC Roger, thank you. All systems real good on the ground. We have nothing else for you. We'll be standing by.

05 08 48 25 P Roger. We're standing by.

COASTAL SENTRY QUEBEC

05 09 43 47 CC Gemini-5, CSQ CAP COM.

05 09 43 52 P Go ahead, CSQ. Gemini-5 here.

05 09 43 54 CC Roger. We have you GO on the ground, and we'd like to advise you to delete the Cabin Lighting Survey that was scheduled, the next scheduled one. We'd like a reading of the number of Heads-Up and number of Heads-Down Surveys you've taken.

05 09 44 11 P So far they're all either heads-up or tumbling.

05 09 44 16 CC Roger, copy. Could you give me the number of each, please?

05 09 44 42 P 2 heads-up and 2 drifting.

05 09 44 45 CC Copy. And we'd also like to remind you that you have a Medical Data Pass over the RKV in the next revolution, the time 00:21:32. Over.

05 09 45 05 P 00:21:32.

05 09 45 07 CC That's affirm.

05 09 45 12 P Okay, you can advise Flight that our tumbling rate is now 8 degrees.

05 09 45 19 CC Copy, rate's now 8 degrees. Is that affirm?

05 09 45 22 P Affirm.

05 09 45 24 CC Roger. We have nothing further. Standing by.

05 09 45 29 P Roger, we're standing by.

05 09 45 33 CC That's affirmative.

CONFIDENTIAL

CONFIDENTIAL

481

ROSE KNOT VICTOR

05 10 22 04 CC We have a valid oral temp. Standing by for your blood pressure.

05 10 22 24 CC Gemini-5, this is RKV Surgeon. Your cuff is full-scale.

05 10 22 55 CC Gemini-5, we have a good blood pressure. Give me a mark when you begin exercise, please.

05 10 23 50 CC Gemini-5, we have a good blood pressure. Standing by for your water report.

05 10 24 08 CC Gemini-5, RKV Surgeon, do you read?

05 10 24 21 CC Gemini-5, this is RKV. Will you bring up your UHF transmitter?

05 10 24 31 P Roger, RKV ... our water is 27 pounds 6 ounces ...

05 10 24 41 CC Repeat, please.

05 10 24 42 P 27 pounds 6 ounces.

05 10 24 45 CC Thank you, I read.

05 10 24 52 P ... 3 Charlie 05:17:00:00.

05 10 25 00 CC 3 Charlie; please repeat time.

05 10 25 05 P 05:17:00:00.

05 10 25 08 CC Roger, thank you. RKV Surgeon out.

05 10 25 14 CC Gemini-5, this is RKV CAP COM. I have a Map and Star and Tracking Task update for you. Acknowledge when you're ready to copy.

05 10 25 21 P Roger. Ready to copy.

05 10 25 24 CC Map, 00:51:25, Longitude, 14.5 degrees East, Rev 83. Star, 00:51:25, 00:08:52, S-7, 02:59:40, Sequence 1, if possible. Do you copy?

05 10 26 17 P Roger. I have a message for you to relay to Houston.

CONFIDENTIAL

CONFIDENTIAL

05 10 26 25 P And you can call it power up 06:00:10:00. We powered up the ACME inverter, the ACME bias power, the rate gyros, the FDI's for 3 minutes to kill off the 8 degree rate, and powered back down.

05 10 26 46 CC Could you tell me again what you powered up, please?

05 10 26 47 P ACME inverter, ACME bias power, rate gyros, the FDI's.

05 10 26 56 CC Roger, understand. Copy.

05 10 27 20 P RKV, that S-7 was 02:59:40, is that correct?

05 10 27 24 CC That's affirmative.

05 10 27 27 P Okay, we're standing by.

05 10 27 29 CC Roger, we're standing by here for you. All systems are GO on the ground.

05 10 27 36 P Could you tell me what the radiator outlet temperature is?

05 10 27 45 CC Zero degrees.

05 10 27 47 P What's the ...

05 10 27 50 CC Say again.

05 10 27 53 P What is the radiator inlet temperature?

05 10 28 01 CC We're getting 31 psia, pump inlet pressure.

05 10 28 09 P ...

COASTAL SENTRY QUEBEC

05 11 17 55 CC Gemini-5, CSQ.

05 11 18 02 CC Gemini-5, CSQ. You are GO on the ground, and we are standing by for a fuel cell purge. Over.

05 11 18 09 C Roger. We're GO up here ... purge fuel cell ...

05 11 18 17 C Stand by for H₂ No. 1. MARK.

CONFIDENTIAL

CONFIDENTIAL

483

05 11 18 33 C Stand by for H₂ No. 2. MARK.

05 11 18 52 C Stand by for oxygen purge No. 1. MARK.

05 11 21 01 C No. 1 O₂ purge complete. Stand by for No. 2. MARK.

05 11 22 02 CC Gemini-5, CSQ.

05 11 22 04 C Go ahead, CSQ.

05 11 22 06 CC Could you give us the voltage readings on 2A, 2B and 2C please? Over.

05 11 22 12 C Roger. Wait until I finish the purge here.

05 11 22 34 C Roger. All three of them are better than 33 volts.

05 11 22 37 CC Copy above at 33 volts. And I have some information for you to copy if you're ready.

05 11 22 44 C Okay. Just a moment. Go ahead.

05 11 22 48 CC Okay. Tropical depression located 21 degrees North, 157.5 degrees East, time of closest approach 01:27:00. Like a description, position report, presence of an eye and so forth, if you are in proper attitude. Don't use any fuel. Over.

05 11 23 12 C Okay.

05 11 23 17 C Fuel cell is purged complete and ... off.

05 11 23 25 CC CSQ. Copy.

ROSE KNOT VICTOR

05 11 57 13 CC Roger. We have a PLA update for you. Acknowledge when you are ready to copy.

05 11 57 18 P Okay. Ready to copy.

05 11 57 25 CC Area 86-Delta, 05:05:28, 17 plus 48, 22 plus 31. 87-2, 06:40:52, 16 plus 24, 21 plus 15. 88-2, 08:16:49, 14 plus 52, 19 plus 50. 89-1, 09:39:09, 16 plus 30, 21 plus 25. Area 90-1, 11:15:07, 14 plus 58, 19 plus 56. All bank angles remain the same, roll left 51, roll right 69. The weather is

CONFIDENTIAL

CONFIDENTIAL

good in all areas.

05 11 59 12 P Roger. Would you give us the first one? I didn't get the first one at all.

05 11 59 15 CC Roger. 86-Delta, 05:05:08, 17 plus 48, 22 plus 31.

05 11 59 34 P Okay. Got them all.

05 11 59 35 CC Roger. We would like to remind you to remind the Command Pilot he has a Medical Data Pass over the CSQ on Rev 84. I'll give you the time: 02:50:52.

05 11 59 50 C Roger. Thank you.

05 11 59 52 CC Okay. We'd also like to know if you noted any sluggishness in your thrusters when you were damping out your rates up there.

05 12 00 01 C They didn't seem too speedy, but they seemed to move fairly well.

05 12 00 06 CC Understand. Not too speedy.

05 12 00 11 CC We'd also like to know if you noted that tropical storm around Wake Island.

05 12 00 16 C Affirmative. We did. It had a center eye to it.

05 12 00 20 CC Roger. Can you describe it in any way?

05 12 00 23 C It was quite large and ...

05 12 00 29 CC Roger.

05 12 00 33 C It looked like it was on the build rather than ... It looked like it was just starting to really build.

05 12 00 40 CC Understand.

05 12 00 53 CC Well ... That's all we have from here. This is RKV. We will be standing by.

05 12 00 57 C Fine. Thank you.

CONFIDENTIAL

CONFIDENTIAL

485

COASTAL SENTRY QUEBEC

05 12 52 19 CC Gemini-5, CSQ. Have you GO on the ground, and we have a valid temperature. Standing by for blood pressure.

05 12 52 31 CC Gemini-5, CSQ Surgeon and blood pressure cuff on full-scale.

05 12 53 10 CC Gemini-5, CSQ Surgeon. We have a valid blood pressure. Give me a mark when you begin exercise.

05 12 53 24 C Ready, MARK.

05 12 53 55 C End exercise.

05 12 54 04 CC Gemini-5, CSQ Surgeon. Your cuff is not at full-scale.

05 12 54 10 CC Gemini-5, CSQ Surgeon. It is at full-scale now.

05 12 54 44 CC Gemini-5, CSQ Surgeon. We have a valid blood pressure. Standing by for water report.

05 12 54 57 C Roger, we have Command Pilot has drunk 28 pounds 1 ounce, 3 pounds 1 ounce or ...

05 12 55 08 CC Roger, 28 pounds 1 ounce.

05 12 55 12 C ... at 17:00:00 I had 3C, Meal 3C.

05 12 55 23 CC Understand, Meal 3C at 17:00:00.

05 12 55 25 C Roger. Do you want the scores on the S-8/C-13/M-9 for the Pilot and myself?

05 12 55 31 CC If you'd like, we can take those.

05 12 55 34 C Okay, the Pilot had 5 wrong on the S-8/D-13, and on the M-9 his scores were as follows: 99, 97, 99, 97, 98.

05 12 55 53 CC Roger, that was all for the Pilot, right?

05 12 55 55 C Right. On the Command Pilot, I had 8 wrong. My numbers on M-9 were 91, 91, 92, 92, 92.

CONFIDENTIAL

CONFIDENTIAL

05 12 56 11 CC Roger, understand 8 wrong, 91, 91, 92, 92, and 92.
05 12 56 16 C Roger.
05 12 56 18 CC I'll turn you over to CAP COM now.
05 12 56 20 C Okay.
05 12 56 22 CC Gemini-5, CSQ, I have the map update if you're ready to copy.
05 12 56 26 C Roger, go.
05 12 56 28 CC Roger. Map, 05:19:09, Longitude 54 degrees West, Rev 86. Star, 05:19:09, 00:03:20 right ascension.
05 12 57 04 C Okay, fine.
05 12 57 11 CC CSQ has nothing further. Standing by.
05 12 57 14 C All right, fine. Thank you.

ROSE KNOT VICTOR

05 13 31 37 CC RKV CAP COM, all systems are GO on the ground. We have nothing for you this pass. We'll be standing by.
05 13 31 43 C Roger, RKV CAP COM, Gemini-5. Everything looks good up here.
05 13 31 47 CC Roger.

COASTAL SENTRY QUEBEC

05 14 26 48 CC Gemini-5, CSQ has you GO on the ground. We have nothing for you this pass. Standing by.
05 14 26 55 C Roger, CSQ. I read you.

ROSE KNOT VICTOR

05 15 07 04 CC Gemini-5, RKV CAP COM.
05 15 07 08 C Roger RKV CAP COM, Gemini-5.
05 15 07 10 CC Roger. All systems are GO on the ground. We have

CONFIDENTIAL

CONFIDENTIAL

487

nothing for you this pass. We'll be standing by.

05 15 07 15 C Okay, fine. Thank you.

CANARY ISLANDS

05 15 28 12 CC Gemini-5, this is Canary CAP COM. We have nothing for you on this pass. You are looking good on the ground.

05 15 28 28 C Roger, Canaries. Gemini-5 here. Thank you very much.

05 15 28 35 CC Roger.

ROSE KNOT VICTOR

05 16 41 45 CC Gemini-5, RKV CAP COM.

05 16 42 10 C Roger, Gemini-5 here, RKV.

05 16 42 13 CC Roger, all systems are good on the ground. We have nothing else for you at this time. We'll be standing by.

05 16 42 18 C Okay, very fine. Thank you.

05 16 42 20 CC Roger.

05 16 42 43 CC Gemini-5, RKV CAP COM.

05 16 42 46 C Go ahead, RKV.

05 16 42 47 CC How are your rates doing by now?

05 16 42 50 C Roger, we just damped them again at about 20 minutes ago. I powered up and I redamped and the rates went up to about 12 degrees per second.

05 16 43 07 CC Roger, understand. How did it feel at 12 degrees?

05 16 43 14 C A little bit high. Not too bad, but I thought we'd get better heating as soon as I start damping them down.

05 16 43 24 CC Roger, understand. I was just curious as to just how they felt to you at 12 degrees.

CONFIDENTIAL

CONFIDENTIAL

05 16 43 30 C Roger, I couldn't really feel it specifically ... except that a lot of this stuff floating around would get slung to the sides of the cockpit.

05 16 43 41 CC Roger, understand. Thank you.

05 16 43 48 C We had to power up for about 1 minute there ... AC power up in the adapter ... down and back off it.

05 16 43 56 CC Roger, thank you.

CANARY ISLANDS

05 17 01 54 CC Gemini-5, this is Canary CAP COM. We have nothing for you. Standing by. Everything looks good on the ground.

05 17 02 31 P Roger, Canary, Gemini-5. Everything is fine here.

05 17 02 35 CC Roger.

CARNARVON

02 17 38 09 CC Gemini-5, Carnarvon CAP COM. I have a Flight Plan update. Are you prepared to copy?

05 17 38 16 P Roger, wait one.

05 17 38 47 P Good morning, Carnarvon, Gemini-5 here. Ready to copy.

05 17 38 50 CC Good morning. Okay, first item S-8/D-13, Sequence No. 01 and 02, Remarks, increase to three 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, Sierra 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. Okay, continue to make visual and photo passes if possible without using fuel. Do you copy?

05 17 40 43 P ... and on the D-4/D-7 would you give me the time again?

05 17 40 46 CC Roger. Time was 08 hours 41 minutes 16 seconds.

CONFIDENTIAL

CONFIDENTIAL

489

05 17 40 57 P Okay. That's it, huh?

05 17 50 59 CC That's it. Houston will give you more updates on Rev 88.

05 17 41 06 P Roger.

05 17 41 09 CC Looks like we're going to give you a chance at this Visual Acuity pattern down at Woodly on next pass.

05 17 41 15 P Right.

05 17 41 17 CC Got a beautiful day down here. Hope you happen to be in attitude.

05 17 41 20 P So do we.

05 17 43 20 CC We got about a minute to LOS. Standing by.

05 17 43 23 P Roger.

05 17 43 34 P What chance we had to look at you, we were pointed straight up.

05 17 43 38 CC Oh, great. Hope you're pointed straight down next pass. Or almost straight down.

05 17 44 14 CC Gemini-5, Carnarvon. Okay. Use no fuel for the experiments.

05 17 44 19 P Roger.

05 17 44 21 CC Roger.

HOUSTON

05 18 24 26 CC Gemini-5, Houston CAP COM. Over.

05 18 24 42 CC Gemini-5, Gemini-5, Houston CAP COM. Over.

05 18 25 04 C Hello, Houston, Gemini-5 here. Go ahead.

05 18 25 07 CC Roger. I have some Flight Plan updates if you're ready to copy.

05 18 25 12 P Wait one.

CONFIDENTIAL

CONFIDENTIAL

05 18 25 14 CC Roger.

05 18 25 31 P Ready to copy.

05 18 25 32 CC Roger. The first one is D-4/D-7, 10:27:00, Sequence No. 418 and 417, Remarks, recorder on 3 minutes maximum.

05 18 25 54 P Ready to copy.

05 18 25 56 CC Roger. Did you catch that first D-4/D-7?

05 18 26 05 CC Gemini-5, Houston. Do you read?

05 18 26 21 CC Gemini-5, Houston. Do you read?

05 18 26 23 P Read you very weakly.

05 18 26 26 CC Roger. Did you copy the first D-4/D-7 I read?

05 18 26 30 P No.

05 18 26 31 CC Roger. D-4/D-7 at 10:27:00, Sequence No. 418 and 417, Remarks, recorder on 3 minutes maximum. S-6, 11:29:00, Sequence No. 01. S-6, 13:22:00, Sequence No. 07.

05 18 27 18 P Houston, say again.

05 18 27 20 CC Roger. S-6, 13:22:00, Sequence No. 07.

05 18 27 38 CC 35:00, Sequence No. 02. D-6, 14:33:54, Sequence No. 05, Mode No. 08, pitch 30 down, yaw 06 left, speed 60. If completed, notify ground as soon as possible.

05 18 28 23 P Say again after S-6, Houston. I haven't read anything until just the very end of your message.

05 18 28 30 CC Okay. Evidently it's too hard to copy. We'll let Carnarvon pass them up. Okay?

05 18 28 35 P You're coming in loud and clear now.

05 18 28 39 CC Okay, give us about 10 seconds each on the quantity read ECS O₂, Fuel Cell O₂ and Fuel Cell H₂. And you don't have to read out the onboard.

CONFIDENTIAL

CONFIDENTIAL

491

05 18 28 50 P Okay.

05 18 28 52 CC And we'll get you a fuel cell purge at Carnarvon.

05 18 28 55 P Okay.

05 18 28 57 CC Okay, we'll go on after the S-6. S-5 had 13:35:00, Sequence No. 02. D-6, 14:33:54, Sequence No. 05, Mode No. 08, pitch 30 down, yaw 06 left, speed 60. If completed, notify ground as soon as possible. Are you copying all right now?

05 18 29 47 P Yes.

05 18 29 47 CC Okay. Next item. D-6, 14:36:00, Sequence No. 135, pitch 30 down, yaw 07 right. Report on observation.

05 18 30 14 P Say again.

05 18 30 16 CC On the last one it was report on your observations on the D-6. Did you copy the rest of it?

05 18 30 22 P I need the yaw.

05 18 30 24 CC Yaw 07 right.

05 18 30 31 P And report on observation.

05 18 30 34 CC That's affirmative. D-6, 14:31:02, Sequence No. 21, Mode No. 08, pitch 30 down, yaw 07 left, speed 60.

05 18 31 05 P Copy.

05 18 31 06 CC S-6, 14:50:00, Sequence 06, Remarks, south of track. S-5, 15:10:00, Sequence No. 02. D-6, 16:08:09, Sequence No. 05, pitch 30 down, yaw 15 left. If completed, notify ground as soon as possible.

05 18 31 55 P What's the mode number?

05 18 31 57 CC Negative mode number. We'll pass up a correction on that when you get to Carnarvon. I don't have the speed number either.

05 18 32 09 P Elliot there?

05 18 32 11 CC Go ahead. Roger. Be advised we're reading.

CONFIDENTIAL

CONFIDENTIAL

05 18 32 14 P What's the story on the H₂? I got it going off the bottom of the peg at the end of 7 days.

05 18 32 20 CC Roger. Be advised we're reading suit temperatures up to about 70. You got any comment on that?

05 18 32 25 P That's where they are. It's cold in here.

05 18 32 27 CC Okay. Understand.

05 18 32 30 C Everything's freezing up.

05 18 32 32 CC Roger. Negative sweat on the H₂. It's okay. Pete, the usage rate on that will level off as you go along here.

05 18 32 42 P ... for days ...

05 18 32 45 CC Say again.

05 18 32 47 P You've been saying that for days and it hasn't.

05 18 32 51 CC You haven't gotten to the level-off point yet.

05 18 32 54 P Okay.

05 18 32 55 CC It's 10% above the estimate right now.

05 18 33 01 CC Okay, we about had LOS. We'll get the rest of it up to you at Carnarvon.

05 18 34 01 C Roger. I read you loud and clear.

05 18 34 05 CC All right. We have no special instructions for you this pass. We're standing by.

05 18 34 12 C Roger. We have a minute and a half to acquisition.

05 18 34 15 CC Roger.

CANARY ISLANDS

05 18 39 47 CC Gemini-5, this is Canary CAP COM. We have nothing for you. Everything looks good from here.

05 18 39 54 P Roger, Canary. Gemini-5's GO here.

CONFIDENTIAL

CONFIDENTIAL

493

05 18 39 59 CC Roger.

CARNARVON

05 19 11 08 CC Gemini-5, Carnarvon CAP COM.

05 19 11 13 P Come in, Carnarvon.

05 19 11 14 CC Roger. We'd like a fuel cell purge on Section 1 and 2. We're waiting for your mark.

05 19 11 24 P Roger. Commencing hydrogen purge on 1, NOW.

05 19 11 39 P Hydrogen purge complete on 1. Starting 2.

05 19 11 42 CC Roger.

05 19 11 55 P Hydrogen purge complete on 2. Commencing oxygen on 1.

05 19 11 58 CC Roger.

05 19 12 26 CC Think you'll have a chance at that Visual Acuity?

05 19 12 29 P I don't know. We're looking straight up again.

05 19 12 31 CC Roger.

05 19 14 00 P Okay, O₂ purge is complete on No. 1.

05 19 14 02 CC Roger.

05 19 14 03 P Just a second while we look for the target.

05 19 14 06 CC Roger.

05 19 14 22 CC They got three columns of smoke running left from the site toward the coast.

05 19 14 29 P Okay. Sharksmouth Bay is just coming into sight, but we're pitching up again ...

05 19 14 51 CC Smoke is blowing from south to north.

05 19 14 54 P Well, my side of the spacecraft is towards the BEF and we're pitching up and I just saw Sharksmouth Bay and that was it.

CONFIDENTIAL

CONFIDENTIAL

05 19 15 05 CC Roger.

05 19 15 06 P Gordo has the smoke in sight right now on his side, but we're pitching up and I'm afraid we'll lose it.

05 19 15 23 C I had smoke in sight but we just pitched by--

05 19 15 27 CC Roger.

05 19 15 32 P ... going to start purge on Section 2 on my mark. MARK.

05 19 15 38 CC Roger.

05 19 16 21 P Visibility was really good down there. It's too bad we weren't in the right position.

05 19 16 26 CC Roger, Pete. Yes, the weather here is beautiful.

05 19 16 39 P Is it too cold to swim?

05 19 16 42 CC They tell me a swimming pool ... But it's a little bit too cool yet.

05 19 16 51 P Yes, I keep forgetting it's winter.

05 19 16 53 CC Right. It's beginning to warm up.

05 19 17 05 P Hey, you can tell them that I got some 414 and 417's for them in Africa instead of around the Cape coming over on this last pass, on the D-4/7.

05 19 17 23 CC Roger. I got that.

05 19 17 27 P ...

05 19 17 32 CC Say again.

05 19 17 33 P I can still see the smoke.

05 19 17 36 CC Okay. The site's about 3 miles east of the third column of smoke, inland.

05 19 17 43 P Well, we're a good 300 miles from it now, past it, but we can still see the smoke.

05 19 17 48 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

495

05 19 17 53 P Okay. Section 2 purge is complete.

05 19 17 56 CC Roger. We'll have another try at that site tomorrow.

05 19 18 01 P Okay.

05 19 18 21 CC Everything looks good on the ground. Stand by.

05 19 18 23 P Thank you. We're GO up here. See you next pass.

05 19 18 26 CC Roger.

05 19 18 43 CC Can you give us a quantity read on Fuel Cell O₂.

05 19 18 57 CC Fuel Cell O₂.

05 19 19 05 CC And on my mark switch to Fuel Cell H₂.

05 19 19 11 CC Okay. GO. Fuel Cell H₂.

TEXAS

05 19 53 23 CC Gemini-5, Gemini-5, Houston CAP COM. Over.

05 19 53 48 CC Gemini-5, Gemini-5, Houston CAP COM. Over.

05 19 53 58 P Houston CAP COM. Gemini-5 here. Over.

05 19 54 01 CC Roger. You're looking good on the ground. I've got some updates on your Flight Plan if you're ready to copy.

05 19 54 09 P Okay.

05 19 54 11 CC Roger. If you go back to where we started before, we began with the D-4/D-7, then we had two S-6's. Did you copy both of those S-6's?

05 19 54 23 P Negative. I never got either one.

05 19 54 25 CC Okay. Did you get the D-4/D-7?

05 19 54 28 P 418 and 417?

05 19 54 30 CC That's affirm.

CONFIDENTIAL

CONFIDENTIAL

05 19 54 31 P Yes.

05 19 54 32 CC Okay. The first S-6 was 11:29:00, Sequence No. 01.
Copy?

05 19 54 45 P Roger, S-6, 11:29:00, Sequence No. 01.

05 19 54 50 CC All right. The next one was an S-6 at 13:22:00.
Sequence No. 07.

05 19 55 00 P Okay. 13:22:00, 07.

05 19 55 03 CC Roger. Then did you get the S-5 after that? It
was 13:35:00.

05 19 55 10 P Affirm.

05 19 55 12 CC All right. Then go on down your list to the D-6 at
14:31:02. I have a correction for that one.

05 19 55 19 P Okay.

05 19 55 21 CC The time should be 14:38:02.

05 19 55 29 P Okay.

05 19 55 30 CC And then on down to the D-6 at 16:08:09. I have
a correction for that one.

05 19 55 36 P Go ahead.

05 19 55 38 CC The mode number is 01, the speed is 30.

05 19 55 45 P We're not supposed to use any fuel; is that correct?

05 19 55 47 CC That is affirmative.

05 19 55 51 CC Okay. Then I have two more if you're ready to copy.

05 19 55 55 P Go ahead.

05 19 55 57 CC S-8/D-13, 16:11:50, Sequence No. 03, pitch 30 down,
yaw 10 right, 70mm photos if possible. S-6 16:24:00.
Sequence No. 06.

05 19 56 29 P What was this now, say again.

CONFIDENTIAL

CONFIDENTIAL

497

05 19 56 31 CC Okay. The last one is an S-6 and the time is 16:24:00. The sequence number is 06.

05 19 56 42 P Okay.

05 19 56 44 CC Okay. Then on your general Flight Plan we have a deletion on one medical data and a substitution. Delete Med Data Pass at the Canaries coming up and perform this at Guaymas with an acquisition time of 11:23:38.

05 19 57 07 P Wait a minute. Oh-oh. Say again the time.

05 19 57 11 CC Okay. The acquisition at Guaymas is 11:23:38, and that will be a Medical Data Pass on the Pilot.

05 19 57 21 P Delete the one where?

05 19 57 24 CC At the Canary Islands on the 89th Rev.

05 19 57 29 P Thank you.

05 19 57 30 CC Okay. And then a general comment here during your drifting flight in order to try to get as many of the experiments as we can. Take any D-6 type photos that are convenient to you. Okay?

05 19 57 43 P D-6?

05 19 57 44 CC Right. Any D-6 that you see that looks good and you have the equipment out, go ahead and take them.

05 19 57 50 P You can't do this with those big lenses, you know. You've got to stop this stuff on the ground.

05 19 57 56 CC Yes. That's affirm, but if you can anticipate something like El Centro and you have the opportunity to take it if you are in the right attitude, go ahead and give it a whirl. We don't need a lot, but we just thought we'd give you the free hand of go ahead and taking those things if you have the opportunity.

05 19 58 12 P ...

05 19 58 13 CC And then on the D-4/D-7 if you are over a receiving station, and again if the opportunity presents it-

CONFIDENTIAL

CONFIDENTIAL

self, try the following sequence numbers: 407, 410 Charlie and 414 through 419. We don't want you to use a recorder unless we specify it in our Flight Plan updates; but if you happen to be over a receiving station, we're all set up to receive you on the ground. Copy?

- 05 19 58 46 P Okay. I got 407, 410 Charlie, 414 through 419. What else?
- 05 19 58 51 CC Well, do not use a recorder unless we specify so in your Flight Plan updates that we have given you. Unless we give you a time to use a recorder don't use it. All our receiving stations are up and they are standing by in case you happen to be able to perform it while you're overhead.
- 05 19 59 08 P Yes, okay. Well, I used the recorder here a little while ago. I didn't get the 418's or 17's, don't remember which, the Cape, but I got it at the east coast of Africa.
- 05 19 59 22 CC Oh, that's okay. That's fine because we wanted you to go ahead and use it on that one anyway. Okay, and on your weather observations you've been doing a real good job, and the weathermen are really happy with it down here. 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 will really help them in their predictions. Okay?
- 05 19 59 49 P All right.
- 05 19 59 50 CC And I have a couple of questions on your thrusters when you were damping your rates during the last few revolutions. Did any other OAMS thrusters other than 7 and 8 show a degraded performance?
- 05 20 00 07 P Well, we 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.
- 05 20 00 20 CC Roger. Understand. Well, we're trying to figure it out down here and we haven't got an answer yet. Were the circuit breakers on No. 7 and 8 closed

CONFIDENTIAL

CONFIDENTIAL

499

while you were trying to damp the rates?

- 05 20 00 32 P 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.
- 05 20 00 42 CC Oh. Well, that's what we're wondering about, if you had them closed. Did you make any attempt to fire 7 and 8, and did you get any response?
- 05 20 00 48 P No response.
- 05 20 00 51 CC Okay. Fine. Understand.
- 05 20 00 56 P Now, we haven't done it on the dark side yet and of course we noticed No. 8 was firing but giving no thrust so it was firing off mixture.
- 05 20 01 13 CC Roger. Okay. We understand.
- 05 20 01 15 P I've got some thoughts for you on the ground. We broke off a piece of frozen urine, maybe 3-1/2 inches by 4, and we've noticed an awful lot of stuff floating by the spacecraft which must come from the medic trials.
- 05 20 01 34 CC Oh, understand.
- 05 20 01 35 P I'm wondering if maybe something hasn't run into these thrusters when we hadn't been using them, or something like that.
- 05 20 01 47 CC Okay. Understand your comments. We'll be looking into it.
- 05 20 01 51 P Yes. I'm not exactly sure where all the different vent holes are on the spacecraft in relation to the thrusters.
- 05 20 01 58 CC Okay. Understand.
- 05 20 02 06 CC Pete, in regard to your hydrogen, it looks like it will be about 15 more hours before your curve levels off on that, so you can expect this rate to ... level out quite drastically.

CONFIDENTIAL

CONFIDENTIAL

- 05 20 02 26 P You're sure?
- 05 20 02 28 CC That's what the curve says here. It's a curve that we did not have before flight, but it's the type of 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.
- 05 20 02 50 P Okay.
- 05 20 02 51 CC The fact that we are running ahead of it is why you got another 15 hours to go before you level out.
- 05 20 02 59 P I see.
- 05 20 03 01 CC 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 actually stopped. Then, in other words, the rates do not decrease at all; they merely go in different directions.
- 05 20 03 25 P Yes. Well, in the Questar lens a 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, and even if it did, you'd never get a picture.
- 05 20 03 41 CC Because of the rate.
- 05 20 03 43 P That's true and equally true with the 200mm, although it doesn't blow up quite as big.
- 05 20 03 50 CC Roger. I understand.
- 05 20 03 52 P ... don't even think it's worthwhile rigging the gear myself.
- 05 20 03 56 CC Well, 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

CONFIDENTIAL

CONFIDENTIAL

501

when they analyze the pictures.

- 05 20 04 15 P Well, we've got plenty of pictures for them out of the Questar anyhow. Over 70.
- 05 20 04 22 CC I'll bet. 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.
- 05 20 04 32 P Yes, we'll do that. The venting must have slowed down because the rates haven't built up too badly. We're zinging along here about 2 degrees per second now.
- 05 20 04 49 CC Okay. Understand.
- 05 20 04 51 CC Okay. That's about what we expected.
- 05 20 04 54 P Very unfortunately it was a beautiful day in Australia and we were just not in the right position to see the S-8/D-14. We saw Sharksmouth Bay, that's the last thing we saw. We were pitching up and then we saw the smoke streams 300 miles past over our shoulder. So I am sure we would have seen it.
- 05 20 05 14 CC Okay. We copied the pass as you went over, and we'll plan it again for tomorrow.
- 05 20 05 19 CC I lost a bet on that one, Pete.
- 05 20 05 22 P What was that?
- 05 20 05 24 CC I bet you'd be looking at it.
- 05 20 05 25 P We came pretty close.
- 05 20 05 34 CC I guess you're aware that the thing that 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.
- 05 20 05 47 P Yes. And that's the one thing ... we have been talking this whole thing over, and we're aware of all the problems.
- 05 20 05 58 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

05 20 06 02 P We are beginning to feel ...

05 20 06 08 CC The effects of what?

05 20 06 10 P From being confined so long. We're getting stiff and so forth.

05 20 06 16 CC Maybe you ought to open the door and stretch a little bit.

05 20 06 19 P I'd sure like to.

05 20 06 24 CC I'm not sure we caught exactly what you said, Pete. We understand you are beginning to feel the effects of being cooped up. Was there any other comment?

05 20 06 34 P No other comments; it's just that we're getting stiff.

05 20 06 37 CC Roger.

05 20 06 41 CC The exerciser isn't enough on that, huh?

05 20 06 44 P No.

05 20 06 45 CC Roger.

05 20 06 47 P There's not really enough room to use it right.

05 20 06 51 CC Roger.

05 20 06 54 CC We about have LOS. We'll see you next pass.

05 20 06 57 P Okay.

CANARY ISLANDS

05 20 12 07 CC Gemini-5, this is Canary CAP COM. You look good on the ground. We have nothing for you. You need not reply.

CARNARVON

05 20 46 21 CC Gemini-5, Carnarvon CAP COM.

05 20 46 24 C Go ahead, Carnarvon, Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

503

05 20 46 26 CC Roger. We have a PLA update when you're ready to copy.

05 20 46 31 C Roger. Wait a minute.

05 20 46 46 CC They're using the end of the mission aerodynamics now to calculate the retrofire information, and the bank angle bias has changed from 9 degrees to 7 degrees on all the updates. The PLA's will be roll left 53, roll right 67 and CIA's will be roll left 83.

05 20 47 12 C Okay, we're ready to copy.

05 20 47 17 CC Did you copy that about the bank angles?

05 20 47 19 C That's affirm.

05 20 47 20 CC Roger. Okay, Area 91-1, 12:50:30, 13 plus 38, 18 plus 40. Area 92-1, 14:25:37, 12 plus 31, 18 plus 01. Area 93-4, 17:11:48, 15 plus 08, 20 plus 19. Area 94-4, 18:47:13, 13 plus 46, 19 plus 06. Area 95-4, 20:23:29, 12 plus 24, 18 plus 05. Do you copy?

05 20 49 14 P Had a ball, thank you.

05 20 49 16 CC Roger.

05 20 49 19 CC Also be advised that there is a Medical Pass on the Pilot at Guaymas this revolution. Guaymas AOS time is 11:23.

05 20 49 29 C Roger. We got it.

05 20 49 31 CC Roger.

05 20 49 32 C Gemini-5 is GO up here. Standing by.

05 20 49 36 CC Roger. You're GO down here.

GUAYMAS

05 21 23 09 CC Gemini-5, Guaymas CAP COM. Turn your T/M Control Switch to the REAL TIME and ACQ-AID position.

05 21 23 31 CC Gemini-5, Guaymas CAP COM.

CONFIDENTIAL

CONFIDENTIAL

05 21 23 36 CC If you read, put the oral temp thermometer into the Pilot's mouth.

05 21 23 51 C Roger. The Pilot is busy right at the moment.

05 21 23 55 CC Okay, while he's doing that, why don't you answer a couple questions for me. I'd like for you to get out your logbook. I want to know if you have completed three D-4/D-7 experiments.

05 21 24 10 P Okay, what do you want?

05 21 24 13 CC And you're looking good here on the ground.

05 21 24 23 C Okay, ...

05 21 24 25 CC Okay, the first one is one the 4th day, in the daytime. Group is 15:19:00-- it's Sequence 419-- have you completed this?

05 21 24 38 C Wait one, we'll check.

05 21 25 26 C Negative, we haven't done this 419.

05 21 25 28 CC Say again.

05 21 25 29 C We have not done this 419.

05 21 25 32 CC Okay, you have not completed 419. Have you completed Sequence 415--the daytime group of the 5th day-- 12:05:00?

05 21 26 02 C Hello, Guaymas. That's negative.

05 21 26 05 CC Guaymas here, go ahead.

05 21 26 07 C I say, that's negative. We have not done 415.

05 21 26 09 CC Okay, how about the 5th day, 14:05:00, Sequence 407?

05 21 26 18 C Negative.

05 21 26 19 CC Okay, can the Pilot put the oral temp probe in his mouth?

05 21 26 23 C Negative, you'll have to pick it up at some other station.

CONFIDENTIAL

CONFIDENTIAL

505

05 21 26 27 CC Say again.
05 21 26 30 C You'll have to pick it up at some other station.
05 21 26 31 CC Okay, very good.
05 21 26 33 CC Turn your Real Time T/M Control Switch to the
COMMAND position.
05 21 26 41 C Roger.

BERMUDA

05 21 34 06 P Hello, Houston, Gemini-5.
05 21 34 19 P Hello, Guaymas, Gemini-5.
05 21 34 22 CC Gemini-5, go ahead, Houston here.
05 21 34 25 P Oh, I was just checking. We didn't hear from you.
05 21 34 29 CC Well, we're just standing by. Everything looks
good on the ground.
05 21 34 34 P What's the T_R clock say?
05 21 34 41 CC 50 hours to go.
05 21 34 52 CC Do you want an exact T_R ?
05 21 34 55 C No, just joshing.
05 21 35 00 CC Say again, Gemini-5--Roger.
05 21 35 04 P We're just pulling your leg a little bit.
05 21 35 06 CC Good morning.
05 21 35 09 P Good morning to you.
05 21 35 13 CC Getting ready to change over here again only I'm
not handing over what I did yesterday to Chris.
Looks pretty good, Gemini-5.
05 21 35 24 P Okay, well it ought to; we haven't run anything
since yesterday, either.

CONFIDENTIAL

CONFIDENTIAL

05 21 35 30 CC They're going to grind it out, boy.

05 21 35 33 P Yes, our rate's still back up to about 6 degrees again. We're tumbling along here.

05 21 35 39 CC Gemini, Houston. How's the Pilot feeling now?

05 21 35 48 CC Morning, Peter.

05 21 35 50 P Good morning.

05 21 35 52 CC Beautiful day in Houston.

05 21 36 19 CC How's Gordo this morning?

05 21 36 23 C Just waking up.

05 21 36 26 CC Me too; hope you feel as well as I do.

05 21 36 32 C I imagine so.

05 21 36 34 CC Very good.

CANARY ISLANDS

05 21 46 47 CC Gemini-5, this is Canary CAP COM. We have a valid temperature on the Pilot.

05 21 47 02 CC You can pump up the blood cuff.

05 21 47 08 CC Gemini-5, this is Canary Surgeon, your cuff is full-scale.

05 21 47 54 CC We have a good blood pressure. Give me a mark when you begin exercise.

05 21 48 04 P MARK.

05 21 48 45 CC Your cuff is full-scale.

05 21 49 22 CC Okay, we have a good blood pressure; standing by for your water and sleep report.

05 21 49 45 C The Pilot has drunk 28 gallons 1 ounce. Last meal was 4A, 06:08:00:00. Sleep, 4 hours.

05 21 50 08 C Thank you, Earl ... Did you copy, Canaries?

CONFIDENTIAL

CONFIDENTIAL

507

05 21 50 11 CC Roger. Canary Surgeon copied.

05 21 50 31 CC Gemini-5, this is a reminder. There will be a Medical Data Pass on the Command Pilot over Carnarvon at 12 hours 20 minutes, that's 12 hours 20 minutes.

05 21 50 49 C Roger.

05 21 50 52 CC You're looking good here on the ground. We have nothing further for you. We're standing by for about another minute.

05 21 50 58 C Gemini-5, Roger. Standing by.

CARNARVON

05 22 21 11 CC Gemini-5, Carnarvon. We have a valid oral temp. Stand by for Surgeon.

05 22 21 17 CC Gemini-5, Carnarvon Surgeon. Standing by for your first blood pressure.

05 22 21 23 C Coming down.

05 22 21 25 CC Would you place your Quantity Read Switch to ECS O₂?

05 22 21 35 CC Cuff is full-scale.

05 22 22 10 CC We have your blood pressure. Standing by for exercise on your mark.

05 22 22 40 CC Would you go back to ECS O₂ on the Quantity Read Switch? Trying to get computer printout. I'll give you a cue when to switch them next.

05 22 22 59 CC Cuff is full-scale.

05 22 23 07 CC Okay, go to Fuel Cell O₂.

05 22 23 25 CC We have your second blood pressure. Standing by for your food, water and sleep reports for the past 24 hours.

05 22 24 03 CC Gemini-5, Carnarvon Surgeon. Do you copy?

CONFIDENTIAL

CONFIDENTIAL

05 22 24 11 C He's going to put it down on UHF ... for just a second. He'll be with you.

05 22 24 15 P Can you hear me now?

05 22 24 17 CC Roger.

05 22 24 18 C Okay. I've had 28 pounds 1 ounce of water, my total water.

05 22 24 24 CC Roger.

05 22 24 27 C My last meal was 4A at 06:08:00:00. Had a good 8 hours sleep last 24.

05 22 24 42 CC Roger. Quality of sleep?

05 22 24 45 C Very sound.

05 22 24 47 CC Good. You feel rested now?

05 22 24 50 C Roger, still sleepy.

05 22 24 53 CC Roger.

05 22 25 02 CC Okay, you can turn the Quantity Read Switch OFF. We've got them.

05 22 25 08 CC Now the Flight Plan update. Are you ready to copy?

05 22 25 12 C Ready to copy.

05 22 25 14 CC Roger. This is Delta 6 at 13:02. I'll repeat that time, 13:02:02, Sequence No. 135, pitch down 30, yaw left 28. Next item is Delta 6, D-6, time 16:10:28, Sequence No. 135, pitch down 30, yaw left 32. Do you copy?

05 22 26 15 C We got them.

05 22 26 20 CC Okay, everything looks good here on the ground. We're standing by.

05 22 26 24 C Okay. Thank you, everything looks good here.

05 22 26 47 CC Gemini, Carnarvon. Could you give us an idea of your present rates?

CONFIDENTIAL

CONFIDENTIAL

509

05 22 26 52 P Roger, 6 degrees per second.
05 22 26 55 CC Roger.
05 22 26 57 P It has taken us 12 hours to build up to that since the last time we damped.
05 22 27 03 CC Roger.
05 22 27 28 P I take it back; it takes about 3 hours.
05 22 27 12 CC You say it has taken about 3 hours to build up to 6 degrees?
05 22 27 15 P Yes. Gordo damped once apparently when I was asleep.
05 22 27 19 CC Roger.
05 22 27 27 P The highest we've seen 8 degrees per second and we went ahead. Excuse me, 12 degrees per second, and we quit there.
05 22 27 37 CC Roger, understand. Yes, we copied that earlier.

HAWAII

05 22 49 31 CC Gemini-5, this is Hawaii CAP COM. We have nothing for you this time. We're standing by. Your systems are Green.

GUAYMAS

05 22 57 19 CC Gemini-5, Guaymas CAP COM. Turn your T/M Control Switch to the REAL TIME and ACQ-AID position.
05 22 57 49 CC Gemini-5, Guaymas CAP COM.
05 22 57 54 C Go ahead Guaymas.
05 22 57 56 CC How are you doing?
05 22 57 58 P Roger, just fine.
05 22 58 00 CC Okay, you look real good here on the ground. As soon as we get these summaries out we want to bring up your Section 2. Just hold off a second.

CONFIDENTIAL

CONFIDENTIAL

05 22 58 20 C Guaymas, this is Gemini-5. We just powered up 30 seconds to go and are damping our rate.

05 22 58 28 CC Roger, you have Section 2 on?

05 22 58 31 C Negative.

05 22 58 32 CC Okay, at this time we would like for you to bring Section 2 up and your Secondary Coolant Loop Pump A.

05 22 58 57 CC Did you copy that?

05 22 58 59 C Roger, Section 2, Secondary Pump A is on.

05 22 59 03 CC Okay, we would like you to bring your computer up in the Prelaunch Mode.

05 22 59 16 C Roger, computers are in Prelaunch.

05 22 59 19 CC Roger, copy that.

05 22 59 21 C Operating light is not on yet.

05 22 59 24 CC Say again, you are kind of weak.

05 22 59 25 C My operating light is not on yet on the computer, however.

05 22 59 28 CC Roger.

05 22 59 33 C Now we have a green operating light.

05 22 59 35 CC Roger. And we show good indications here on the ground.

05 23 00 41 CC Are you getting anything out of Thrusters 7 and 8?

05 23 00 45 P We haven't tried them yet but your Yaw Right Thruster 3 and 4, one of them is real weak and we are getting a lot of roll tumbling in there. They're both firing. One of them is weaker than the other.

05 23 00 57 CC Which one is weaker?

CONFIDENTIAL

CONFIDENTIAL

511

05 23 01 01 P Whichever one would cause you to get right roll, lower one.

05 23 01 06 CC Okay.

TEXAS

05 23 02 34 CC Gemini-5, Houston. Good morning.

05 23 02 37 C Good morning, Houston. How are you?

05 23 02 39 CC Fine. How are you?

05 23 02 41 C All right.

05 23 02 42 CC Good. We would like to give you a GO for 107-1. Isn't that a big number?

05 23 02 48 C Sure is.

05 23 02 51 CC We would also like to have you put your T/M Switch to COMMAND at this time.

05 23 02 56 C It's in COMMAND.

05 23 03 03 CC How are you sack hounds doing up there?

05 23 03 05 C Pretty good. We just damped our rates out here and are powering back down.

05 23 03 10 CC All right.

05 23 03 13 P Are you ready to copy the Rev 90 readouts for GO on 107-1?

05 23 03 19 CC We sure are. Go ahead.

05 23 03 21 P Okay, we didn't have the fuel cell powered up at the time we took the readings. They were 000, 2-A through 2-C. 1-A was 6.1, 1-B was 5.1, 1-C was 6.5 and the RCS A was 295, temperature 70, RCS B 290, temperature 71, left secondary O₂ 5500, right secondary O₂ 5400, and for some reason we didn't copy the main.

05 23 03 52 CC Okay.

CONFIDENTIAL

CONFIDENTIAL

05 23 03 57 P This No. 2 fuel cell is pretty cold. It's only hauling about one-third of what the other one is.

05 23 04 02 CC Okay, very good. It'll come on up then, we expect.

05 23 04 07 P Yes.

05 23 04 09 CC We're reading the same thing on the ground too, Pete.

05 23 04 19 CC We're going to start putting some 92-1 times in there for you now, so you will get the DCS light.

05 23 04 27 P Okay.

HOUSTON

05 23 06 53 CC Gemini-5, Houston. We have a good load in and we verified it. You are clear to go ahead and power the computer back down.

05 23 07 00 P Okay.

05 23 07 10 CC How are you doing on those experiments with no fuel?

05 23 07 13 P Just about like you might expect.

05 23 07 16 CC Roger.

05 23 07 18 P Now we're getting some of the S-5 stuff and some of the S-6 stuff. I got some pretty good pictures over East Africa last pass.

05 23 07 27 CC Good.

05 23 07 28 P But, ha-ha straight up as we passed over the States. We were looking right at the zenith.

05 23 07 38 CC That's very good. You know we ended up that way when we looked at the sky during the day-side pass and the ground during the night-side passes. You can't think of anything more uninteresting than that.

05 23 07 51 P Lot better than rates.

05 23 07 54 CC Roger. I guess you could say you are getting a new outlook on the world, huh?

CONFIDENTIAL

CONFIDENTIAL

513

05 23 08 00 C Yes, that's right. Quite a new ...

05 23 08 08 CC You think we could sell that thing as a ride at a carnival?

05 23 08 14 P I don't think you could sell this day-to-day drift in flight as a ride anywhere.

05 23 08 29 CC Gemini-5, this is Surgeon. Gordo, what are you doing for exercise up there now? Have you increased it any in the last day or so?

05 23 08 39 C I hold Pete's hand once in awhile and once in a-while I used the skin cleaning towel and then ... we chew gum.

05 23 08 49 CC That ain't going to hack it friend.

05 23 08 53 P We have something we want to read to you.

05 23 08 57 CC Your poem.

05 23 08 59 P Gordon composed this yesterday after our system pooped out on us and you can sing it to "We Were Sailing Along." It goes like this.
We were drifting along by the CSQ
When the radio suddenly sent
Here's word for you.
Your controls are dead
But you're not through
So here we are for three days more
With the end quite far.

05 23 09 28 CC Hey, Pete, you are doing great till the last line. Recompose that, will you.

05 23 09 36 C We'll work on it. We have a few more that are better but --

05 23 09 44 CCq Send them down in a pneumatic tube, will you?

05 23 09 47 C Yes, okay.

05 23 09 51 CC Elliott says we'll give you a few more days to work on it.

05 23 09 55 C Tell him .. the blue bag and come down with pneumatic tube.

CONFIDENTIAL

CONFIDENTIAL

05 23 09 59 CC Roger. The Flight Surgeon would like to know the bag status now.

05 23 10 10 C It's 2 and 1.

05 23 10 13 CC In favor of the Astros?

05 23 10 19 C I don't know whether it's the Colts or the Astros.

BERMUDA

05 23 11 04 P Say, Jim, do you read?

05 23 11 06 CC Roger, go ahead.

05 23 11 08 C How about a GMT time hack, please?

05 23 11 11 CC Okay, on my mark it will be - I don't even know how many days we've got here any more - it will be 13:12 on my mark. That's in about 45 seconds. We've got about 15 seconds to 13:12:00.

05 23 11 55 CC 5 seconds, 3, 2, 1.

05 23 12 01 CC MARK. That was 13:12:00.

05 23 12 05 C Roger, very good. My onboard ... has never been more than 2 seconds off and I've only set it twice this flight.

05 23 12 13 CC Very good. Do you have your T/M Switch in COMMAND at the present time?

05 23 12 21 C That's affirmative.

05 23 12 24 CC Okay, we'll send another off command then.

05 23 12 27 C Command you'll send real time. All right, Jim, you want it in COMMAND?

05 23 12 34 CC Roger. We'd like to have it in COMMAND please.

05 23 12 37 C In COMMAND. What's the matter? Is Guaymas Command system out?

05 23 12 42 CC Guaymas doesn't have a Command System. We've got to either command it on over Texas and let Guaymas

CONFIDENTIAL

CONFIDENTIAL

515

pick up the T/M or they have to call you and tell you to put it on.

05 23 12 51 C Ah so.

05 23 13 02 CC Oh say, before we lose you, I would like to tell you that on your last pass, people could look up and see you go by over Houston here.

05 23 13 09 C Very good.

05 23 13 11 CC Did you see us looking at you?

05 23 13 14 C No, I did not notice. We were looking straight up.

05 23 13 17 CC Oh, I thought that was the back of your head we saw.

05 23 13 22 C No, that was just my beard you were looking at.

05 23 13 26 CC Gordo, is your beard longer than your hair now?

05 23 13 29 C Yes, even Pete's is.

05 23 13 35 CC Roger. Hey, who's got the longest beard right now?

05 23 13 41 C I guess I win that contest.

05 23 13 43 CC Okay.

05 23 15 07 CC Gemini-5, Houston.

05 23 15 10 P Go ahead, Houston.

05 23 15 11 CC Have you seen anything else up there orbiting around with you since you have been up?

05 23 15 17 P No, we haven't.

05 23 15 19 CC Okay. We've got about another 10 seconds here and then we'll say adieu.

05 23 15 31 P All right.

05 23 15 37 P In Texas we say, "So long, pardner."

05 23 15 38 CC All right.

CARNARVON

05 23 55 22 CC Gemini-5, Carnarvon CAP COM.

05 23 55 41 CC Gemini-5, Carnarvon.

05 23 55 45 C Carnarvon, Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

05 23 55 50 CC Roger, we're GO here for 107 if you're GO.

05 23 55 53 C Roger, we're GO.

05 23 55 55 CC Roger, I'll update your T_R clock in about a minute.

05 23 56 05 CC Transmitting your T_R .

05 23 57 08 C Okay, we're getting it.

05 23 57 12 CC Roger. You're in sync.

05 23 57 18 CC Be advised there's a Medical Data Pass on the Pilot at Hawaii. Hawaii's AOS is 14:20.

05 23 57 29 C Roger. 14:20.

05 23 57 35 CC Did you have your experiments transmitter on over Carnarvon last pass?

05 23 57 46 C I don't believe so but we might have. I don't think so though.

05 23 57 50 CC Roger.

05 23 58 20 CC What are your rates at the present time?

05 23 58 25 P We damped our rates all over the States; they're down very low now.

05 23 58 31 CC Have you got an estimate?

05 23 58 40 C I guess we will have more than half a degree in the axis at the moment.

05 23 58 47 CC Roger.

05 23 58 50 C Virtually no rates.

05 23 58 52 CC Roger.

05 23 58 06 CC Flight advises that it looks like the hydrogen is beginning to level off now.

05 23 59 13 C Okay. You think we might make it, huh?

05 23 59 18 CC Looks like it.

05 23 59 22 CC Flight says we're sure of it.

05 23 59 23 C Okay.

05 23 59 25 CC Only one more T_R update to go.

05 23 59 28 P Yes, that's right.

CONFIDENTIAL

CONFIDENTIAL

517

HAWAII

06 00 20 53 CC Gemini-5, Hawaii CAP COM.

06 00 21 01 CC Hawaii has telemetry solid.

06 00 21 13 P Roger, Hawaii, Gemini-5 with you.

06 00 21 16 CC Roger. We didn't copy an oral temp.

06 00 21 18 C I'll do that now.

06 00 21 21 CC Roger.

06 00 21 47 CC We copy your oral temp; give us a blood pressure, please.

06 00 21 50 C Okay, he's pumping it now.

06 00 21 51 CC Roger.

06 00 21 54 CC Gemini-5, Hawaii Surgeon. Your cuff is full-scale.

06 00 22 28 CC Gemini-5, Hawaii Surgeon. We have a valid blood pressure. Give me a mark when you begin exercise.

06 00 22 39 C Okay, getting ready.

06 00 22 46 P Starting exercise.

06 00 23 19 C Finished exercise. Pumping up blood pressure now.

06 00 23 34 CC Gemini-5, Hawaii Surgeon here. Your cuff full-scale.

06 00 23 59 CC Gemini-5, Hawaii Surgeon. We have a valid blood pressure. Standing by for a food and sleep summary over the past 24 hours, plus your water report.

06 00 24 09 C Roger. Sleep over the past 24 hours was about 6 hours. Water is 29 pounds and food status hasn't changed.

06 00 24 22 CC Gemini-5, Roger, thank you. Hawaii Surgeon out.

06 00 24 26 CC We've got a Map update for you whenever you're ready to copy.

CONFIDENTIAL

CONFIDENTIAL

06 00 24 34 CC Gemini-5, we've got a Map update for you whenever you're ready to copy.

06 00 24 42 C Roger. Wait one.

06 00 24 45 P Fire away.

06 00 24 49 CC Map 14:14:42, longitude 169 east, Rev 91. The star's the same time; under remarks, 23 hours, 52 minutes.

06 00 25 13 C Roger.

06 00 25 17 CC We've nothing else for you. We're standing by.

06 00 25 21 C Gemini-5 standing by.

06 00 37 17 CC Gemini-5, Gemini-5, Houston.

06 00 37 22 C Go ahead, Houston, Gemini-5.

06 00 37 25 CC Roger. Houston here. We'd like to have you read us your OAMS propellant gage. We'd like to keep track of the last as it gets down lower here.

06 00 37 37 C Okay. We're still reading 10%.

06 00 37 39 CC Roger. 10%. We'd like to advise you to try doing a lot more exercises the next couple of days here using both the bungee cord to pull on with your hands and your arms and legs and to do whatever isometrics that you can.

06 00 37 59 C Okay. We thought we'd start to taking long walks.

06 00 38 03 CC Well, we thought that would be a good idea too, but I understand it's raining out there.

06 00 38 11 CC Actually the Flight Surgeon does think that the long walk would probably do you more good, so--

06 00 38 19 C We walked up and down the aisle in our big spacecraft.

06 00 38 23 CC Roger. Say, we'd like to run an HF check here and we're going to really run the whole next revolution on HF. As you get just off the east coast of the

CONFIDENTIAL

CONFIDENTIAL

519

States we're going to switch over to HF and we'd like to have you go to HF and UHF OFF. We'll play you music until you get down to the Ascension area and I'll call you on HF down there. We've instructed the ground sites to perform all their passes on HF. We'd like to have you go back to UHF for the next stateside pass, and if we're not able to contact you, we'd like to have you go back to UHF at 16:04:00.

06 00 39 06 C 16:04:00.

06 00 39 08 CC Roger.

06 00 39 24 CC Do you have any particular request for music here this morning?

06 00 39 28 C Any of it would sound good.

06 00 39 30 CC All right.

06 00 39 52 CC Gordo.

06 00 39 53 C Yes?

06 00 39 54 CC How about a little Cat Ballou?

06 00 39 57 C Yes. How about that?

HOUSTON

06 00 40 51 CC Gemini-5, Houston again.

06 00 40 54 C Go ahead, Houston.

06 00 40 56 CC Do you want us to give you the acquisition times over the sites in case you want to call them up on UHF, or do you want to just rely on HF as the go-around?

06 00 41 08 C I think we can just rely on the HF go-around.

06 00 41 11 CC Okay, fine.

06 00 41 14 CC Do you have anything else or do you want to go hear your HF music now?

CONFIDENTIAL

CONFIDENTIAL

06 00 41 18 C We're ready to go HF anytime. We got our receiver on.

06 00 41 21 CC Okay, very good. I'll get the contact to bring us up on HF and we'll give you your morning music.

06 00 41 27 C Okay.

06 00 41 33 CC I don't want you guys to go to sleep now when you listen to this.

06 00 41 36 MUSIC

06 00 59 43 CC Gemini-5, Gemini-5, Houston, over.

06 01 00 39 CC Gemini-5, Gemini-5, Houston, over.

06 01 00 43 C Houston this is Gemini-5, 1, 2, 3, 4, 5, 4, 3, 2, 1. Do you read us HF?

06 01 00 50 CC Roger. Gemini-5. Houston is reading your HF loud and clear, how me?

06 01 00 57 C We read you the same; we have the Houston HF at 15:59. Just when you called you faded.

06 01 01 11 CC Roger. Gemini-5. We were having a little difficulty getting shifted around so that we could get from the music over to the talking. If you're reading the music, would you like to have us continue it on around to Carnarvon?

06 01 01 25 C Yes indeed.

06 01 01 29 CC Gemini-5, say again. You broke up on that last one.

06 01 01 34 C This is Gemini-5, affirmative.

06 01 01 40 CC Roger. Gemini-5, we're coming back on with our music and we'll be coming out of the Cape with the music.

06 01 01 50 CC And Gemini-5, this is station MCCH signing off for the afternoon, morning I guess.

MUSIC.

CONFIDENTIAL

CONFIDENTIAL

521

CARNARVON

06 01 30 00 CC Gemini-5, Gemini-5, Carnarvon on HF, do you copy?

06 01 30 03 C Carnarvon, Gemini-5. Read you loud and clear.

06 01 30 06 CC Roger. Reading you loud and clear, also. Are you still copying the McDivitt hour on Space Station MCCH?

06 01 30 16 C Negative, we haven't read them since--

06 01 30 22 P Carnarvon, this is Gemini-5. The last thing we heard from them was "Never On Sunday" at 15:08:00 and then they faded.

06 01 30 35 CC Roger.

06 01 31 30 CC Everything looks good here on the ground. We're standing by.

06 01 31 35 C Say again, Carnarvon.

06 01 31 37 CC I say, everything looks good on the ground; we're standing by.

06 01 31 41 C We're GO up here.

06 01 31 55 CC Be advised that they will start playing the music again after our LOS.

06 01 32 03 P Roger.

06 01 56 08 CC - 00, radar to STANDBY.

06 01 56 15 P Roger.

06 01 56 17 CC Radar 16:22:00. Radar to ON. Monitor for interference.

06 01 56 27 P Roger.

06 01 56 29 CC Trinidad SPADATS will be tracking.

06 01 56 37 P Go ahead, Hawaii.

06 01 56 39 CC Next, Radar 16:28:00. Radar to OFF.

CONFIDENTIAL

CONFIDENTIAL

06 01 56 52 CC Next item: S-7 16:26:00, 02. Under remarks:
Disturbance will be north of track.

06 01 57 05 CC Copy?

HAWAII

06 01 57 24 CC Gemini-5, Hawaii.

06 01 57 32 P Hello, Hawaii, Gemini-5 on HF. Go ahead.

06 01 57 36 CC Roger, did you copy my Sierra setup?

06 01 57 50 P Hello, Hawaii, Gemini-5 on HF. Go ahead.

06 01 57 56 CC Gemini-5, this is Hawaii,--

06 01 58 08 CC Gemini-5, this is Hawaii.

06 01 58 14 CC Gemini-5, this is Hawaii on HF.

06 01 58 47 P Hello, Hawaii. Hello Hawaii. Gemini-5.

06 01 59 25 C Hello, Hawaii. Hello, Hawaii. Gemini-5.

06 01 59 30 CC Gemini-5, Gemini-5, this is Houston here. Over.

06 01 59 33 P Hello, Houston, Gemini-5. Go ahead.

06 01 59 36 CC Roger. California lost, Hawaii lost their trans-
mitter. I'm talking to you through California.
How do you read?

06 01 59 44 P Read you loud and clear.

06 01 59 47 CC Very good. Did you get the information on the
Radar Test and the S-7 Experiment?

06 01 59 57 P The only thing I got as far as Radar, 16:22:00 ON.

06 02 00 04 CC Okay. When you put it on at 16:22, we'd like to
have you turn it to STANDBY and ON and STANDBY with
the 30 second period in each position for a total
of 6 minutes until 16:28:00.

06 02 00 29 P Got you.

CONFIDENTIAL

CONFIDENTIAL

523

06 02 00 34 CC Okay. There'll be an S-7 at 06:16:26:00. Sequence No. 02. The disturbance will be north of track. There will be another S-7 at 06:17:43:00. Sequence No. 03. Over.

06 02 01 29 P Hello, Houston, Gemini-5.

06 02 01 31 CC Go ahead, Gemini-5, this is Houston.

06 02 01 35 P Roger. Say again the sequence number on the first one and time on the second S-7.

06 02 01 43 CC Roger. The sequence number on the first S-7 is 02. I say again, Sequence 02. The time of the second S-7 is 06:17:43:00. I say the time again. 06:17:43:00.

06 02 02 13 P Roger, we copy.

06 02 02 16 CC Very good.

06 02 02 19 P You want us to bring our UHF back up at 16:04.

06 02 02 23 CC That's affirmative, and I'm going to go back to the HF music until that time.

06 02 02 29 P Roger.
MUSIC.

06 02 05 15 CC Gemini-5, Gemini-5, this is Houston on UHF.

06 02 05 19 C Go ahead, Houston, Gemini-5 on UHF.

06 02 05 21 CC Roger. How was your HF across the Pacific that time? I was giving you music out of California from the time you left Carnarvon. Could you read it?

06 02 05 31 P Okay, let me give you a time, just a second. We started hearing discernible music--We couldn't tell what it was at 15:49, and by 15:50 you were loud and clear.

06 02 05 51 CC Very good.

06 02 05 57 P Is the D-6 135 still on for a 16:10:38?

CONFIDENTIAL

CONFIDENTIAL

06 02 06 04 CC Roger, if you have the fuel available - if you have the attitude proper, I mean.

06 02 06 09 P Did they do it the last time?

06 02 06 13 CC Say again.

06 02 06 25 CC Gemini-5, Houston, say again. I didn't understand exactly what you said then.

06 02 06 30 P Did Sequence 135 go last pass?

06 02 06 37 CC Stand by here, let me check.

06 02 07 03 CC Gemini-5, Houston. Yes, they were up last time and they'll be up again this time.

06 02 07 09 P Okay, well about 2 seconds before they're supposed to be up, why we rolled out our White Sands view.

06 02 07 16 CC Okay. Give it a whirl this time. We'd like to have you go to C-Band Adapter Switch to CONTINUOUS at this time.

06 02 07 33 CC Gemini-5, we'd also like a comment on your vehicle rates.

06 02 07 39 C Oh, it's about 1-1/2 degrees per second, I guess.

06 02 07 45 CC Okay. Gemini-5, there's a large storm down off the northeast coast of South America that we'd like to have you take a look at. It's on your chart on your orbit map there. It sticks out to the northeast from just about where the town of Georgetown is plotted on the map. We would like to know if there are any large areas which seem to be breaking off from the main body of the storm and moving up to the north.

06 02 08 25 P Roger.

06 02 08 27 CC This is the same area where the S-7 is supposed to take place and the time will be 16:26:00.

06 02 08 38 P Okay.

06 02 08 41 CC This particular radar test we're doing is a test

CONFIDENTIAL

CONFIDENTIAL

525

with the SPADATS tracking you. I'd like to clarify again that we want the radar to be on for 30 seconds and then at STANDBY for 30 seconds for the 6 minute period. At the end of that period we want you to go ahead and turn it off, because you'll probably be out of our sight by that time.

06 02 09 03 P Okay.

06 02 09 13 CC Also, we're going to leave your Fuel Cell Section O2 up now until you get to Hawaii on this next pass. When you get over Carnarvon, we want you to purge both sections of it, and Carnarvon will be talking to you on a relatively short pass there. Then we'll look at it over Hawaii, and if it looks okay, we'll shut it back down again.

06 02 09 33 P Okay. We're pointed straight up as usual.

06 02 09 38 CC That's always a good direction, isn't it?

06 02 10 21 CC Gemini-5, Houston Flight.

06 02 10 25 P Go ahead.

06 02 10 27 CC This is the best we've been able to come back at you with:

There was a young poet from Shawnee,
Whose lines were very funny,
When told this was so,
He said yes, I know,
But I always try to get as many words in the
last line as I possibly can.

06 02 10 44 P&C (Many chuckles) Very good.

06 02 10 50 C We're working on it.

06 02 10 53 P Okay, I'm looking at White Sands, but I don't see anything.

06 02 10 56 CC Okay, look harder!

06 02 10 59 P All right ... We'll try now rotating at left yaw and roll. If we can figure out which way Laredo is, we'll try and get a picture of it.

CONFIDENTIAL

CONFIDENTIAL

06 02 11 19 CC Okay.

06 02 11 21 P But I'm afraid we're not going to make it.

06 02 11 24 CC Okay.

06 02 12 15 CC Gemini-5, Houston Flight.

06 02 12 18 C Go ahead, Flight.

06 02 12 20 CC You have any selections you'd like to request on the music?

06 02 12 24 C They've been doing very well.

06 02 12 27 CC We've made some selections down here for you tomorrow, so you can stand by.

06 02 12 31 C Okay, very good.

06 02 13 07 C We saw the target.

06 02 13 09 CC Say again, Gemini-5.

06 02 13 11 C Saw the visibility target at Laredo.

06 02 13 13 CC You did?

06 02 13 14 C Right.

06 02 13 15 CC You have any numbers for us?

06 02 13 18 C No we're just rotating by.

06 02 13 20 P We're trying to get a picture.

06 02 13 24 CC That's a step forward, anyway. Here, stand by for something, very important message.

06 02 13 29 C Very well.

06 02 13 51 C This is your Captain speaking to you, 40,000 miles, weather is clear.

MUSIC

06 02 15 44 CC Did you get our message?

CONFIDENTIAL

CONFIDENTIAL

527

06 02 15 45 C Right, sure did.

06 02 15 47 CC Okay, put your C-Band Adapter Switch to COMMAND now please.

06 02 16 11 CC Do you think you got the picture of the acquisition targets?

06 02 16 16 C I don't know whether we got a picture or not. We tried, but we rotated by it pretty fast.

06 02 16 22 P Gordo took one with the 35 and the 250 bunch, and I took one with the Hasselblad. But I was taking it out of the very corner of the window; I may have all spacecraft.

06 02 16 31 CC Okay.

06 02 16 36 P It was sort of like trying to find it in an inverted spin.

06 02 16 42 CC Yes, I appreciate the problem. Did they have the smoke pots out there today for you?

06 02 16 55 P MARK, radar to STANDBY. Say again.

06 02 16 58 CC Did they have the smoke pots out there for you?

06 02 17 03 C I didn't note the smoke pots at all. I just found the target.

06 02 17 06 P I didn't see any smoke either.

06 02 17 07 CC Okay, very good.

06 02 17 09 P I had another good look at White Sands, and I didn't see anything.

06 02 17 13 CC Okay.

06 02 17 17 C Over Havana.

06 02 17 21 CC Gemini-5, we'd like to have you damp your rates out now. We'd like to have another check on it to see if we can get the rates damped out. Okay?

06 02 17 29 C Good.

CONFIDENTIAL

CONFIDENTIAL

06 02 17 35 CC And you might report on how all the thrusters seem to be operating.

06 02 17 39 C Okay, we're powered up. ... works all right on pitch. Have on thruster out on right yaw.

06 02 18 01 CC Okay.

06 02 18 04 C It's not completely out; it's just weak, but it's giving us some left roll.

06 02 18 10 CC Okay, it's giving you a left roll?

06 02 18 35 P Be advised that its yaw right No. 3 is very weak.

06 02 18 43 CC Okay, No. 3 is very weak and it's giving you left roll.

06 02 18 47 P That's affirm.

06 02 18 50 CC Okay.

06 02 18 51 P I'm doing this by the listed method. It doesn't sound as hot as the other one.

06 02 18 56 CC Okay.

06 02 19 10 P We did it again; we're all damped out straight up.

06 02 19 14 CC Very good, you seem to have that maneuver down pretty well.

06 02 19 18 C That the reentry position?

06 02 19 23 CC Say that again, please.

06 02 19 26 C That's the way the simulator sits.

06 02 19 28 CC Oh, that's right, I forgot. This is a pretty good simulation, isn't it?

06 02 18 38 P We're trying out the thruster No. 7, No. 8, Direct now.

06 02 19 42 CC Okay.

06 02 19 57 C Aha!

CONFIDENTIAL

CONFIDENTIAL

529

06 02 19 59 CC Did you get some then?

06 02 20 04 C We got just a tiny bit of No. 7 and No. 8 that time.

06 02 20 10 CC You got a little bit on each one then, huh?

06 02 20 12 C It was in Direct. There - a long burn going on - just a teensy bit, there may be just fuel.

06 02 20 18 CC Okay.

06 02 20 21 P Yes, I think we're dumping either fuel or oxidizer overboard. It slows down the combustion.

06 02 20 25 CC Okay, don't do that test too often, then.

06 02 21 15 CC Gemini-5, we'd like a voice report on that storm there that's off the northeast coast of South America when you go over Carnarvon, or across the States the next time.

06 02 21 29 C Okay.

06 02 21 33 CC ECOM wants to know if you just turned your radar on.

06 02 21 38 C No, just getting ready to right now.

06 02 21 41 CC Okay.

06 02 21 43 C 20 seconds.

06 02 21 44 CC Roger.

06 02 22 00 C Radar is on.

06 02 22 03 CC Very good.

06 02 22 19 C ... nose ..., we roll up, the faster we roll the colder everything gets.

06 02 22 29 CC You say the faster you roll, the colder everything gets?

06 02 22 33 C Right. ... cockpit, we even frost over the inside of the cockpit slightly when we roll fast, and when we stabilize slow, everything seems to warm up.

CONFIDENTIAL

CONFIDENTIAL

06 02 22 46 CC Well, that's novel, isn't it?

06 02 22 49 P Yes, our breath would freeze on the windshield last night when we were rolled up, and been rolling for quite a while.

06 02 22 57 CC Roger.

06 02 23 21 CC Gemini-5, Houston. Do you think that it was just the rotation of velocities causing the moisture to go out toward the window, or were you actually breathing on the window?

06 02 24 00 C No, we had everything shut off on the coolant list in the cockpit and we were still freezing. So we were actually getting a lot colder temperatures from the coolant loop than inside the cockpit itself.

06 02 24 13 CC Okay.

06 02 24 14 C We finally had both suit circuits shut completely down. No flow, and the flow on each of the suits was down almost to zero.

06 02 24 27 CC Roger.

06 02 24 28 C I finally was freezing so bad - Pete was finally comfortable - that I had broke out my wrist band and put them on to stop the flow out of the wrist area of the suit, and that seemed to warm up my suit up to the level of his, anyway.

06 02 24 45 CC Roger. What was the cockpit temperature at that time?

06 02 24 52 C The gage has been broken ever since very early. However, the reading, Pete has a reading here he took with our wet ... ball.

06 02 25 02 P It varies about 10 degrees - in the center of the cabin it will go from 79 down to 72 or 71.

06 02 25 10 CC Okay. It was about 79 in the middle of the cabin and about 71 at the wall.

06 02 25 11 P No, the temperature in the middle of the cabin will vary between 79 and 72.

CONFIDENTIAL

CONFIDENTIAL

531

06 02 25 22 CC Okay, I've got you. I think we're getting LOS.

CARNARVON

06 03 05 01 CC Gemini-5, Carnarvon.

06 03 05 05 P Go ahead, Carnarvon, Gemini-5.

06 03 05 06 CC Roger. Request you start your fuel cell purge.

06 03 05 15 CC Give us a mark when you start.

06 03 05 32 P MARK No. 2.

06 03 05 36 CC Roger.

06 03 05 45 P All right, check complete. Commencing No. 1 on my mark. MARK. No. 1 oxygen started.

06 03 05 57 CC Roger.

06 03 06 11 CC Do you have anything to report on that storm off South America?

06 03 06 18 P Roger. We saw it.

06 03 06 20 CC What we're interested in is if you saw anything breaking away and moving toward the northwest.

06 03 06 26 P Well there were several smaller cells breaking off from it down at the edges, but we couldn't tell whether they were moving completely away or not. It was a big widespread storm. We couldn't see any eye to it but there were some smaller cells that were sort of separated from it, that were kind of out to the edges of it.

06 03 06 49 CC Roger.

06 03 07 48 P What was that, Carnarvon? T_X?

06 03 07 50 CC Affirmative.

06 03 07 54 P ... first section complete.

06 03 07 56 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

06 03 07 58 P Starting purge on second section now.

06 03 09 11 CC We've got about 20 seconds to LOS. We're not going to see all of your Section 2 O₂ purge.

06 03 09 17 C Okay, it's going very well.

06 03 09 19 CC Roger.

06 03 09 20 C You guys can have the rest of the day off. We'll see you tomorrow.

06 03 09 22 CC Right. We'll be going home shortly.

06 03 09 26 C Have a little of that Swan Lager.

06 03 09 28 CC Will do. I'll have one for you also, and Pete--

HAWAII

06 03 31 11 CC Gemini-5, Hawaii CAP COM.

06 03 31 28 CC Gemini-5, Gemini-5, Hawaii CAP COM.

06 03 31 31 P Go ahead, Hawaii, Gemini here.

06 03 31 33 CC Roger, we'd like you to hold off on powering down that Section 2 until we get a look at the data. It'll take us a few minutes. We'll give you a call before LOS.

06 03 31 42 P Okay.

06 03 32 28 CC Be advised you'll have a medical data pass at Texas on the Pilot. AOS at Texas is 17:44.

06 03 32 39 CC It's on the Command Pilot.

06 03 32 55 CC Gemini-5, did you copy that on the Command Pilot over Texas?

06 03 32 59 P Is it the Command Pilot or the Pilot?

06 03 33 01 CC Command Pilot, Pete, I'm sorry.

06 03 33 03 P Okay, 17:44 on the Command Pilot over Texas.

CONFIDENTIAL

CONFIDENTIAL

533

06 03 33 06 P That's affirm.

06 03 33 53 CC Gemini-5, Hawaii.

06 03 33 55 P Go ahead, Hawaii.

06 03 33 57 CC Is Gordo doing any exercising?

06 03 33 59 P I hope to shout; he's upside down in the food box for something, to repack some stuff. Ha ha ha.

06 03 34 07 CC Okay, we got you.

06 03 34 09 P As a matter of fact, we're up to our ears in garbage now.

06 03 34 14 CC Roger, Roger.

06 03 34 21 CC Okay, we'd like you to power down Section 2, leave the Control switch on, Power switch to OFF, and then turn off Pump A in the secondary loop.

06 03 34 33 P Okay, No. 2's off and Pump A in secondary loop's off.

06 03 34 38 CC Roger.

CALIFORNIA

06 03 40 39 CC Gemini-5, Gemini-5, Houston. Over.

06 03 40 46 P Go ahead, Houston, Gemini-5.

06 03 40 48 CC Roger, Gemini-5, Houston here. I'd like to summarize our view of your position at the time. We'll go through it a step at a time here. On your thrusters we feel that the thrusters aren't working, are probably cold. And they're not working because they are cold, and we think possibly they're cold because those individual heaters are not working. Of course, we don't have any exact way of confirming this. We think that because they are, the cold is the problem, we would like to have you damp your ... a little more often and start damping it before they build up too high a rate. That way we'll get a little more activity on the thrusters that we are using and keep the temperatures on those up a little

CONFIDENTIAL

CONFIDENTIAL

bit. Now if we do have any problem with the thrusters that you still have left, and we see that they're starting to fail, we have some other procedures that we can go through that are a little more complicated, but we feel that should keep them warm. Now on the fuel that you have remaining, we want to still conserve it as long as the hydrogen tank is venting because we want to be able to always damp out the rates that you build up so that we don't get into a really high rate setup. But we are planning on tomorrow; we're tentatively setting up a flight plan that will allow us to use the remaining fuel to accomplish some of the experiments. And what we're thinking of right now is that D-4/D-7 needs a few more measurements to make it really complete, and the ones we're thinking about most of all were the sun measurement which, of course, would be last. Measurements of the mountains, land-to-water interfaces, and over land with vegetation. We also want to do some S-8/D-13 and if the fuel's available we'll make one pass over Woodley tomorrow and one over Laredo. That should give us some information on the Visual Acuity Test. We'd also like to work in the track over Mexico tomorrow on the S-5 if at all possible so that we can get the ... pictures across that area.

06 03 43 11 P

Okay.

06 03 43 12 CC

The fuel cells, it looks like the hydrogen is starting to--the venting is starting to taper off and it's running pretty much as predicted where you're really going to be fat on hydrogen if it does taper off at the predicted rate. The water production looks by all estimates now to be low enough under the rate that we're producing it now so that it shouldn't be a constraint on your flight and you should be able to go on to 8 days. I think that pretty much summarizes our viewpoint of your position. Do you have anything that you would like to know or that you might add to this?

06 03 44 02 P

Yes. What's the T_R - 12:11 or 12:21?

06 03 44 10 CC

Just a second, I'll get ... so busy.

06 03 44 14 CC

I'll give it to you in elapsed time. It's 44 hours

CONFIDENTIAL

CONFIDENTIAL

535

15 minutes and 19 seconds. 18, 17, 16, 15.

06 03 44 23 P Very good.

06 03 44 24 CC Okay. It's all downhill from here, Pete.

06 03 44 28 P I'm with you. ... the garbage through.

06 03 44 35 CC Oh well, you can wrap it around you and stay warm.

06 03 44 38 P The Hawaii Surgeon called and wanted to know if Gordo was exercising. He was upside down and tried to pack the ... down.

06 03 44 46 CC Well listen, don't get your foot stuck in the food container.

06 03 44 51 CC We'd like to have you place the Cryogenic Gaging Switch to ECS O₂, please.

TEXAS

06 03 45 14 CC Pete, this is Houston here. I'm getting worn out too, I guess. Would you make sure that Gordo has the temperature probe in his mouth. We're not getting anything down here.

06 03 45 25 P Okay. He just got back turned around; that's our problem.

06 03 45 32 CC Okay. Do you have the Cryogenic Gaging Switch to ECS O₂?

06 03 45 45 P Yes.

06 03 45 46 CC Okay.

06 03 46 03 DC Okay, we'd like to have you place the Cryogenic Gaging Switch to FUEL CELL O₂ now, please.

06 03 46 20 P At D-5 we didn't get the S-7. At 16:26:00 we saw the storm but we were not in a position to photograph, and we gave a report on what we saw.

06 03 46 31 CC Okay. We've got your report from Carnarvon and understand you were not able to take a picture.

CONFIDENTIAL

CONFIDENTIAL

06 03 46 37 P Yes, but we did get the S-7 at 17:43:00.

06 03 46 44 CC Okay, very good. We'd like to have you take and put your Cryogenic Gaging Switch to FUEL CELL H₂ now, please.

06 03 47 05 CC Okay, would you put your Cryogenic Gaging Switch back to OFF, and the Flight Surgeon would like to have a word with you.

06 03 47 13 CC Gemini-5, we have a valid oral temp. We're standing by for your blood pressure.

06 03 47 35 CC Gemini-5, your cuff is full-scale.

06 03 48 23 CC Gemini-5, we have a good blood pressure. You can start exercise on your mark.

06 03 48 37 P ...

06 03 48 43 CC Say again.

06 03 48 57 C He said he was exercising for the last 35 minutes.

06 03 49 03 CC I believe it.

06 03 49 07 P Exercise ...

06 03 49 10 CC Good show. Looks good down here, Gordo.

06 03 49 22 CC Cuff full-scale. Gordo, while that's being done, could we get your water report?

06 03 49 38 C 29.3 pounds. We're just finishing a meal right now which we'll have on here.

06 03 49 46 CC Roger. Gordo, do both of you feel that you're getting enough food and enough sleep from your own viewpoint?

06 03 49 55 C I think definitely enough food and I think we're getting enough sleep now and then.

06 03 50 01 CC Now and then, okay.

06 03 50 03 CC Either of you having any trouble with plugging your

CONFIDENTIAL

CONFIDENTIAL

537

nose? Pete sounded a little bit that way here earlier today.

06 03 50 12 C Very much, but I think we're better now. We had Meal 4B. We just finished.

06 03 50 19 CC 4B, okay.

06 03 50 24 CC Gordo, are you having any trouble with these rates? Have you had any sort of symptoms at all with the rates?

06 03 50 31 C No, no symptoms, it's just, you know, every time you try and see anything out the window it's whipping by so fast, and then when you let anything loose from the spacecraft it doesn't hang there. It whips over to the side, of course.

06 03 50 45 CC Roger. Well, looking at all the data, Gordo, for this period of time now after almost 148 hours, we haven't seen anything in the rates that would concern us at all as far as rates or blood pressures are concerned. Your overall heart rates are tending to get somewhat lower. You're tending to stabilize out at low rates, which are really resting rates, which is pretty well what we'd expect. The same thing is sort of happening with blood pressure, and we think everything looks real fine down here as far as going the whole way. Are you having any sort of feeling that it's more difficult for you when you do exercise? Does it feel to be more effort now than it did earlier in the flight?

COASTAL SENTRY QUEBEC

06 04 47 13 CC Gemini-5, CSQ CAP COM.

06 04 47 16 P Go ahead, CSQ CAP COM, Gemini-5 here.

06 04 47 19 CC Roger. We have you GO on the ground and I have a landing area update when you're ready to copy.

06 04 47 24 P Roger. We're GO up here. I'm ready to copy.

06 04 47 28 CC Roger. Be advised all bank angles remain roll left 53, roll right 67, weather is good in all areas except it's marginal in area 100 Delta. Over.

CONFIDENTIAL

CONFIDENTIAL

06 04 47 44 P Roger.

06 04 47 47 CC Okay. 96-3, 21:41:35, 14 plus 53, 20 plus 07, 97-3, 23:16:51, 13 plus 36, 18 plus 55, 98 Delta, 00 :10:08, 20 plus 45, 26 plus 25, 59 Delta, 01:41:33, 26 plus 05, 100 Delta, 03:16:30, 19 plus 40, 04:53:53, 18 plus 06, 23 plus 22. Do you copy?

06 04 50 37 P Got them all.

06 04 50 39 CC Roger. And Houston would also like to know if the exercises you are doing seem to be harder to do now than at the beginning of the flight. Over.

06 04 50 47 P No, why, does it look like that on your data?

06 04 50 50 CC Say again.

06 04 50 52 P No, why, does it look like that on you data?

06 04 50 55 CC I really don't know--

06 04 51 00 CC Houston advises negative, it doesn't look like that on the data. They're just curious, I guess.

06 04 51 11 P Okay, let me know if we're getting weak ...

06 04 51 15 CC Copy.

06 04 51 48 CC Gemini-5, CSQ. There's nothing further. Standing by.

06 04 51 52 P Roger. Gemini-5 standing by. Thank you, have a good day.

06 04 52 21 CC Gemini-5, CSQ.

06 04 52 43 CC Gemini-5, CSQ.

06 04 52 44 P Go ahead CSQ. I put my transmitter off.

06 04 52 47 CC Roger. Flight would like to know why the Pilot is not asleep.

06 04 52 52 P Because the Command Pilot is occupied.

06 04 52 56 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

539

06 04 52 09 P For a more accurate report, the Command Pilot is unable to come to the phone right now.

06 04 53 16 CC CSQ copied.

06 04 54 19 CC Gemini-5, CSQ.

06 04 54 22 P Go ahead, CSQ.

06 04 54 23 CC Roger. Houston would like to know if the score is now 2 to 3 or 3 to 1.

06 04 54 27 P It's 2 to 2 in favor of the Astros.

06 04 54 29 CC Copy.

HAWAII

06 05 06 36 CC Gemini-5, this is Hawaii.

06 05 06 53 CC Gemini-5, Hawaii CAP COM.

06 05 06 57 C Go ahead, Hawaii. Gemini-5.

06 05 06 59 CC Roger. We hold your system Green on the ground.

06 05 07 04 C Roger. Everything looks good up here.

06 05 07 21 CC Gemini-5, this is Hawaii. Be advised to turn on your HF after Hawaii LOS to RKV Acquisition which is 19:29:41. Station MCCH will be broadcasting.

06 05 07 39 C Very good. Thank you.

06 05 09 46 CC Gemini-5, Hawaii. We're standing by.

06 05 09 49 C Okay. Fine. Gemini-5 standing by too.

ROSE KNOT VICTOR

06 05 31 03 CC Gemini-5, RKV CAP COM.

06 05 31 27 CC Gemini-5, RKV CAP COM.

06 05 31 51 CC Gemini-5, RKV CAP COM.

06 05 31 53 C Go ahead, RKV. This is Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

06 05 31 55 CC Roger. All sensors look real good here on the ground.

06 05 31 59 C ...

06 05 32 02 CC How did you receive the HF?

06 05 32 04 C That was great. We had it loud and clear over California right along.

06 05 32 09 CC Roger. Very good. Thank you.

06 05 32 14 C You ought to try some more of that.

06 05 32 16 CC Roger. Sounds real good down here also.

COASTAL SENTRY QUEBEC

06 06 21 54 CC I have nothing further this pass, standing by.

06 06 21 57 C Roger, CSQ. We're GO here.

HAWAII

06 06 41 12 CC Gemini-5, Hawaii CAP COM.

06 06 41 16 C Roger, Hawaii, Gemini-5 here.

06 06 41 19 CC Roger. All systems look good. You need anything, give us a call.

06 06 41 23 C Okay, mighty fine. Things look good here.

ROSE KNOT VICTOR

06 07 01 52 CC Gemini-5, RKV CAP COM.

06 07 02 03 C Go ahead, RKV, Gemini-5.

06 07 02 05 CC Roger. I'd like to advise you that Hawaii is going to be making some HF checks during the next hour. If you hear him, just disregard.

06 07 02 14 C Okay, fine, thank you.

06 07 02 16 CC And we'd like to get your experiment status over the last 24 hours if you have that available.

CONFIDENTIAL

CONFIDENTIAL

541

06 07 02 18 C Okay, I better pass that on to the next station.
It's not quite yet available.

06 07 02 21 CC Roger, understand.

06 07 02 40 CC Gemini-5, RKV. Everything looks real good here on
the ground.

06 07 02 44 C Okay, mighty fine. Looks real good here.

06 07 02 53 C I am powered up for a couple minutes here ...

06 07 02 56 CC Roger, we were noticing it on the ground.

06 07 04 58 CC Gemini-5, RKV CAP COM.

06 07 05 00 C Go ahead, RKV, Gemini-5.

06 07 05 02 CC Were you able to null them out pretty good?

06 07 05 04 C Roger, have them all nulled out now.

06 07 05 06 CC Very good then.

COASTAL SENTRY QUEBEC

06 07 57 32 CC Gemini-5, CSQ CAP COM.

06 07 57 35 P CSQ CAP COM, Gemini-5 here. Go ahead.

06 07 57 38 CC Be advised UHF 6.

06 07 57 42 P Roger, UHF 6.

06 07 57 45 CC Roger, and I have a Map update when you are ready
to copy.

06 07 57 54 P Roger.

06 07 58 05 CC Roger. Map 23:10:09. Longitude 32 degrees east.
Rev 97. Star 23:10:09, 23:39:07. Do you copy?

06 07 58 44 P Affirmative.

06 07 58 46 CC And CSQ is standing by for experiment status.

06 07 58 51 P Roger, experiment status--this will be the status

CONFIDENTIAL

CONFIDENTIAL

as of what we did yesterday?

06 07 59 10 CC Copy.

06 07 59 17 P We did no D-6 camera work, but on the D-6 Sequence No. 135, first pass, we were not in view of ... Second pass, we did it to the right direction but didn't see anything.

06 07 59 31 CC CSQ copy.

06 07 59 33 P Before we shuttered we got a 417 and a 418.

06 07 59 41 CC Copy.

06 07 59 42 P And a 6, ... and a 5 4 3 ... and a 7. that was mostly one sequence. Mostly D-1/4 Australia. We saw the smoke go ... miles but we were in the wrong attitude to observe at passing overhead ... with the ... except we may have gotten the 70mm picture that they wanted. We won't know until it's developed tomorrow. The spacecraft may have been in the way.

06 08 00 34 CC CSQ copy.

06 08 00 39 P ... more photographs with the 35mm with the other ... would be in the S-5/S-6 category. But these are not listed as experiments.

06 08 01 00 CC Roger. CSQ has you GO on the ground. Have nothing further. Stand by.

06 08 01 06 P Roger. We're GO up here.

HAWAII

06 08 15 26 CC Gemini-5, this is Hawaii CAP COM. We hold your system Green on the ground.

06 08 15 31 P Hawaii CAP COM, Gemini-5. Go ahead.

06 08 15 34 CC We hold your systems Green on the ground.

06 08 15 37 P Roger. We're Green up here.

06 08 15 53 CC Gemini-5, Hawaii CAP COM. Would you give us the

CONFIDENTIAL

CONFIDENTIAL

543

cryo quantity readout, ECS O₂ first, please?

06 08 16 01 P Roger.

06 08 16 23 CC Fuel Cell O₂ now, please.

06 08 16 26 P Roger.

06 08 16 50 P Hawaii, Gemini-5.

06 08 16 52 CC Go ahead, Gemini-5.

06 08 16 54 P Roger. I heard him ask for fuel cell, ... fuel cell. Say, would you and Flight work up a list of stations, we are, our ... has changed enough now that we are off the Flight Plan that we have here and we weren't expecting to hear from you.

06 08 17 13 CC Wilco, we'll make one up.

06 08 17 16 P Roger.

06 08 17 17 CC Roger, Gemini-5. We'll do that.

06 08 17 21 P I want the Flight Plan and maybe a little update as to the ACQ times that we could correct in the Flight Plan that we have. Okay?

06 08 17 26 CC Roger.

06 08 17 27 CC Roger, we'll do that.

06 08 17 28 P Thank you.

06 08 17 33 CC We'll give it to you at the RKV this pass, Gemini.

06 08 17 36 P Very good.

06 08 17 44 CC Okay, Gemini-5, you can turn the cryo quantity back to OFF.

06 08 18 12 CC Gemini-5, Hawaii standing by.

06 08 18 15 P Gemini-5 standing by. Thank you.

CONFIDENTIAL

CONFIDENTIAL

ROSE KNOT VICTOR

06 08 36 29 CC Gemini-5, Gemini-5, RKV CAP COM, comm check. How do you read?

06 08 36 50 P RKV CAP COM, Gemini-5 reads you loud and clear.

06 08 36 53 CC Roger. Read you loud and clear, also. All systems are GO on the ground. I have some acquisition times for you if you are ready to copy.

06 08 36 59 P Ready to copy.

06 08 37 00 CC Okay. Do you want these things to the nearest second, or will minutes do?

06 08 37 02 P Minutes are fine.

06 08 37 04 CC Okay, fine. CSQ, we have knocked 97:23:32, RKV 97:00:11, CSQ 98:01:08, RKV 98:01:45, CSQ 99:02:40, RKV 99:03:19, CYI 100:03:43, CSQ 100:04:16, RKV 100:04:53, CYI 101:05:16, RKV 101:06:30. Do you copy?

06 08 38 52 P Affirmative.

06 08 38 53 CC Roger; incidentally, your Flight Plan is lagging by 19 minutes.

06 08 38 59 P Okay.

06 08 39 01 CC We have a ... update for you. Your orbit is 107 by 160. Flight time expectancy, 20 days.

06 08 42 24 CC Gemini-5, this is RKV. We have one minute before LOS. We'll be standing by.

COASTAL SENTRY QUEBEC

06 09 32 50 CC Gemini-5, CSQ CAP COM.

06 09 33 07 C CSQ CAP COM, Gemini-5.

06 09 33 10 CC Gemini-5, CSQ would like to take some ground readings of your cryogenic quantities. Would you select ECS O₂ on your Quantity Read Switch, please?

CONFIDENTIAL

CONFIDENTIAL

545

06 09 33 20 C Roger. You have it.

06 09 33 24 CC Also, Houston advises we'd like you to null rates before reaching the RKV in order to warm up the thrusters. Do not use thrusters 7 and 8. They also suggest that you null rates every 2 to 3 hours of a duty cycle for the thrusters. Over.

06 09 33 44 C Okay, fine.

06 09 33 48 CC And they'd like to know if you've noticed any decrease in rates and venting peeling off.

06 09 33 57 C Negative. The venting seems to be keeping on about the same.

06 09 34 02 CC CSQ copy.

06 09 34 14 CC Fuel Cell O₂ position, please.

06 09 34 55 CC Gemini-5, do you have your suit temperature control turned down?

06 09 34 59 C Roger. ...

06 09 35 12 CC Okay. Fuel Cell H₂ position, please.

06 09 36 06 CC Gemini-5 you can return the Quantity Switch to OFF, please.

06 09 36 08 P Got it.

06 09 36 14 CC CSQ has nothing further, standing by.

06 09 36 17 P Okay.

ROSE KNOT VICTOR

06 10 11 06 CC Gemini-5, RKV CAP COM check. How do you read?

06 10 11 10 P This is Gemini-5. Read you loud and clear, RKV. How us?

06 10 11 14 CC Roger. We read you GO on the ground. We'd like you to purge both sections at this time. Give me a mark when you start.

CONFIDENTIAL

CONFIDENTIAL

06 10 11 34 P MARK.

06 10 11 35 CC On No. 1.

06 10 11 48 P Gemini is complete on 1, starting on 2.

06 10 12 06 P Okay, hydrogen's complete. Purging O₂ on No. 1.

06 10 12 19 P MARK.

06 10 14 19 P No. 1 O₂ complete, starting No. 2.

06 10 16 27 P No. 2 O₂ purge complete.

06 10 16 29 CC Roger. Thank you very much, Gemini-5. We'd like to have a propellant quantity readout please.

06 10 16 34 P Think we had LOS, RKV.

06 10 16 39 CC Say again.

06 10 16 40 P I didn't hear your last. I thought we had LOS.

06 10 16 43 CC Negative. We'd like to have a propellant quantity readout.

06 10 16 51 C Propellant quantity readout about 9 percent.

06 10 16 56 CC Roger, understand 9 percent. We'd like to remind the Pilot of a medical data pass over the CSQ on Rev 98 at 01:06:05.

06 10 17 13 C Roger. Thank you.

06 10 17 15 CC Fine. Flight would also like to know how you did on damping those rates, how the thrusters worked and how effective they were.

06 10 17 23 C Thrusters that worked were all right.

06 10 17 26 CC Roger, Understand.

06 10 17 29 C What was that time over CSQ?

06 10 17 32 CC 01:06:05.

06 10 17 35 C Okay, fine. Thank you.

CONFIDENTIAL

CONFIDENTIAL

547

COASTAL SENTRY QUEBEC

06 11 06 49 CC Gemini-5, CSQ. We have you GO on the ground. We have a valid temperature. Standing by for your blood pressure.

06 11 06 59 CC Roger, CSQ. We're GO up here; blood pressure coming down.

06 11 07 05 CC Gemini-5, this is CSQ Surgeon. We have full-scale.

COASTAL SENTRY QUEBEC

06 11 07 41 CC Gemini-5, this is CSQ Surgeon. We have a valid blood pressure. Start exercise. Give me a mark.

06 11 07 47 C Roger. MARK.

06 11 08 29 CC Gemini-5, CSQ Surgeon. Your cuff is at full-scale.

06 11 09 04 CC Gemini-5. We have a valid blood pressure. Standing by for your water report.

06 11 09 08 C Roger. ... pounds and just getting ready ... 04 Charlie. And I have an hour and a half ...

06 11 09 29 C Do you copy?

06 11 09 31 CC CSQ copy.

06 11 09 34 CC Gemini-5, CSQ. I'd like to remind you that you should do the S-8/D-13, Sequence 1 and 2 when changing sleep cycles. Also have tropical depression for you. Are you ready to copy?

06 11 09 50 C Ready to copy.

06 11 09 52 CC Roger. Location is 20 north, 150 east. Time of closest approach, 01:14:58. That will be just after CSQ IOS.

06 11 10 12 C Roger. Do you know which side of the track it's on?

06 11 10 16 CC Negative. Don't have the track--the ... of track at this time.

CONFIDENTIAL

CONFIDENTIAL

06 11 10 21 C Okay. Thank you.

06 11 10 22 CC Okay. Don't use any fuel to locate this, and they'd like you to give your comments to RKV on this pass.

06 11 10 30 C Roger.

06 11 10 31 CC Also have a Flight Plan update. Are you ready to copy?

06 11 10 34 C Negative.

06 11 10 38 C Ready to copy.

06 11 10 39 CC Okay. This is an S-7. Total of 57. 02:48:36, 01.

06 11 10 59 C Okay. 02:48:36, 01, S-7.

06 11 11 05 CC Roger. Sequence 01. Remarks, if possible. Second, total 57. 04:18:21. Sequence 01. Again, if possible. Over.

06 11 11 27 C Roger. This is the two S-7's.

06 11 11 29 CC That's affirm.

06 11 11 30 C Okay.

06 11 11 37 CC CSQ has nothing further, standing by.

06 11 11 40 C Roger.

ROSE KNOT VICTOR

06 11 46 56 CC Gemini-5, RKV CAP COM.

06 11 47 07 P RKV CAP COM, Gemini-5.

06 11 47 11 CC Roger, read you loud and clear. All systems are GO on the ground. We'd like to remind you that you have a medical data pass on the Command Pilot over the CSQ on Rev 99. I'll give you a time. 02:40:01.

06 11 47 40 P Roger, copy.

06 11 47 43 CC Okay. We'd also like to advise you that if while damping your rates in the future if you notice

CONFIDENTIAL

CONFIDENTIAL

549

another thruster failure or if you notice any more sluggishness than you've noticed to the present time, to just terminate your damping and inform the next site. But Flight has some alternate procedures that you might try in that event.

06 11 48 05 P Okay.

06 11 48 08 CC Do you have any sort of a report over that tropical depression?

06 11 48 11 P I saw that we passed right over it. It is a rather large storm with heavy cumulus activity. We could see air-to-ground lightning even in the daytime. And it does have an eye.

06 11 48 26 CC Can you estimate the size of it?

06 11 48 28 P It was a couple hundred miles across, I guess.

06 11 48 31 CC Roger.

06 11 48 38 P I have some S-8/D-13 scores for you.

06 11 48 41 CC Okay.

06 11 48 45 P Okay. At 06:21:20 we ran a set and Conrad had nine wrong, but the M-9--Conrad had 95, 98, 97, 98, 98. Cooper had 90, 91, 92, 92, 92.

06 11 49 13 CC Okay. Got it.

06 11 49 15 P Then we ran another one at 07:01:45 and the Pilot had nine wrong; Command Pilot had six wrong. Command Pilot's M-9 was 91, 91, 91, 91, 92. The Pilot's was 96, 97, 95, 95, 96.

06 11 49 48 CC Okay. I copy.

06 11 49 54 CC I was putting down C for Conrad and C for Cooper there to begin with.

06 11 49 58 P Sorry.

06 11 51 05 CC Gemini-5, this is RKV. We have nothing else for you. We'll be standing by.

06 11 51 08 P Okay.

CONFIDENTIAL

CONFIDENTIAL

COASTAL SENTRY QUEBEC

06 12 41 22 CC Gemini-5, CSQ. Be advised we don't have a valid temperature as yet.

06 12 42 24 P CSQ, Gemini-5.

06 12 42 27 CC Gemini-5, CSQ.

06 12 42 29 P Did you call?

06 12 42 32 CC Roger. To advise we didn't have a valid temperature. We'd also like you to select the FC H₂ ... position on your Quantity Read Switch, and advise we do have a valid temperature now. Standing by for blood pressure.

06 12 42 46 P ... complete.

06 12 42 47 CC We have a valid blood pressure also.

06 12 42 51 P Okay.

06 12 43 41 C In the next pass any ...?

06 12 43 48 CC Gemini-5, CSQ Surgeon. We have a valid ... Your blood pressure is at full-scale.

06 12 44 34 CC Gemini-5, CSQ Surgeon. We have a valid blood pressure. Standing by for water report.

06 12 44 46 C Roger. Command Pilot has drunk 30 pounds 13 ounces of water.

05 12 44 54 CC Roger.

06 12 44 55 C I finished Meal 4C at 02:00:00.

06 12 45 03 CC Roger.

06 12 45 04 C Had approximately one hour sleep during the last sleep period.

06 12 45 11 CC Roger.

06 12 45 18 CC Gemini-5, CSQ. I request you go to the OFF position with your Quantity Read, and I have a Map

CONFIDENTIAL

CONFIDENTIAL

551

update when you are ready to copy.

06 12 45 27 P Ready to copy.

06 12 45 29 CC Your Map 03:37:44, longitude 36.5 West, Rev ... 0. Star 03:37:44, 23:34:34.

06 12 46 08 P Roger. We copy.

06 12 46 09 CC Roger. Also be advised your next pass at the RKV will be a UHF 6. Over.

06 12 46 15 P Roger. ...

06 12 46 19 CC Gemini-5, CSQ Surgeon. Your water report was for the Command Pilot, was it not?

06 12 46 25 P Affirmative.

06 12 46 26 CC Roger. Out.

06 12 46 43 CC Gemini-5, CSQ has nothing further. Standing by.

06 12 46 47 P ...

ROSE KNOT VICTOR

06 13 20 16 CC Gemini-5, RKV COM check. How do you read?

06 13 20 19 C Roger, RKV. Gemini-5 reads you loud and clear.

06 13 20 22 CC Roger. Read you loud and clear also. Your status is GO on the ground. We have some PLA updates for you. Acknowledge when you're ready to copy.

06 13 20 29 C Roger. Ready to copy.

06 13 20 32 CC 102-2, 06:29:21, 16 plus 48, 21 plus 57. 103-8, 08:05:13, 15 plus 20, 20 plus 29. 104-2, 09:40:39, 13 plus 58, 19 plus 09. 105-2, 11:16:19, 12 plus 40, 18 plus 02. 106-1, 12:38:58, 14 plus 03, 19 plus 14. Bank angles remain the same. Roll left 53. Roll right 67. Weather is good in all areas.

06 13 22 24 C Roger. I got it all. Those ... bank angles. Thank you very much.

CONFIDENTIAL

CONFIDENTIAL

06 13 22 27 CC Roger. We'd like to know what sort of tumble rates you are experiencing up there.

06 13 22 34 C Roger. We have very very slow rates now. I got them damped down a little earlier and we're just very slowly oscillating--and I'm not oscillating--just ...

06 13 22 46 CC Understand.

06 13 24 28 CC Gemini-5, RKV CAP COM. How do you read?

06 13 24 31 C Roger. Reading you loud and clear.

06 13 24 33 CC Okay, stand by for my mark in about 4 seconds or so; in fact, right now.

06 13 24 40 CC MARK.

06 13 24 40 CC As of 03:24:39 you started your 100th revolution and congratulations are extended to both of you from all the flight controllers throughout the world.

06 13 24 52 C Thank you very much.

06 13 24 54 CC Roger.

06 13 24 55 C We just have 22 orbits to go here.

06 13 24 59 CC That's right. Only 22.

06 13 25 06 CC Incidentally, if you'll turn on your HF receiver following this test, we'll send your way about 15 minutes of uninterrupted music.

06 13 25 15 C That would be very, very nice. Thank you.

06 13 25 18 CC You're quite welcome, I'm sure.

06 13 25 39 CC Gemini-5, this is RKV. We'll be standing by in case you have anything further.

06 13 25 44 C Roger. Thank you very much.

06 13 27 33 CC MUSIC.

CONFIDENTIAL

CONFIDENTIAL

553

06 13 33 55 CC ... this is ... transmitting ... voice ... your favorite movie themes.

06 13 24 34 CC MUSIC.

MCC, CAPE KENNEDY

06 13 39 59 CC Hello, Gemini-5, Gemini-5, this is Houston CAP COM. Calling HF check. Transmitting from the Cape Transmitter. Give us a call at Canaries if you read this radio check. This is MCCH, the Golden Voice of radio, returning you now to your favorite movie theme songs.

MUSIC.

CANARY ISLANDS

06 13 43 46 CC Gemini-5, this is Canary CAP COM.

06 13 44 00 CC Gemini-5, this is Canary CAP COM. We would like to know how many S-7 photos you have taken so far.

06 13 44 08 C Roger, Canary, this is Gemini-5. Just a minute, then I'll look.

06 13 44 27 C Canary, you read Gemini-5?

06 13 44 30 CC Roger.

06 13 44 31 C Roger, we didn't get the last group ... attitude. Over.

06 13 44 39 CC Roger, understand you did not get the last group due to attitude.

06 13 44 43 C Yes, we got one more coming up here that we'll try again.

06 13 44 48 CC Okay, we'd like to know the total number that have been taken.

06 13 49 54 C Roger, just a second.

06 13 44 56 CC Okay, we would also like to know the number of subjects that you have photographed.

CONFIDENTIAL

CONFIDENTIAL

06 13 45 03 CC On the S-7.

06 13 45 13 C All right, we've taken 26 exposures on S-7, and approximately 9 different subjects. Over.

06 13 45 43 CC Roger, copy 26 photos and 9 different subjects.

06 13 45 50 C Right.

06 13 45 51 CC ... we have some AOS times for you if you're prepared to copy.

06 13 45 57 C Okay, just a second.

06 13 45 59 CC Roger. Flight would also like to know if you heard the HF transmissions between RKV and Canaries.

06 13 46 08 C Yes, sure did. It was very nice.

06 13 46 11 CC Okay.

06 13 46 15 C Okay, go ahead on AOS times.

06 13 46 18 CC Roger, Canary Islands, Rev 102 would be 06:50. Carnarvon, Rev 102 will be 07 hours 26 minutes.

06 13 46 36 C Okay.

06 13 46 37 CC Canary Islands, Rev 103 will be 08 hours 25 minutes.

06 13 46 44 C Okay.

06 13 46 45 CC Carnarvon, Rev 103 will be 09 hours even.

06 13 44 53 C Okay.

06 13 44 54 CC Guaymas, Rev 103 will be 09 hours 40 minutes.

06 13 47 03 C Okay.

06 13 47 04 CC Canary Islands, Rev 104 will be 09 hours 59 minutes.

06 13 47 11 C Okay.

06 13 47 13 CC Carnarvon, Rev 104 will be 10 hours and 35 minutes.

06 13 47 19 C All right.

CONFIDENTIAL

CONFIDENTIAL

555

06 13 47 22 CC Guaymas, Rev 104 will be 11 hours, 12 minutes.
06 13 47 29 C Go ahead.
06 13 47 30 CC Canaries, 105 will be 11 hours, 34 minutes.
06 13 47 38 C Okay.
06 13 47 39 CC Carnarvon, 105 will be 12 hours, 09 minutes.
06 13 47 45 C Okay.
06 13 47 46 CC Hawaii, 105, 12 hours, 35.
06 13 47 52 C Okay.
06 13 47 54 CC Guaymas, 105 will be 12 hours, 46 minutes, and that's it.
06 13 48 00 C Okay, thank you very much.
06 13 48 02 CC Roger, everything looks good from the ground here.
06 13 48 05 C Okay, everything looks good here.

ROSE KNOT VICTOR

06 14 54 30 CC Gemini-5, RKV CAP COM.
06 14 54 34 C Go ahead, Art. Check ... RKV, Gemini-5.
06 14 54 39 CC Roger, I have a Flight Plan update for you.
06 14 54 43 C Can you wait for about a minute?
06 14 54 45 CC Roger.
06 14 54 54 C Go ahead.
06 14 54 56 CC MSC-1, 05:24:00 start time. End time 06:25:00.
06 14 55 14 C Okay.
06 14 55 16 CC I'd like to give you a little information so you can have it ready for Canary.
06 14 55 22 C All right.

CONFIDENTIAL

CONFIDENTIAL

06 14 55 24 CC We would like for you to have a wet and dry bulb reading ready.

06 14 55 30 C Okay.

06 14 55 31 CC And we'd like for you to get a temperature of the window, the ... around the window and temperature of the blotter, about 1 inch east of window.

06 14 55 55 C Okay.

06 14 55 58 CC Would you cycle your Quantity Read Switch to the H₂ position, please?

06 14 56 12 CC I'd like to have the amount of time remaining on your D-4/D-7 report, if you have it.

06 14 56 24 C It's, I believe, at 16 minutes ...

06 14 56 30 CC Roger.

06 14 56 32 C We got one more sequence of Test 7 pictures, 04:18:01.

06 14 56 46 CC Roger, understand, one more sequence No. 7 photograph.

06 14 56 51 C Roger. That's S-7 experiment, Sequence 1.

06 14 56 55 CC Sequence 1, Roger.

06 14 57 02 CC You may place your Quantity Switch to the OFF Position.

06 14 57 08 CC We'd like a little more detailed evaluation of the HF music from RKV to Canaries on the last orbit. We would like to know if you noticed any fading, any dropouts of any kind, and if you heard voice in the background sometimes as well as music.

06 14 57 26 C Naturally, we heard a little voice and then once ... switch down there, we heard a little voice and I imagine there was a little bit of fading but not bad at all. ... think it was pretty good.

06 14 57 39 CC Roger. Understand.

CONFIDENTIAL

CONFIDENTIAL

557

06 14 57 45 CC Did it drop out completely at anytime?

06 14 57 49 C Yes, it finally dropped out. Not just completely, it gradually died down as well as CW over ...

06 14 57 58 CC Roger, understand.

06 14 57 59 C Somebody was cutting in from CW fairly close to that frequency.

06 14 58 03 CC Roger.

06 14 59 15 CC Gemini-5, RKV CAP COM. Everything looks good here on the ground. We have nothing else for you. We'll be standing by.

06 14 59 21 C Okay, very fine. You want that wet and dry bulb for temperatures and so forth for Canaries on this pass.

06 14 59 27 CC That's affirmative. Both the wet and bulb, wet and dry bulb and the temperature report at Canaries.

06 14 59 34 C Okay, we'll try to have it.

06 14 59 36 CC Their acquisition is 05:16.

06 14 59 40 C Roger. I have that.

CANARY ISLANDS

06 15 18 12 CC Gemini-5, this is RKV CAP COM. Standing by for your report.

06 15 18 18 C Roger, RKV, everything is Green here.

06 15 18 20 CC Everything looks good on the ground.

06 15 18 23 C Okay.

06 15 18 29 CC And we're ready for your report any time.

06 15 18 34 C Roger. Are you ready for the temperature report?

06 15 18 36 CC That's affirmative.

06 15 18 38 C Roger. Dry bulb temperature is 74 degrees.

CONFIDENTIAL

CONFIDENTIAL

06 15 18 44 CC Roger.

06 15 18 45 C Wet bulb temperature is 64 degrees.

06 15 18 48 CC Roger.

06 15 18 49 C And the best I can tell the window, the window frame, and the padding around the window are all right at temp 74 degrees. Over.

06 15 18 58 CC Roger. Copy.

06 15 19 02 C Anything else you need?

06 15 19 04 CC Negative, that's about it. Thank you much. We'll stand by.

06 15 19 08 C Okay. Very fine.

06 15 19 53 CC Gemini-5, this is Canary CAP COM.

06 15 19 56 C Roger, Canary. Gemini-5 here.

06 15 19 58 CC Roger. I guess I called myself RKV on that first call.

06 15 20 03 C Okay. I figured that's what you had done.

06 15 20 06 CC ... Roger.

ROSE KNOT VICTOR

06 16 31 45 CC Gemini-5, RKV CAP COM.

06 16 32 08 CC Gemini-5, RKV CAP COM.

06 16 32 10 CC Roger. We have all your systems Green on the ground. We'd like for you ... your Quantity Read Switch to the Fuel Cell H₂ provision program.

06 16 32 19 C Okay.

06 16 32 56 CC Gemini-5, you may return it to the OFF position now.

06 16 32 59 C Okay.

06 16 33 06 CC We have nothing else for you this pass. We'll be standing by.

CONFIDENTIAL

CONFIDENTIAL

559

06 16 33 10 C Thank you.

HOUSTON

06 16 39 16 CC Gemini-5, Houston CAP COM.

06 16 39 24 C Good morning, Houston CAP COM. Gemini-5 here.

06 16 39 27 CC Roger. You're looking good on the ground. I've got a couple of requests for you. When you damp your rates, the next time you damp them or at any time, would you please turn on your rate gyros so we can get some data on the rates and the rates during your damping? Copy?

06 16 39 52 C Roger. We copy that.

06 16 39 54 CC Okay, and then you can turn the gyros off after you get through damping the rates. And would you try to damp over the States on the 103rd revolution so that we can get a real-time readout on the ground as you do your damping. If you can hold off until then we would appreciate it. Your Texas AOS on the 103rd revolution is 09:41:45.

06 16 40 21 C 09:41:45, right.

06 16 40 24 CC Okay, and can you give us an idea what your maximum rates are and how fast they build up?

06 16 40 32 C It'll vary from time to time, but we're still venting, and if you let them vary, they'll build on up to 11 or 12 degrees per second.

06 16 40 47 CC Roger. And about how long does it take them to build up to that rate?

06 16 40 51 C It takes quite a while and all-in-all it stayed much on one axis; of course, it was split between the axes. It won't stay with one axis purely.

06 16 41 02 CC Roger. I understand. Is it mostly yaw?

06 16 41 06 C Mostly yaw, yes.

06 16 41 09 CC Okay. Well, we figure that you're just about ready to stop venting now, so if you get a stop on it

CONFIDENTIAL

CONFIDENTIAL

you could give us the word.

06 16 41 17 C Okay.

06 16 41 19 CC Do you want to continue to receive the station acquisition times, or would a Delta-T time differential from your Flight Plan be acceptable to you?

06 16 41 29 C Just the Delta time would be acceptable.

06 16 41 32 CC Okay. Well right now you're running about 19 minutes later than your Flight Plan. In other words, your acquisition at this station according to your Flight Plan was about 06:14 and you actually came over about 06:38.

06 16 41 48 C Okay, 19 minutes then. All right, you want us to try damping on the 103rd revolution over the States, right?

06 16 41 57 CC That's affirmative.

06 16 41 59 C Okay. We've been using the rate gyros each time the damp went ...

06 16 42 03 CC Okay. Real fine. We can get the data on that and that'll help them analyze what the rates are doing.

06 16 42 08 C Right.

06 16 42 41 CC Gemini-5, Houston here. Actually, I got a correction on your Delta-T. It's really 24 minutes, not 19; 24 minutes later than the Flight Plan.

06 16 42 50 C All right. 24 minutes later.

06 16 42 53 CC Roger. You were supposed to be here at 06:14 and you're here at 06:38.

06 16 42 58 C Okay. Fine.

06 16 43 02 CC Gordo, in regard to the radar, I understand you ran some tests this morning to check for SPADATS interference. Did you get any lock-on lights when you were operating it this morning?

CONFIDENTIAL

CONFIDENTIAL

561

06 16 43 19 C No. Not that I noticed.

06 16 43 23 CC Roger. Are you pointing toward the ground at the present time?

06 16 43 29 C Yes, I am.

06 16 43 32 CC How about turning on the radar for me right now and just take a half a minute or so warm-up and stand by and turn it on and see what we get here. Just for a quick check and then just turn it right back off. I'm interested to see if you get a lock-on here when you really shouldn't.

06 16 43 52 C Okay. You want me to ... stand by?

06 16 43 54 CC Just put it on STANDBY for 30 seconds or so, or a minute, and then--

06 16 43 01 C Okay. It's in STANDBY.

06 16 43 03 CC Roger.

06 16 43 09 CC Okay, and after it's warmed up for 30 seconds or a minute here we'll put it on and just see if you get a lock-on. We're contemplating another Radar Test today as you come across the Cape looking at the pod on the ground, trying to repeat the good results you got last Sunday. We noticed that the only thing we can really see is a difference between that and the subsequent ones we've done is that the platform was not on that first time, so we're planning to try to do another one today with the platform off just to see if we get good range readouts and to see if they will go into the computer in the Rendezvous Mode like we tried to do the other day on those other two tests.

06 16 44 56 C Okay.

06 16 45 03 CC I think we've probably had enough warm-up here now. Why don't you turn it on and see if you get a lock-on light?

06 16 45 10 C I'm pointing right at the ground now.

06 16 45 12 CC Okay.

CONFIDENTIAL

CONFIDENTIAL

06 16 45 19 CC Are we still in contact?

06 16 45 22 C Negative.

06 16 45 23 CC Okay. Do you get a lock-on light?

06 16 45 25 C No.

06 16 45 26 CC Okay, fine. Well, when we lose LOS here, you can just turn it on back off.

06 16 45 32 C Okay.

06 16 45 38 CC There is still no lock-on light, I presume?

06 16 45 40 C No lock-on light. That's right.

06 16 45 45 C Is the hydrogen going to last us?

06 16 45 48 CC Beg your pardon?

06 16 45 49 C Is the hydrogen going to last us?

06 16 45 51 CC Oh, yes. No problem on that, Gordo. We're well ahead. The reason it's still coming down like this is that we're not using it as fast as expected, and that's why it hasn't stopped venting yet. But we're in real good shape. The tightest thing is going to be this water storage capacity, and it looks like we have a pad of about 3 to 10 pounds, something in that region, at the completion of your 8 days, so I think we're in real good shape.

06 16 46 29 CC Did you copy, Gemini-5?

06 16 46 31 C Affirmative, Ed. Flight, we're ...

06 16 46 36 CC Roger.

06 16 46 52 CC Are you still there, Gordo?

06 16 46 54 C Yes, I am.

06 16 46 56 CC I was just going to say the water storage capacity is the only thing that was really tight, but as I mentioned, we're in good shape on that. We'll have about an extra, say, half a day or something

CONFIDENTIAL

CONFIDENTIAL

563

like that.

CANARY ISLANDS

06 16 51 37 CC Gemini-5, this is Canary CAP COM. You need not answer. Would you place your Quantity Read Switch to Fuel Cell H₂, please?

06 16 53 10 CC Okay. Gemini-5, you can turn the Quantity Read off again. Everything else looks good from here.

06 16 53 19 C Okay. Looks good from here, too. Thank you.

06 16 53 23 CC Roger.

CARNARVON

06 17 26 47 CC Gemini-5, Carnarvon CAP COM.

06 17 27 14 C Go ahead, Carnarvon. Gemini-5 here.

06 17 27 16 CC Roger. I have a Flight Plan update. Will you prepare to copy?

06 17 27 20 C Okay. Just a moment.

06 17 27 40 C Okay. Ready to copy.

06 17 27 42 CC Roger. First item, D-4/D-7, 08:58:00, Sequence No. 419. Remarks, use 2 minutes on recorder. Point southeast at horizon clouds near Perth and Geraldton. Next item S-8/D-13, 09:03:10, Sequence No. 04, Pitch down 30, Yaw left 20. Do you copy?

06 17 28 47 C Roger. Got that.

06 17 28 49 CC Okay. Request you open your E-S Sensor Circuit Breaker for about two minutes. I'll give you a mark when to close again.

06 17 28 58 C Okay.

06 17 29 06 CC Is it open now?

06 17 29 08 C Negative. You want it open now?

CONFIDENTIAL

CONFIDENTIAL

06 17 29 11 CC Roger.
06 17 29 13 C Open.
06 17 29 23 CC That's all on the Flight Plan update this time.
06 17 29 26 C Okay.
06 17 31 14 CC Gemini-5, request you close the E-S Sensor Circuit Breaker.
06 17 31 21 C
06 17 31 21 C Roger, it's closed.
06 17 31 22 CC Roger.

TEXAS

06 18 12 10 CC Gemini-5, Gemini-5, Houston CAP COM. Over.
06 18 12 32 C Go ahead, Houston, Gemini-5.
06 18 12 34 CC Roger Gemini, Houston here. Could you give us a fuel cell purge on both sections please?
06 18 12 40 C Roger. Fuel cell purge on both sections. Want that right now?
06 18 12 47 CC Roger. Go ahead.
06 18 13 04 C Purge No. 1.
06 18 13 06 CC Roger.
06 18 13 19 C MARK.
06 18 13 21 CC Roger.
06 18 13 22 C Purge on No. 2.
06 18 13 23 CC Understand.
06 18 13 36 C Purge off on No. 2.
06 18 13 39 CC Roger.
06 18 13 40 C Fuel on No. 1.

CONFIDENTIAL

CONFIDENTIAL

565

06 18 13 42 CC Roger.

06 18 13 46 C MARK.

06 18 13 48 CC Roger.

06 18 15 46 C Oxygen off Section 1.

06 18 15 48 CC Roger.

06 18 15 51 C Oxygen on Section 2.

06 18 15 52 CC Roger.

06 18 16 20 CC Gemini, Houston. It's looking good on the ground.

06 18 17 53 C Oxygen off on Section 2. Crossover switch is off.

06 18 17 56 CC Roger, understand. Looks good. Everything looks good on the ground.

06 18 18 00 C Roger. Looks good here.

06 18 18 02 CC Okay. Be advised that during your experiments use no fuel. We don't want to use any fuel until we look at it a little longer. If you can perform the experiments, go ahead, but we'll make another evaluation on Rev 107 over the U.S. as to fuel usage. Okay?

06 18 18 19 C Okay. I think that's a pretty good idea because I can actually detect it going down in the little bit of damping I've been doing.

06 18 18 30 CC Okay. About what kind of rates do you have now?

06 18 18 33 C Our rates are ... here this last orbit.

06 18 18 39 CC Okay. Fine.

06 18 18 41 C Three or four or five orbits to build up.

06 18 18 43 CC Understand. We're going to give you a power-up procedure at Carnarvon or either over the States during the updates. We'll include it in the experiment updates, and this is to use some H₂ later on over the States to try and slow the hydrogen venting

CONFIDENTIAL

CONFIDENTIAL

down. And we'll pass it to you later.

06 18 19 05 C Okay.

06 18 19 07 CC And we have a workout today. I'll give you the procedures now and we'll give you the go ahead on performing it prior to the test. It'll be done in the 106 Rev and it will require fuel, so do not perform it until we give you the go ahead.

BERMUDA

06 18 19 35 CC Test No. 11. Configuration.

06 18 19 39 C You're cutting in and out.

06 18 19 40 CC Roger, understand. We're about ready to get LOS here. We'll have Carnarvon pass it up to you or else we'll catch you on the next pass around the States.

06 18 19 48 C Okay. Fine.

06 18 19 51 CC When you get to Carnarvon, the weather doesn't look very good at Woodley Ranch. So if it looks bad down there, go ahead and spend more time on that D-4/D-7.

06 18 20 45 CC Gemini, Houston.

06 18 20 48 C Go ahead, Houston, Gemini-5.

06 18 20 50 CC We'll try and have Canaries pass that Radar Test up to you, so if you've got a pad and pencil when you get over there they'll read it to you. Okay?

06 18 21 00 C Fine.

06 18 26 06 CC Gemini-5, this is Canary CAP COM. Would you place your Quantity Read Switch to the H₂ position? Thank you.

06 18 26 17 C Roger. ...

06 18 26 19 CC Roger. How do you read?

06 18 26 21 C Reading you loud and clear.

06 18 26 23 CC Okay. I'll give this Radar Test No. 11. Are you ready to copy?

CONFIDENTIAL

CONFIDENTIAL

567

06 18 26 33 C Roger. Go ahead.

06 18 26 36 CC Okay. Configuration same as 8, plus Computer to RENDEZVOUS, MDIU address 69, Rate Gyro is ON; Platform OFF. Procedure, read out 69 and tell us update. Then switch to CATCH UP for 5 seconds. Back to RENDEZVOUS. Repeat five times. If 69 readout bad, Radar to STANDBY for 1 second, then ON. Clocking accuracy not critical. Minimize fuel. At completion, Platform ON. Do you copy?

06 18 27 41 C Roger.

06 18 27 49 CC Okay. That's all of it.

06 18 27 56 CC Okay. You can switch your Quantity Read back to the OFF position.

06 18 29 18 CC Gemini-5, this is Canary CAP COM. Did you get an onboard reading of Fuel Cell H₂ while you were in the read position?

06 18 29 27 C Roger.

06 18 29 29 CC What was it?

06 18 29 31 C I want to make sure.

06 18 29 34 CC All right.

06 18 29 41 C I'm reading 17 percent. 17 percent.

06 18 29 47 CC Roger. Copy 17 percent. Thank you. That's all we have for you. You're looking good on the ground. We'll stand by.

06 18 29 56 C Okay.

06 18 32 17 P Canary, Gemini-5.

06 18 32 28 CC Gemini-5, this is Canary. Do you read?

06 18 32 30 C Roger. Read you loud and clear.

06 18 32 33 CC Did you call?

06 18 32 34 P Yes. Have a check this D-4/D-7, 419. Check the calibration. Do they want us to do that ...

06 18 32 46 CC Gemini-5, this is Canary CAP COM. Transmitting in the blind. We've had LOS here and did not copy the last of your transmission.

CONFIDENTIAL

CONFIDENTIAL

CARNARVON

06 19 00 34 CC Gemini-5, Carnarvon.

06 19 00 38 C Go ahead, Carnarvon. Gemini-5.

06 19 00 40 CC Are you in attitude for the D-5/D-7?

06 19 00 46 C Right. We have our transmitter on and we're ... attitude.

06 19 00 51 CC Roger. When you've completed D-4/D-7, let me know. I've got a Flight Plan update.

06 19 00 58 C Gemini-5.

06 19 02 32 C ... they were coming in over Woodley or heading towards Woodley now.

06 19 02 41 CC Roger. The last report was cloud coverage over Woodley.

06 19 02 47 C Oh, is that right?

06 19 02 50 CC It may break--we may be lucky. It may break over Woodley. I don't know.

06 19 02 55 C We'll take a look at it if we drift into the right attitude.

06 19 02 58 CC Roger.

06 19 03 08 C We're ready for the Flight Plan update.

06 19 03 10 CC Roger.

06 19 03 12 C First item: Warm-up 11:30:00. Remarks: Primary Coolant Valve circuit breaker open. Radiator flow to BYPASS. Secondary Coolant Pump B on. Next item: Power, 12:00:00. Remarks.

06 19 03 36 C ...

06 19 03 58 CC Say again.

06 19 03 59 P Read the first set of remarks again.

CONFIDENTIAL

06 19 04 02 CC Okay. The Primary Coolant Valve circuit breaker to OPEN. Next, Radiator Flow Switch to BYPASS. Next, Secondary Coolant Loop Pump B ON. What we're trying to do is warm up your secondary loop.

06 19 04 28 P Okay.

06 19 04 29 CC Without bypassing the primary on radiators. Okay, next item, power up, 12:00:00. Remarks, Radiator flow to FLOW, Primary Coolant Valve circuit breaker closed, Fuel Cell Section 2 PURGE, Section 2 power on, Rate Gyros, Platform and Computer on. Did you copy?

06 19 05 26 C Roger. We got that.

06 19 05 28 CC Okay. Next item, D-4/D-7, 12:10:00, Sequence No. 407. Next item, D-4/D-7, 12:50:46, Sequence No. 424 Bravo, Load No. 15, Remarks, pitch down 30, yaw left 22, speed 30, test time 12:51:35, duration 8 seconds. Next item, Delta 6, D-7, 12:52:00. Load No. 15, Remarks, pitch down 90, Eight general photos across U.S. Next item, S-5, 13:23:00, Sequence No. 01. Did you copy?

06 19 07 18 P Yes.

06 19 07 19 CC Okay, next item, D-6, 14:22:47, Sequence No. 05, Load No. 08, Remarks, pitch down 30, yaw left, 01, Speed 60. Okay, we're approaching IOS. Did you copy up to that point?

06 19 07 55 C Right. We got it to that point.

06 19 08 59 CC Okay. I'll read the next one to you. Radar Test 14:30:45, Sequence 11, Remarks, pitch down 30, yaw right 02, Platform off. Do you copy?

06 19 08 22 P We've got it.

06 19 08 23 CC Okay. We'll get the rest of it up to you over the States.

GUAYMAS

06 19 39 44 CC Gemini-5, Guaymas CAP COM. Turn your T/M Control Switch to the REAL TIME ACQ position.

CONFIDENTIAL

06 19 40 06 CC Gemini-5, Guaymas CAP COM.

06 19 40 08 C Go ahead, Guaymas, Gemini-5.

06 19 40 11 CC Okay. You're looking good here on the ground.
How are you doing?

06 19 40 17 C Looks good here.

06 19 40 18 CC Okay. I'd like to finish that Flight Plan update
if you've got your book out.

06 19 40 22 C Okay. We're ready.

06 19 40 24 CC Okay. The first one is D-6, 14:49:36, Sequence
68, Mode 15, Remarks, pitch 30 degrees down, yaw
13 degrees left, speed 60. S-5, 14:59:00,
Sequence 01. S-8/D-13, 16:00:40, Sequence 03,
Remarks, pitch 30 degrees down, yaw 15 degrees
left. S-7, 16:12:00, Sequence 02, Remarks, pitch
90 degrees down, two exposures, Storm Betsy.
Power down, 16:20:00, Remarks, Rate Gyros, Platform,
and Computer off. Okay, did you copy all that?

06 19 42 14 P That's affirmative.

06 19 42 16 CC Okay. Be advised on the Flight Plan update that
you got at Carnarvon and the rest that I just gave
you here, you are to use negative fuel. Over.

06 19 42 23 P Affirmative.

06 19 42 24 CC Roger.

06 19 42 26 P This is miracle man.

06 19 42 28 CC Say again.

06 19 42 29 P I say we're the miracle men and use our self-
survival.

06 19 42 33 CC All right.

06 19 43 34 CC Gemini-5, Houston.

06 19 44 03 CC Gemini-5, Houston.

CONFIDENTIAL

CONFIDENTIAL

571

06 19 44 41 CC Gemini-5, Houston CAP COM.

06 19 44 44 C Go ahead, Houston CAP COM. Gemini-5.

06 19 44 47 CC Roger. We've got a slight change in this power-up procedure on the fuel cells if you're ready to copy.

06 19 44 57 C Okay.

06 19 45 59 CC Okay. Instead of turning the Rate Gyros, Platform, and Computer on at 12:00:00, we would like to turn them on at 12:40:00. And this will give the mode a chance to stabilize before you turn them on. Copy?

06 19 45 20 C Okay.

06 19 45 23 CC Okay, and your D-4/D-7 over Carnarvon last time, that was correct. That was the time that we wanted to perform the experiment. So you were okay on that.

06 19 45 33 C Okay. We got some readings for them on that.

06 19 45 36 CC Okay, real good. We want to change your medical data pass at Canary again. You have one on the Pilot at Canary on this pass. We would like to change that to Guaymas, and the acquisition time of Guaymas is 11:12:09.

06 19 46 07 C Okay.

06 19 46 11 CC Gemini, Houston here. We got a change on a change. We want to leave the one at Canary. Okay? And the acquisition time on that is 09:59:34. Okay, we want to change the one that was supposed to be at Carnarvon on the Command Pilot on the next revolution after Guaymas. We want to move that back up to Guaymas at 11:12:09. You got it straight?

06 19 46 42 C Roger.

06 19 46 43 CC Okay.

06 19 46 46 C You got all the calibrators going down there on

CONFIDENTIAL

CONFIDENTIAL

the hydrogen?

- 06 19 46 51 CC Watching it like a hawk, Gordo. We're watching it real close and we're expecting it to stop venting at any time, but even if it doesn't, projected curve at the present rate would show you completing your mission with about 4 percent remaining.
- 06 19 47 12 C Okay. It hasn't stopped venting up here yet.
- 06 19 47 15 CC Roger. You still notice it slowing down, you think?
- 06 19 47 19 C No. It seems to be going just as fast as ever.
- 06 19 47 23 CC Roger.
- 06 19 47 25 P The curve that I have, Elliot, showed it leveled out. Then this morning on the next pointer I put on it, it showed it turned down again.
- 06 19 47 38 CC Well, we show that for the last 15 hours or so it's been a relatively straight line, and if you project that to the completion of the mission, you'll have about 4 percent left. And we're watching it carefully. We're expecting it to quit venting at any time, and that would level it off even better.
- 06 19 48 04 C You've been expecting it to stop venting for two days.
- 06 19 48 14 CC Well, actually, it's supposed to stop venting at about 15 percent quantity remaining, and that's about where you are now.
- 06 19 48 22 C Yes.
- 06 19 48 24 CC If you can believe it, there are so many charts and graphs down here that I think Elliot has the display saturated.
- 06 19 48 30 P I can believe it.
- 06 19 48 33 CC It's true. Boy, you've never seen so many.
- 06 19 48 55 CC Just a point there, Gemini-5. The curve that we were working with at the start of the mission would

CONFIDENTIAL

CONFIDENTIAL

573

have shown us a considerably lower at the present time, down around 7 percent, so you would have really been sweating it out if that had been the case, even more so.

- 06 19 49 16 C Yes.
- 06 19 49 21 C That's the curve we've been working with.
- 06 19 49 24 CC Beg your pardon?
- 06 19 49 25 C That's the curve we've been working with.
- 06 19 49 29 CC I didn't think you had that one before the flight, the one with the curves in it. That is the one with the expected venting rates. I thought that only was drawn here after you got launched.
- 06 19 49 45 C We had some advance data.
- 06 19 49 48 CC Very good.
- 06 19 49 59 CC Based on your advanced information, when do you think it's going to stop venting?
- 06 19 50 06 C Never.
- 06 19 50 09 CC Well, if you notice, if you really do have this curve, you'll notice that it actually breaks at about 15 percent, and that's when the venting should stop, and that's just any time now.
- 06 19 50 22 C Okay.
- 06 19 50 30 CC As I see it, your tightest thing is your water storage capacity, and right now it looks like you'll have something like 6 pounds remaining at the end of your mission. That's about a third of a day pad, something like that. Half a day pad, maybe.
- 06 19 50 54 C ... water readouts you've gotten from time to time?
- 06 19 50 58 CC Beg your pardon, Gordo.
- 06 19 51 01 C That's based on the water readouts you've gotten from time to time or just an estimated water

CONFIDENTIAL

CONFIDENTIAL

production rate?

- 06 19 51 08 CC That's based on the water readouts plus the Tank A readings we get by telemetry and because those give us the most pessimistic calculations, the production rates based on the prelaunch values are running considerable higher than that. But we think probably these water calculations might be more accurate. At least we've got to believe them because we don't know anything better than that.
- 06 19 51 34 C Yes.
- 06 19 51 37 CC You might give me a water readout at the present time for both of you if you happen to have one--
- 06 19 51 45 CC --both at the same time rather than staggered.
- 06 19 51 49 C It's right around 61 pounds for both of us.
- 06 19 51 53 CC 61 pounds at the present time. Roger. Thank you.
- 06 19 51 56 C That's conservative. I'm sure we've drunk more than that.
- 06 19 52 02 CC Tilt. You say you have drunk more than that?
- 06 19 52 07 C Yes, I say that we're being conservative on our drinking estimate.
- 06 19 52 12 CC You mean you think your numbers are low or high?
- 06 19 52 16 C Probably a little low. I think we probably have drunk slightly more than what we have here. I think our sips have been bigger ... increased pressure with the ...
- 06 19 52 27 CC Well, that's interesting. How much have you been marking for each gulp?
- 06 19 52 32 C We've been marking one ounce per gulp.
- 06 19 52 38 CC Well, when you measured it back at the Cape you were running 0.83 ounces. Do you think that one ounce is about correct?
- 06 19 52 48 C That might be pretty close.

CONFIDENTIAL

CONFIDENTIAL

575

06 19 52 49 CC Okay. That's what we've been counting on. You shook us up for a minute. Just for your information we feel that even if you ran out of water storage capacity, you could go for about 13 hours. That's partially extending the fuel cell usage until the membranes are drowned out and then going onto batteries after that. So I think we're in real good shape.

06 19 53 36 C Okay.

06 19 53 41 CC Just remember where that parachute switch is.

06 19 53 44 C Got it marked.

06 19 53 52 CC I understand there was a bee in the window at lift-off. Have you ever seen any more of him?

06 19 53 59 C No, but there's been ... between the panes here.

06 19 54 03 CC Is he still flying?

06 19 54 05 C Yes, he's still flying but he's not very alive, I don't think.

06 19 54 12 CC Very good.

06 19 54 20 CC You're looking real good down here, Gordo.

06 19 54 26 C Very good.

06 19 54 34 CC Understand they already played our music for you.

06 19 54 37 C Right. We got that down in the remote region last night. Sounded real good.

06 19 54 43 CC I was saving that for the GO/NO-GO today. We might give you another shot on it.

06 19 54 47 C Okay. We can always stand a little shot now and then. It didn't come through too clearly, so we'd just as soon have it again.

06 19 54 56 CC Okay. We'll turn it up extra loud.

06 19 55 05 CC Pete, will you have a chance to get ready for your med data at Canary on this one?

CONFIDENTIAL

CONFIDENTIAL

06 19 55 10 P I believe.

06 19 55 13 CC Okay, good. Thank you.

06 19 55 45 C You want us to go ahead and do that rate damping here with the gyros working ...

06 19 55 53 CC You're too far out now.

06 19 55 55 C Say again.

06 19 55 56 CC I say you're too far out at the present time. We'll have LOS in about 30 seconds here. You might try them the next pass over if you can.

06 19 56 01 C Okay.

06 20 00 30 CC Gemini-5, this is Canary CAP COM. We have a valid oral pass. Would you give us a blood pressure, please?

06 20 00 37 P Blood pressure coming.

06 20 00 47 CC Gemini-5, Canary Surgeon. Your cuff is full-scale.

06 20 01 16 P Canary, Gemini-5. How about a GMT time hack?

06 20 01 22 CC Roger, Gemini-5. We'll give you a GMT time hack at 10 hours and 02 minutes.

06 20 01 33 P Okay.

06 20 01 34 CC About 30 seconds.

06 20 01 35 P Roger.

06 20 01 38 CC We have a good blood pressure. Give me a mark when you begin exercise.

06 20 01 43 P Okay, let me catch the time hack.

06 20 01 46 CC Roger.

06 20 01 57 CC 3, 2, 1,

06 20 02 00 CC MARK. That's 10 hours, 02 minutes, 00 seconds.

CONFIDENTIAL

CONFIDENTIAL

577

06 20 02 08 P Roger, very good. Thank you.

06 20 02 12 CC On my mark it's--

06 20 02 56 CC Your cuff is full-scale.

06 20 03 33 CC We have a good blood pressure. Standing by for your food, water and 24-hour sleep report.

06 20 03 40 P Roger, water is 31 pounds, 6 ounces. Last meal was 4C at 07:02:00:00, and sleep in the last 24 hours - about 6.

06 20 04 04 CC Roger, we copy. Can you give us an estimate of the quality of your sleep?

06 20 04 09 P Okay, was good.

06 20 05 33 CC Gemini-5, this is Canary CAP COM. You're looking good here on the ground. We have nothing further for you. We have about a minute left.

06 20 05 41 P Roger. We're Green here and we just passed directly overhead. It looks like you guys are going to have a good day at the beach today.

06 20 05 48 CC Okay, thank you. We'll enjoy it.

CARNARVON

06 20 35 20 CC Gemini-5, Carnarvon. I have a PLA update when you're ready to copy.

06 20 35 25 P Roger. Ready to copy.

06 20 35 27 CC Roger. Area 107-1, 14:14:44, 12 plus 43, 18 plus 04.

06 20 35 53 CC Next area, 108-4, 17:00:17, 15 plus 33, 20 plus 37. Next area, 109-4, 18:35:54, 14 plus 08, 19 plus 19. Would you place your Quantity Read Switch to FUEL CELL H₂?

06 20 36 42 CC Next area, 110-3, 19:53:52, 16 plus 42, 21 plus 52. Next area, 111-3, 21:29:46, 15 plus 13, 20 plus 19. Weather is good in all areas; bank angles are roll left 53 and roll right 67 for all areas. Do

CONFIDENTIAL

CONFIDENTIAL

you copy?

06 20 37 37 P Roger, we copy.

06 20 37 42 CC Okay, we can turn your Quantity Read Switch off. I have a Flight Plan update for you when you're ready.

06 20 38 04 P Go ahead.

06 20 38 05 CC Roger, stand by one.

06 20 38 15 CC Okay. Our Flight Plan update. First item, Map, 11:03:51, remarks, longitude 150.6 degrees West, Rev 104. Next item, Star, 11:03:51, remarks, 22 hours 26 minutes. Do you copy?

06 20 38 59 P Affirmative.

06 20 39 01 CC Okay, and one more item. We had a medical data pass on the Command Pilot at Guaymas; the AOS time is 11:12.

06 20 39 12 P Say again the AOS time, please.

06 20 39 14 CC Roger, 11 hours, 12 minutes.

06 20 39 20 P Okay.

06 20 39 36 CC Have you got writer's cramps?

06 20 39 40 P Yes, we're doing an awful lot of writing for not much work.

06 20 39 43 CC Roger.

06 20 39 55 C Can you see us out there today?

06 20 39 58 CC Negative. We've got overcast, almost complete overcast today.

06 20 40 03 C Okay.

06 20 40 09 CC You can try, it had been clear.

06 20 41 28 CC We have about a minute to LOS. Standing by.

CONFIDENTIAL

CONFIDENTIAL

579

06 20 42 07 P Gemini-5, standing by. We'll see you next pass.

06 20 42 10 CC Roger.

GUAYMAS

06 21 11 56 CC Gemini-5, Guaymas CAP COM. Turn your T/M Control Switch to REAL TIME and ACQ position.

06 21 12 16 CC Gemini-5, we have a valid oral temp. Stand by for Surgeon.

06 21 12 21 CC Gemini-5, Guaymas Surgeon here. We're standing by for your blood pressure.

06 21 12 37 CC Your cuff is full-scale.

06 21 13 13 CC We have a good blood pressure. Standing by for your mark when you begin exercise.

06 21 13 33 C MARK.

06 21 14 01 C Through exercise.

06 21 14 04 CC Roger.

06 21 14 13 CC Your cuff is full-scale.

06 21 14 43 CC We have a good blood pressure. We're standing by for your food, water and 24-hour sleep report.

06 21 14 53 C Roger. Water, 31 pounds and 7 ounces of water. On food, at 07:02:00:00 I had Meal 4C, and last 24 hours, I've had approximately 3 hours of sleep and I'm due for my next sleep period now.

06 21 15 39 CC Roger. We copied 31 pounds plus 7 ounces water, Meal 4C at 07:02:00:00, and 3 hours of sleep in the last 24. Could you give us an estimate of the quality of sleep?

06 21 15 58 C Very good.

06 21 11 01 CC Roger. Thank you very much. Guaymas Surgeon out.

06 21 16 04 C Roger.

1

CONFIDENTIAL

CONFIDENTIAL

06 21 16 05 CC Gemini-5, Guaymas. You're looking good here on the ground. Will you turn your T/M Control Switch to COMMAND position?

06 21 16 14 C Okay.

06 21 17 09 C ... firing up our MDI, we'll take our rates down now.

06 21 17 14 CC Roger. Understand.

06 21 17 56 CC Gemini, Houston. We haven't got anything for you. You might give us a comment on your rates when you get them damped down.

06 21 18 03 C Roger. They weren't too high. We just thought we would go ahead and damp them out.

06 21 18 07 CC Okay. Thank you. Appreciate it. You're looking good on the ground.

06 21 18 11 C Roger.

06 21 18 18 CC Gemini-5, Houston CAP COM. We're 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% on the gage. But I'd like to reiterate that even if it continued without leveling off any more at all, we would be in good shape. At the end of the mission we would still have some 4 or 5% remaining. We're continuing to monitor this very closely and we do expect it to level out somewhat here as soon as it stops venting. The latest estimate is that it may be as low as 10%.

06 21 19 12 C Okay. Ignore it.

06 21 19 15 P Our status, in regard to experiments, is still no fuel expenditures. Is that correct?

06 21 19 20 CC That's correct.

06 21 19 22 P Okay.

06 21 19 28 CC You understand the reason, don't you, Pete? That we're trying to make certain that we have fuel available to stop these rates as long as we need

CONFIDENTIAL

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.

06 21 19 48 P Yes, okay.

06 21 19 53 CC We'll give you a decision on that Radar Test on the next round as you go by, on the fuel usage.

06 21 20 00 P Okay.

06 21 20 07 P This system is plenty sluggish now, I think. It just doesn't seem like it's putting out what it used to.

06 21 20 13 CC Roger. Understand.

06 21 20 26 CC Pete, do you feel that there are any other thrusters tending to go out at this time, or do you feel that it's a general sluggishness of the system?

06 21 20 35 P Well, they very definitely have degradation of several thrusters because we have, I think, more cross-coupling than we should have. As a matter of fact, roll has started to couple into pitch now, which it hadn't done before; and right yaw has been coupling into roll, which it's still doing. But I just think the general performance is just dropping off and dropping off.

06 21 21 10 CC Roger.

06 21 21 12 P It could be that when we fired up for good that if we make a good shot at Direct all around or something, we might liven things up, I don't know.

06 21 21 21 CC Are you doing all your damping with Pulse?

06 21 21 24 P That's correct.

06 21 21 26 CC There may be a lot of that. You're just not clearing the system up and you haven't been for a long time. It may be just needing a good shot of cleaning out. But we don't want to do that.

06 21 21 38 P We're right smack dab overhead Houston, it looks like, right now. I can just make it out as the

CONFIDENTIAL

front's coming up.

00 21 21 46 CC Very good. Everybody's outside looking for you.

06 21 21 51 P You ought to be able to see us because the sun's shining on us and not on you.

06 21 21 56 P Yes, we see Clear Lake. ...

06 21 22 00 CC We have had some reports of sightings.

06 21 22 11 P Yes. We're powering down all our ACME and so forth.

06 21 22 17 CC Roger.

06 21 22 09 CC Gemini, Houston.

06 21 24 13 P Go ahead, Houston.

06 21 24 14 CC 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?

06 21 24 25 P Let's see. Right yaw coupled it to right roll, I guess.

06 21 24 32 CC Okay.

06 21 24 35 P If I'm correct, I think it says that the No. 3 yaw thruster is the weaker of the two.

06 21 24 40 CC Roger. How about the pitch?

06 21 24 43 P The roll, the right roll, excuse me, the left roll coupled it to pitch up.

06 21 24 57 CC Okay. Understand. Incidentally, as you went by, you were extremely easy to see, and I think just about all of Houston saw you.

06 21 25 10 C Very good.

06 21 25 16 P What's our ... now? Still 107?

06 21 25 19 CC Stand by.

CONFIDENTIAL

CONFIDENTIAL

583

06 21 25 20 P Huh?

06 21 25 21 CC Stand by.

06 21 25 29 CC 107.4 by 159.0.

06 21 25 33 P Roger.

06 21 25 43 P What's the weather outlook for the recovery area tomorrow?

06 21 25 47 CC Oh, I think it all looks pretty good. I'll get a detail on it.

06 21 26 28 CC Gemini-5, Houston.

06 21 26 32 P Go ahead.

06 21 26 34 CC The way it stands right now, 122-1 is acceptable, about 500 downrange is not so good. 121-1 is clear all the way.

06 21 26 44 P Roger.

06 21 26 48 CC We're watching it real close down here.

06 21 26 52 P Okay.

06 21 26 54 CC You might notice that one of your experiments is passing over Betsy, and you might give us a good look on that as you go by. I think you've got a couple of pictures to take.

06 21 27 03 P Yes. Okay.

06 21 27 05 CC Good morning.

06 21 27 06 P Good morning. How are you?

06 21 27 08 CC Great. You're looking pretty good.

06 21 27 13 P You're not up here looking at them.

06 21 27 19 CC Gordo, this is Houston CAP COM. If you want to take a nap at this time, don't hesitate. Don't worry about these experiments; you really haven't got much capability to do them anyway with the fuel

CONFIDENTIAL

CONFIDENTIAL

limitations. And the thought is that you certainly should feel free to go ahead and sleep if you want.

06 21 27 41 C Okay. We might catch a little sleep today if ...
06 21 27 45 CC Okay.

BERMUDA

06 21 29 19 CC Gemini, Houston.
06 21 29 24 C This is Gemini-5, did you call, Houston?
06 21 29 36 CC Gemini-5, Houston.
06 21 29 39 C Go ahead Houston ...
06 21 29 40 CC Be advised your wife saw you go by then.
06 21 29 46 C What did you say?
06 21 29 48 CC I said Trudy saw you go by.
06 21 29 50 C Oh, is that right? Very good.
06 21 29 02 CC It sure is early in the morning down here.
06 21 29 06 C Yes, it's early in the morning up here too.
06 21 29 15 C Early for several mornings.
06 21 29 19 CC Say again.
06 21 29 21 C I say it's been pretty early for several mornings.
06 21 29 23 CC I don't doubt that.

CANARY ISLANDS

06 21 35 07 CC Gemini-5, this is Canary CAP COM. I have nothing for you this pass so need not reply. Everything looks good from the ground.
06 21 35 14 C Roger, this is Gemini-5. Be advised that we started the power-up procedures for the No. 2 fuel cell.

CONFIDENTIAL

CONFIDENTIAL

585

06 21 35 26 CC Roger, understand.

06 21 35 42 CC Gemini-5, would you put your Quantity Read Switch to the FC H₂ position? Thank you.

06 21 36 29 CC Gemini-5, would you give me an onboard reading on your H₂?

06 21 36 34 C Roger. Read 15 percent and 700 and about 75 psi.

06 21 36 48 CC Roger, copy. 15 percent, 775 psi.

06 21 36 53 C Affirmative.

06 21 36 55 CC Roger.

CARNARVON

06 22 10 00 CC Gemini-5, this is Carnarvon. Place your Quantity Read Switch to ECS O₂ position.

06 22 10 31 P Carnarvon, Gemini-5 here. We have the No. 2 fuel cell powered up on the line.

06 22 10 37 CC Roger.

06 22 10 38 P And it went on at about 12:03.

06 22 10 43 CC Roger.

06 22 10 59 CC Okay. Would you go to FC O₂ on Quantity Read?

06 22 11 15 C Carnarvon, this is 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.

06 22 11 25 CC You say you noticed a lot of venting?

06 22 11 27 C Yes. Couple of times.

06 22 11 30 CC Roger.

06 22 11 43 CC Okay. Would you place your Quantity Read Switch to the Fuel Cell H₂?

06 22 12 04 CC Did that venting up there give you much rate?

CONFIDENTIAL

CONFIDENTIAL

06 22 12 11 C Oh, it's picked it up a little bit but not much.

06 22 12 15 CC Okay. Flight advises that they don't suspect ECS O₂ venting will give you much of a rate; there's not much moment on that. It's in the CG.

06 22 12 26 C Well, we think that that's probably what it was that was venting here.

06 22 12 43 CC Gemini-5, were you estimating that thing on a basis of rates or visual?

06 22 12 50 P Visually.

06 22 12 52 CC Roger.

06 22 12 58 CC Okay. Would you place your Quantity Read Switch to the OFF position?

06 22 13 33 CC Everything looks good here on the ground.

06 22 13 36 C We're GO up here.

06 22 16 21 CC We've got about a minute to LOS. Stand by.

06 22 16 25 C Gemini-5, Roger. Standing by.

HAWAII

06 22 36 47 CC Gemini-5, this is Hawaii CAP COM.

06 22 36 50 P Hawaii CAP COM, Gemini-5. Go ahead.

06 22 36 52 CC We have nothing for you. Hawaii standing by.

06 22 36 55 P Roger, Gemini-5 standing by.

GUAYMAS

06 22 47 01 CC Gemini-5, Gemini-5, Houston.

06 22 47 10 CC Gemini-5, Gemini-5, Houston.

06 22 47 25 CC Gemini-5, Gemini-5, Houston.

06 22 47 39 CC Gemini-5, Gemini-5, Houston.

CONFIDENTIAL

CONFIDENTIAL

587

06 22 47 52 CC Gemini-5, Gemini-5, Houston. We'd like to have you put your C-band Adapter Switch to CONTINUOUS if you read.

06 22 48 03 P Roger. C-band to CONTINUOUS. I'm reading you loud and clear.

06 22 48 08 CC Okay. Very good. I'd like to tell you that if you can see Holloman when you go by, they'll have 13 flashing red lights along the track to help you find the track. You'll probably be pointing the other way if I know you. They'll have 13 flashing red lights and the weather is clear.

06 22 48 32 C Before ...

06 22 48 35 CC Yes, it's at the no fuel D-4/D-7.

06 22 48 38 C Okay.

06 22 48 43 CC It would be nice to know though if you could see the lights if you were pointing in that direction at all.

06 22 48 48 C Roger.

06 22 48 53 C We have purged second fuel cell on the line per schedule.

06 22 48 59 CC Roger, very good. Do you have your computer up and in Prelaunch?

06 22 49 02 C Computer is up in Prelaunch and platform is up and Cage SEF.

06 22 49 09 CC Okay. We'll be sending up some DCS updates for area 107-1.

06 22 49 14 C Okay.

06 22 49 25 CC 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.

06 22 49 33 C Very good.

06 22 49 48 CC Gemini-5, Houston. We'd also like to have you

CONFIDENTIAL

CONFIDENTIAL

place your Bio-med Recorder Switch to OFF now and we'd like to save the rest of the tape until just prior to retrofire.

06 22 49 59 C Okay.

06 22 50 01 P Okay. Bio-med Recorders 1 and 2 are both off.

06 22 50 04 CC Okay.

06 22 50 21 CC Gemini, Houston. The Big Blue Team gives you a GO for 122-1. Press on.

06 22 50 29 P Roger. We're pressing on.

06 22 50 33 CC Good show.

06 22 50 39 C As Pete would say, Over the ocean, over the blue, from Gemini-5, we thank you.

06 22 50 47 CC Okay. Now that we're discussing poems here, I was talking to both Jane and Trudy this morning. 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 a great big dive,
Leaning toward the ocean blue
And I send my love to you.

06 22 51 25 P Tell her I think that's really great.

06 22 51 28 CC Okay. I'll do it.

06 22 51 30 CC Okay. We've got about 5 seconds for the Holloman test.

06 22 51 38 CC Light up.

06 22 51 39 P Okay. I see the track. I do not see the red lights, but I do see the track.

06 22 51 46 CC Okay. Do you see the rocket?

CONFIDENTIAL

CONFIDENTIAL

589

06 22 51 48 P Not yet.

06 22 51 51 CC Okay. It should be burning.

06 22 51 59 P I don't see the rocket but I do see the track.

06 22 52 03 CC Okay. Well, it should've been burned out by now. Let me check with Flight.

06 22 52 21 CC It should be blinking right now, Gemini-5.

TEXAS

06 22 52 57 CC Gemini-5, Houston again.

06 22 53 16 CC Gemini-5, Houston. You can turn your C-band Adapter Switch back to COMMAND.

06 22 53 24 P Roger, to COMMAND.

06 22 53 28 CC Here comes your DCS load now.

06 22 53 41 P Okay. We got it.

06 22 53 43 CC Very good.

06 22 54 02 CC Gemini-5, Houston. I'd like to give you a little briefing on our Flight Plan for today. Are you ready to copy, or ready to listen, I guess.

06 22 54 10 P Ready.

06 22 54 11 CC Okay. Most of the things that we've got on the schedule today are all to be done with no fuel, so 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 do your damping, though, so that you can take advantage of the fuel that you're using for damping, ending up pointing in a direction that would be usable to you. And especially so on the Laredo S-8/D-13 pass, which is supposed to occur at 16:00:40. We might even expend a little fuel on that to place the spacecraft in the right direction so that you can see the targets. Okay?

06 22 54 52 P Fine. We can do it.

CONFIDENTIAL

CONFIDENTIAL

06 22 54 55 CC Okay. 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 S-8/D-13. Now for tomorrow we have a couple 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 to do an S-8/D-13 at the Woodley Ranch if possible.

06 22 55 22 P Fine.

06 22 55 23 CC Okay.

06 22 55 25 P What's the weather outlook tomorrow? We have overcast today.

06 22 55 29 CC Roger. We had them scheduled for today and then scrubbed them. We don't really know what it's going to be tomorrow yet, Pete. I haven't gotten a forecast for that.

06 22 55 39 C What were you saying the day before yesterday? It was so clear down there you couldn't believe it.

06 22 55 44 CC Roger.

06 22 55 53 CC Gordo, Houston. As I mentioned on your last pass, Trudy saw you up there without too much trouble at all. She sends you her best wishes and she says that she got the girls up quite early this morning. They all went out and saw it and they certainly enjoyed it.

06 22 56 131 C Very good, thank you.

06 22 56 16 CC She says you put on a good show.

06 22 56 23 P Nobody can know that any better than we can.

06 22 56 26 CC Roger. Oh, also, Pete, Jane said that Gemini horoscope for today in the paper said that you should get your house in order and the evening was good for dining out. In case you're interested.

06 22 56 40 P Okay.

06 22 56 45 CC Gemini-5, this is Houston Flight.

CONFIDENTIAL

CONFIDENTIAL

591

06 22 56 47 C Go ahead, Flight.

06 22 56 49 CC With regard to these recovery areas, we're going to take a look at the weather for the rest of the day 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.

06 22 57 04 C Okay. Very good.

06 22 57 17 CC The other thing is that it looks from here to the end of the mission that we've got no problems with water or with the hydrogen we have left, and that you can average quite a bit higher amps than we would expect you would so that's no problem.

06 22 57 33 C Okay, fine.

BERMUDA

06 22 58 18 CC Gemini-5, Houston. Have you got the HF up?

06 22 58 23 P Roger.

06 22 59 24 CC Okay, stand by.

06 22 58 32 CC M U S I C.

CARNARVON

06 23 44 06 CC Gemini-5, Carnarvon.

06 23 44 09 P Go ahead, Carnarvon, Gemini-5 here.

06 23 44 11 CC Okay. We're GO on the ground for 122-1. Are you GO?

06 23 44 16 P GO up here.

06 23 44 17 CC Roger. I'll be updating your Tr shortly.

06 23 44 20 P Roger.

06 23 44 39 CC Transmitting Tx. There's your Tx.

06 23 44 46 CC Roger.

06 23 45 09 CC Transmitting Tr.

06 23 45 15 P Roger. We got it.

CONFIDENTIAL

CONFIDENTIAL

06 23 45 17 CC Roger and you're in sync.

06 23 45 28 CC Okay. Flight advises that before States to remind you to power-down your platform. Computer on, Radar on. Damp out your rates so that you're pointing down and that if you want to pulse a couple of times to get pointed at the Cape to go ahead.

06 23 45 53 P Okay.

06 23 46 02 CC Flight advises they do not want to track.

06 23 46 06 P ...

06 23 47 28 CC That's the last TR except for correction perhaps over Houston later.

06 23 47 33 C Okay. Thank you very much, Carnarvon.

06 23 47 37 CC Roger.

06 23 47 42 P We've been waiting for it for 7 days.

06 23 47 43 CC Ha, ha. So have we.

06 23 47 51 CC Our congratulations.

06 23 47 55 C Thank you. Same to you. Good show down there.

06 23 47 59 CC Thank you.

06 23 48 29 CC Are your suit temps comfortable?

06 23 48 32 C Yes. Why? What are you reading on the ground?

06 23 48 36 CC 52.

06 23 48 38 C Yes. We read about the same; as a matter of fact, we read 50 up here.

06 23 48 42 CC Roger.

06 23 49 42 CC I'll bring you a can of Swan Lager back to Houston.

06 23 49 45 C Very good. That's the spirit.

06 23 50 11 C Be sure and give our best to all of those fine people over there.

06 23 50 14 CC Will do, Gordo.

CONFIDENTIAL

CONFIDENTIAL

593

HAWAII

07 00 11 15 CC Gemini-5, Hawaii CAP COM.

07 00 11 18 P Hello, Hawaii CAP COM, Gemini-5 here. Go ahead.

07 00 11 21 CC All your systems are looking good. We're standing by.

07 00 11 24 P Computer platform's down and we're going to warm up the radar at this time.

07 00 11 27 CC Roger.

07 00 12 45 CC It looks like your hydrogen is not venting.

07 00 12 50 P We concur. The pressure has dropped to about 740 the last time I looked.

07 00 12 55 CC Roger.

07 00 12 57 CC By the way, you've passed through 24 hours. You're now at 23 hours and 50.

07 00 13 01 P Oh boy. ... count down tomorrow.

07 00 13 11 CC I'm practicing.

07 00 13 14 P So are we.

07 00 14 31 CC Which direction are you pointing in at the moment?

07 00 14 35 P We're sort of pointed about 30 degrees nose-up, about 30 degrees yaw right.

07 00 15 01 CC Do you have any rates?

07 00 15 04 P Relatively low right now. We just flipped it a time or two to just gently start her back down so that we're already pitched down by the time we hit Florida.

07 00 15 13 CC Roger.

07 00 16 16 CC We're coming up on LOS minus 1 minute.

07 00 16 20 P Roger. Five standing by.

CONFIDENTIAL

CONFIDENTIAL

GUAYMAS

07 00 21 22 CC Gemini-5, Guaymas CAP COM. Show you Green on the ground. We're standing by.

07 00 21 27 P Guaymas, Gemini-5. Green here. Standing by.

07 00 26 39 C Hello, Houston, Gemini-5.

07 00 26 45 CC Gemini-5, Guaymas.

07 00 26 46 C Oh, Roger. We're still with you, huh?

07 00 26 48 CC Yes. Looks like they let me talk to you for a bit.

07 00 26 51 C Okay.

07 00 26 54 CC Do you need something?

07 00 26 56 P No.

TEXAS

07 00 27 52 CC Gemini-5, Houston here. Over.

07 00 28 02 CC Gemini-5, Houston standing by.

07 00 28 20 CC Gemini-5, Houston.

07 00 28 24 P Hello, Houston, Gemini-5.

07 00 28 26 CC Roger. We're standing by. How's your drifting? Are you drifting in the right direction?

07 00 28 30 P ... we're pitched down in very good shape. We're yawed just slightly off to the left. Seem to be in pretty fair shape, I believe.

07 00 28 39 CC Very good. Very good.

07 00 30 40 P We have a lock-on but the rates are not reading right at 69 yet.

07 00 30 44 CC Okay. Keep us appraised at what happens.

07 00 30 49 P Okay. I'm going to go to CATCH-UP once, quickly.

CONFIDENTIAL

CONFIDENTIAL

595

07 00 30 52 CC Roger.

07 00 30 59 P Still not reading right. Going to STANDBY.

07 00 31 01 CC Okay.

07 00 31 10 P Still not reading right.

07 00 31 12 CC Okay.

07 00 32 08 P Okay. We're well past the Cape and we're well past the Cape on look angle, and we just broke lock.

07 00 32 14 CC Roger. Just broke lock.

07 00 32 17 P Yes. And we never did get the proper range indications.

07 00 32 19 CC Roger.

07 00 32 23 P So we'll go ahead and bring the radar off at this time.

07 00 32 26 CC Roger.

07 00 32 30 CC We'd also like to have you bring the platform back up now, Gemini-5.

07 00 32 35 P Okay, platform's gone to CAGE.

07 00 32 42 CC Gemini-5, it looks right now that we're never going to be able to spare the fuel to aline the platform while we're doing this, so if you ever pass through 000 and you'd like to go ahead and uncage it, go ahead.

07 00 33 58 P Okay, we'll try to get some semblance of that.

07 00 33 01 CC I sort of figured you were.

07 00 33 14 CC Gemini-5, do you think you'll be able to do this selected drifting and do any good over Laredo?

07 00 33 20 P Yes. The cost of a couple of blips of fuel, why it didn't cost us too much. We came pretty well across the country with the nose down that time.

CONFIDENTIAL

CONFIDENTIAL

07 00 33 29 CC Okay. Very good. So the next pass will be over Laredo, and we'd like to have you use this sort of technique to see what you can do with the Visual Acuity target.

07 00 33 38 P It's okay for that ... it's impossible for D-6. They've been asking for this Questar Mode and you absolutely have to track.

07 00 33 46 CC I know that, Pete, and I've already talked to them about that. It's not ... I think there's probably one chance in a million you might get a picture.

07 00 33 55 P That's just my feeling.

07 00 33 59 CC We'd be more than happy if you just see the targets at Laredo, and I think that would be a pretty successful day.

07 00 34 07 P Okay.

07 00 35 30 CC Gemini-5, Houston. We have a couple more minutes here before we lose you. We don't have any more information. We'll just stand by.

07 00 35 39 P Okay. We'll try and get a look at Betsy, and get the S-7 photographs. We got six ... S-5 photographs across East Africa and the time they gave us for the S-5 was for East Africa, and the mode was for Mexico, and I presume that it was East Africa that he wanted.

07 00 35 59 CC Roger.

07 00 36 04 CC Is there any information that we could furnish you that you think would be of use to you?

07 00 36 12 P No. We had a couple ideas about alining the platform tomorrow - namely, we didn't know whether to try her off the RCS and put one ring on the line and close off all the circuit breakers but the 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.

07 00 36 41 CC Roger. We're working on that right now. Can you see the weather right below you right at this time?

CONFIDENTIAL

CONFIDENTIAL

597

07 00 36 46 P Yes sir. It's a nice round circular storm with a bunch of key clouds in it.

07 00 36 51 CC Okay.

07 00 36 54 P It's circular. It doesn't really have a defined center as such but it's open in the center with a couple of very large thunderstorms.

07 00 37 06 CC Okay.

07 00 37 08 P And it's three or four hundred miles across.

07 00 37 11 CC Okay. We know which storm that is.

07 00 37 15 P Say again.

07 00 37 17 CC I say, we know which storm that is. We were a little more interested, Pete, in the weather that was behind you there over 122-1.

07 00 37 29 P Loud and clear.

07 00 37 32 CC Roger.

07 00 37 34 P It looked like it was all scattered all the way.

07 00 37 38 CC Okay. The thinking right now is that we'll arm both the RCS rings and then use one of the rings to do the platform alinement. You might think about that for awhile.

07 00 37 51 P Well, why not start out with them. We'll try the OAMS. If we can get it in aline with that, we're just that much fatter; if not, we use the RCS.

07 00 38 00 CC Okay.

07 00 38 06 CC We're working up a good sound set of procedures right now for all the contingencies that we might have, and we'll relay them to you later on in the day and have you take a look at them and see what you think.

07 00 38 18 P Okay.

07 00 38 33 CC Gemini-5, Houston.

CONFIDENTIAL

CONFIDENTIAL

07 00 38 34 P Go ahead, Houston.

07 00 38 36 CC We have a medical data pass on the Pilot at Carnarvon next time, and the AOS is 15:17:50.

07 00 38 46 P Okay.

07 00 39 33 CC Gemini-5, Houston. Do you still read?

07 00 39 37 P Just barely.

07 00 39 39 CC Roger. Can you give us an idea what the drift rates are without the hydrogen venting.

07 00 39 48 P Less than a degree per second.

07 00 39 51 CC Okay. We'd like to see if they build up at all without the hydrogen venting.

ASCENSION

07 00 47 48 CC Gemini-5, Gemini-5, Houston. Over.

07 00 47 53 P Hello, Houston, Gemini-5 here.

07 00 47 55 CC Gemini-5, Houston. We're interested in what kind of accelerations you're getting out of your spacecraft now that the hydrogen isn't venting. So we'd like to see if the rate has built up at all without any thruster activity. We'd like to have you do this for us long enough so that you can see if there is any significant increase. Would you sort of keep this in mind so you can inform us the next time you talk to us.

07 00 48 21 P Okay. Got questions for you.

07 00 48 25 CC Shoot.

07 00 48 28 P Any reason why we're using a secondary coolant pump B rather than A?

07 00 48 34 CC It's about 0.6 amp more efficient than the other pump.

07 00 48 38 P Ah so dess-ka.

CONFIDENTIAL

CONFIDENTIAL

599

07 00 48 42 CC We've got about 3 or 4 more minutes here. But we don't have any other information. We'll just stand by.

07 00 49 01 P Okay.

CARNARVON

07 01 18 30 CC Gemini-5, Carnarvon. We have a valid oral temp. Stand by for Surgeon.

07 01 18 36 CC Gemini-5, Carnarvon Surgeon. We observe your cuff is inflating.

07 01 18 43 CC Cuff is full-scale.

07 01 19 10 CC ...

07 01 19 19 CC We have a valid blood pressure. Will you give us a mark when you begin your exercise.

07 01 19 24 P Roger, MARK.

07 01 20 07 CC Cuff is full-scale.

07 01 20 39 CC Roger, Gemini, we have a valid blood pressure. Would you update us on your water status, please.

07 01 20 51 P ... and 10 ounces.

07 01 20 58 CC Say again, Gemini, on the water.

07 01 21 01 P Roger. ... and 10 ounces.

07 01 21 07 CC Say again pounds.

07 01 21 09 P 32.

07 01 21 11 CC Roger. We got it.

07 01 21 13 CC Thank you, Gemini. Surgeon out.

07 01 21 17 P Eating Meal 5A.

07 01 21 20 CC Okay, 5A.

07 01 21 25 P That's affirmative.

CONFIDENTIAL

CONFIDENTIAL

07 01 21 27 CC Thank you. Surgeon out.

07 01 21 34 CC Gemini-5, Carnarvon CAP COM. Would you turn your Bio-med Recorder No. 2 on and leave it on for duration of mission.

07 01 21 44 P Roger. Bio-med Recorder No. 2 is back on.

07 01 21 54 CC Flight would like to know if you have any rates you can give us since the H₂ stopped venting.

07 01 22 09 P They're very, very, very, low. It looks like 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.

07 01 22 24 CC Roger.

07 01 22 37 CC Flight wants you to be advised they're standing by for Laredo Test on this pass.

07 01 22 45 P Roger, Radio Test.

07 01 22 49 CC Laredo Test.

07 01 22 51 P Oh, Laredo. Roger.

07 01 23 12 P What's the weather ... give down there for tomorrow at the Carnarvon site?

07 01 23 18 CC We don't know the weather as yet for the Woodley S-8/D-13. Is that what you're referring to?

07 01 23 31 P That's affirm.

07 01 23 48 CC It's still overcast down here at this time. They think it might clear.

07 01 23 56 P Roger.

07 01 25 11 CC ... LOS standing by.

07 01 25 15 P Gemini-5, Roger. Standing by and see you tomorrow.

07 01 25 18 CC Roger.

07 01 25 24 CC Must be a pretty good map you got.

CONFIDENTIAL

CONFIDENTIAL

601

07 01 25 47 P Did you say nap.
07 01 25 49 CC I say map, your orbital map.
07 01 25 53 P Why is that?
07 01 25 54 CC How'd you know this is our last pass?
07 01 25 56 P Oh, well, yes, we keep the map up to date.
07 01 25 58 CC Right.
07 01 26 01 P 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 passing ...
07 01 26 15 CC Roger.
07 01 26 18 P That's not bad for 7 days.
07 01 26 19 CC No, it isn't.
07 01 26 22 CC Flight says that all that was due to maneuvers we did.
07 01 26 29 P That's affirmative.

HAWAII

07 01 46 19 CC Gemini-5, this is Hawaii CAP COM.
07 01 46 25 P Hello, Hawaii CAP COM, Gemini-5 here. Go ahead.
07 01 46 28 CC Roger. We hold you Green on the ground.
07 01 46 31 P Out status is Green here.
07 01 46 33 CC Roger. I have a Flight Plan update when you're ready to copy.
07 01 46 42 P Ready to copy.
07 01 46 44 CC Roger. Map 15:31:24, longitude 140.7 east, Rev 107.
07 01 47 04 P Roger on the map.

CONFIDENTIAL

CONFIDENTIAL

07 01 47 06 CC Star 15:31:24, 23 hours 20 minutes.

07 01 47 15 P Roger on the star.

07 01 47 18 CC Okay, and Gemini-5, we have a little information for you here. The laser is going to be up in White Sands, then they'll be ready for that. And they're set up for Laredo, and Flight would like to have a UHF fix during the flight over the States.

07 01 47 34 P Okay. Very good.

07 01 47 46 CC Gemini-5, we have nothing further. We're standing by.

07 01 47 49 P Roger, Gemini-5. Standing by.

CALIFORNIA

07 01 53 37 CC Gemini-5, Gemini-5, Houston.

07 01 53 50 C Go ahead, Houston, Gemini-5.

07 01 53 52 CC Roger, Gemini-5. The weather in Laredo is very good. Be advised that they will have four smoke pots there today. There will be one on the northwest corner and two on the northeast corner and another one about three-fourths 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 targets. Be advised that the wind is blowing from the south-southeast, so that the smoke should be blowing away from the target. We hope they should provide adequate visibility for early acquisition.

07 01 54 36 C Okay.

07 01 54 38 CC We also would like to inform you that the laser will be on at White Sands, But it has no priority compared to the Laredo pass. We're mostly interested in the Laredo pass.

07 01 54 50 C All right.

07 01 54 52 CC We'd also like to have you bring your C-band Adapter Beacon up now and we would like to have you place

CONFIDENTIAL

CONFIDENTIAL

603

the switch to CONTINUOUS.

07 01 55 33 CC Gemini-5, Houston. We would also like to advise you that we will be updating and loading your TR over Texas. We'd like to get a bias check on your TR so you'll get some DCS lights.

07 01 55 44 C Okay, fine.

07 01 57 40 CC Gemini-5, are you drifting around in the proper direction here?

07 01 57 45 C Gemini-5, affirmative.

07 01 57 47 CC Very good.

07 01 57 53 CC When you've completed the S-8/D-13 pass, give us a call. We have some other information for you.

07 01 57 59 C Okay.

07 01 58 42 CC Gemini-5. We would like you to place your C-band Adapter Switch to COMMAND at this time.

07 01 58 50 C ... Gemini-5. Go ahead.

07 01 58 55 CC Roger. This is Houston. We would like you to place your C-band Adapter Switch to COMMAND.

07 01 58 59 P Yes. We did that. Somebody else was calling us.

07 01 59 01 CC Roger.

07 01 59 07 C Texas and White Sands in sight as we go by.

07 01 59 14 CC Roger. You see White Sands. Do you see the laser?

07 01 59 17 C I see the sled track. I guess that's still at White Sands.

07 01 59 20 CC Roger.

07 01 59 28 C Negative. I don't see any light at all there.

07 01 59 33 CC Okay.

07 01 59 34 CC Gemini-5, NASA 902. Read me?

CONFIDENTIAL

CONFIDENTIAL

07 01 59 38 P Hello, NASA 902. Gemini-5 reads you weak but clear.

07 02 00 05 P We have Laredo in sight ... the smoke ... very clearly.

07 02 00 11 CC Okay. Does the smoke outline the northern boundary for you? Does it help with your orientation in which direction the targets run?

07 02 00 20 P Yes. I can't see the targets yet because of the sun angle.

07 02 00 23 CC Okay.

07 02 00 24 P I don't think I'll be able to see them at all. Gordo will probably be able to see them because we're not over the left yaw.

07 02 00 29 CC Okay.

07 02 00 35 CC Gemini-5, do you read NASA Jet 902?

07 02 00 38 P Jet 902, Gemini-5 reads you.

07 02 00 50 C I have the targets in sight.

07 02 00 52 CC Roger.

07 02 01 08 CC Hello, Gemini-5. Do you read NASA Jet 902?

07 02 01 51 P Okay Houston, Gemini-5. We got a 4 and a 1 on the first row. And then we lost track because of our yaw.

07 02 02 01 CC Okay. You got a 4 and a 1. Were those the first one or the second one, or were there some other ones in that first row?

07 02 02 09 P First and the second.

07 02 02 10 CC Okay. Very good.

07 02 02 17 P NASA 902, Gemini-5. Do you read?

07 02 02 28 CC Gemini-5, Houston. We're all set to send up the T_R time.

CONFIDENTIAL

CONFIDENTIAL

605

07 02 02 34 P Roger.

07 02 02 36 CC 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.

07 02 02 50 P The only thing different that we may do is we may have to have one or two food bags in the foot well. We'll have the two helmet bags with a food package... in the right foot well. And I believe that we will make it into the proper place with just about everything else.

07 02 03 16 CC 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.

07 02 03 23 P Okay. I don't really think so, Jim. We're in pretty good shape, and we're going to work on that this afternoon.

07 02 03 28 CC Okay. Very good.

07 02 03 30 P There is one thing we will take out - the little bit of gear in the wing boxes - and carry it on our person and use that as extra stowage area for food bags.

07 02 03 44 CC Okay. Very good.

07 02 04 06 CC Gemini-5, Houston again. We'd like to remind you to purge the fuel cells before you power down.

07 02 04 11 P Roger. We're still planning on powering down at 16:20:00.

07 02 04 16 CC Roger. We'd also like to have you read out your Propellant Quantity Gage to us at this time.

07 02 04 23 P Okay. Stand by.

07 02 04 26 C Roger. The Propellant Quantity reads about 7%.

07 02 04 30 CC Roger, 7%. We want to do some radar tracking with Pretoria on this pass, and we'd like to have you turn your C-band Adapter Beacon on and off at these times. Are you ready to copy?

CONFIDENTIAL

CONFIDENTIAL

07 02 04 44 P Roger.

07 02 04 47 CC 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.

07 02 05 04 P Roger. I copy 07:16:31:00 CONTINUOUS, 07:16:42:00 back to COMMAND.

07 02 05 13 CC Roger.

07 02 05 17 CC Be advised also that we would like to run another HF Test out of Houston test range antenna; so after we've completed the Stateside pass here, we'd like to have you go to HF; and we'll start the music up again, and we'd like to see if we can compare today's result with yesterday's. We found that it's probably the best HF Test we have done so far.

07 02 05 40 P I think you're right. And we'll mark the time down that we lose the signal.

07 02 05 45 CC Okay. We're going to be going out of the Canaveral antenna, and then we're going to shift down to Antigua antenna, and then we're going to leave it at Antigua until you lose it.

07 02 05 54 P Okay.

07 02 05 57 P We'll give you a call on either RKV or CSQ tonight after we get this stowage all done.

07 02 06 04 CC Okay. Very good.

07 02 06 07 P And we're going to take a little nap and then go to work on it.

07 02 06 10 CC Okay. Very good, and we're allowing you between 3-1/2 and 4 hours for your stowage tomorrow prior to retrofire.

07 02 06 17 P Well, we're going to have all the hard articles stowed, the only--

07 02 06 40 CC Gemini-5, Houston.

07 02 06 42 P Go ahead.

CONFIDENTIAL

CONFIDENTIAL

607

07 02 06 44 CC Okay. You cut out. You say you're going to have all the hard articles stowed before then. Is that right?

07 02 06 47 P We're going to give it a try.

07 02 06 49 CC Okay. Very good. Will you put your Cryogenic Gaging Switch to OFF, please.

07 02 07 10 CC Gemini-5, Houston again.

07 02 07 12 P Go ahead.

07 02 07 13 CC We definitely want you to be UHF over the CSQ. You have the acquisition time there?

07 02 07 18 P Were you supposed to give it to us?

07 02 07 20 CC Right.

07 02 07 31 CC The acquisition time there will be 07:17:02:42.

07 02 07 40 P Okay.

07 02 09 07 CC Gemini-5, Houston. We have about another 4 minutes here. We'll just stand by in case you have anything.

07 02 09 26 C Okay. It sure is a pretty day down over the Caribbean here.

07 02 09 31 CC Say, would you like to describe some of the color of the waters down there? Do you see any shelves that go from green to blue or anything?

07 02 09 38 C Yes, I'll say! Some real brilliant greens, and a bright, bright blue as we came over Cuba, South America ... very clearly.

07 02 09 51 CC Roger. Can you see any real sharp breaks in the colors down below the water?

07 02 09 55 C Yes, very clearly.

07 02 10 13 C We're coming in over South America now.

07 02 10 16 CC Roger. Can you see the storm out there at all?

CONFIDENTIAL

CONFIDENTIAL

07 02 10 22 C Yes. Just down to our left.

07 02 10 28 CC That's Betsy in case you haven't been told about it.

07 02 12 23 CC Gemini-5, Houston here. We're just getting LOS and Antigua will come on with the HF Test at this time.

07 02 12 55 MUSIC

COASTAL SENTRY QUEBEC

07 03 03 23 CC Gemini-5, CSQ CAP COM.

07 03 03 28 C Come in, CSQ CAP COM, Gemini-5 here. And good morning to you.

07 03 03 32 CC Roger. We have you GO on the ground, and Houston would like for you to remain on UHF.

07 03 03 41 C Roger. We're on UHF, and could you ask them what do they want to do. Look at our fuel cell over Hawaii and then shut it down.

07 03 03 51 CC Say again concerning fuel cell.

07 03 03 53 C Ask them what they want to do about shutting No. 2 fuel cell down.

07 03 03 58 CC Roger.

07 03 04 33 CC Gemini-5, CSQ.

07 03 04 35 C Go ahead.

07 03 04 36 CC Roger. Houston advises to shut Section 2 down at this time.

07 03 04 40 C Okay.

07 03 04 46 CC And CSQ has nothing further; we're standing by.

07 03 04 49 C All right, Gemini-5, standing by.

07 03 05 04 CC Gemini-5, Houston now advises leave Section 2 on.

CONFIDENTIAL

CONFIDENTIAL

609

07 03 05 19 C Roger. We have it back on.
07 03 05 29 C Okay. We got our transmitter back up now.
07 03 05 33 CC Roger. Copy.
07 03 06 40 CC Gemini-5, CSQ.
07 03 06 47 C Go ahead.
07 03 06 48 CC Okay. Houston now advises to leave the Section 2 fuel cell on and they'll advise you further at Hawaii. Over.
07 03 06 55 C Okay. Thank you.

HAWAII

07 03 20 37 CC Gemini-5, Hawaii CAP COM.
07 03 20 39 P Go ahead, Hawaii, Gemini-5 here.
07 03 20 41 CC Roger. You're looking good. We'd like you to place your Quantity Read Switch to Fuel Cell H₂.
07 03 20 49 P Roger.
07 03 20 50 CC And leave it there for Guaymas.
07 03 20 52 P Okay.
07 03 20 54 CC Now we've got a medical data pass scheduled on the Command Pilot. Is he asleep or is he just about to go to sleep?
07 03 21 00 P He's asleep. Do you want it?
07 03 21 03 CC No, we don't want you to wake him up. We'll scrub that data pass if he's sleeping.
07 03 21 07 P Yes, he's asleep.
07 03 21 28 CC I've got an update for you if you're ready to copy.
07 03 21 34 P Ready to copy.
07 03 21 37 CC MSC-1, 17:20:00. I've already passed it by, Pete.

CONFIDENTIAL

CONFIDENTIAL

Place your E-S Sensor circuit breaker to OPEN and hold it momentarily.

07 03 21 54 P Do what?

07 03 21 56 CC Turn the E-S Sensor circuit breaker to OPEN and hold it momentarily.

07 03 22 02 P Okay.

07 03 22 10 P Okay. It's open. Do you want it closed?

07 03 22 13 CC Roger. Close it.

07 03 22 14 P Okay. Have it closed. How's that?

07 03 22 20 CC That's okay.

07 03 22 24 P You just wanted one orbit on that, don't you?

07 03 22 28 CC Roger. That was on this revolution.

07 03 22 38 CC It was on this revolution, Pete.

07 03 22 44 P Okay, I got something for you to copy.

07 03 22 47 CC Go ahead.

07 03 22 49 P Okay. We lost HF at 07:16:27:00.

07 03 22 57 CC Roger.

07 03 22 59 P And I'll give you Gordo's. He ate a Meal 5A at 07:15:00.

07 03 23 09 CC Roger.

07 03 23 13 P And his total water is 32 pounds 8 ounces.

07 03 23 20 CC Roger.

CALIFORNIA

07 03 28 02 CC Gemini-5, Houston.

07 03 28 05 P Go ahead, Houston.

CONFIDENTIAL

CONFIDENTIAL

611

- 07 03 28 07 CC On that last pass over the States it looks like you might have tried to start up your Thrusters No. 7 and 8, from the T/M data. If you did, we'd like to know how they worked.
- 07 03 28 20 P Samo, Samo.
- 07 03 38 22 CC Okay. Got you. The Flight Surgeon would like to talk to you for a minute here. Then we'll release you to Guaymas, and they'll finish up the pass.
- 07 03 28 32 CC Hello, Pete. I'd like to check with you a minute about this stowage that you're going to do this afternoon. Would you be sure and check on that reprogrammer and make sure you have that out someplace where you can get a hold of it rapidly on the water when you're planning your stowage. Secondly, I'll talk with you tomorrow morning and give you a briefing again on how we're going to get the DP's, and we're checking that out down here now, how we'll do them during the retrofire and landing sequence. I'd like for you and Gordo to both be thinking about whether you feel there's any need to use any of the Item B. So you might consider that between now and tomorrow. Depending on how things go we'll sleep the rest of the time. Do you know of anything that's really been bothering Gordo with trying to get to sleep like last night?
- 07 03 29 38 P No. We're just busy, that's all.
- 07 03 29 43 CC Okay. Pete, your water intake has been down some too, both of you. We're not concerned about it or anything, but it has gone down some from what you've been doing the rest of the flight. It's gone down some in the last 24 hours. You both might watch that some too.
- 07 03 30 04 P Okay. Things have been running fairly cool in here, and as you noticed, we've actually heated the suit loop up. We discussed that also, and I think that's the reason.
- 07 03 30 14 CC Roger. I think so. Another thing, you still sound like you're pretty well plugged up. Do you feel that you are up there?

CONFIDENTIAL

CONFIDENTIAL

07 03 30 23 P Oh no. It's just 100 percent oxygen, that's all.

07 03 30 29 CC Okay. Listen, here's another one you could consider. You consider this, and you and Gordo both, that between now and entry if you both feel that you are pretty plugged up, you ought to consider this business about Item E for this stuffiness, and we can look at it later this afternoon or this evening and check again.

07 03 30 53 P Okay.

07 03 30 55 CC 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 prelaunch. It looks real beautiful. Your rates and things are leveling out pretty well, and we have no concern from a medical point of view down here.

07 03 31 17 P Okay. We feel real fine.

GUAYMAS

07 03 31 43 CC Gemini-5, Guaymas CAP COM.

07 03 31 46 P Hello there, Guaymas, Gemini-5.

07 03 31 48 CC You're looking pretty good down here. How you going?

07 03 31 50 P Oh, we're GO here.

07 03 31 51 CC Okay. Very good.

07 03 32 00 CC Roger.

07 03 32 52 P Guaymas, would you tell Houston that we didn't come close enough to ... to get an S-7 run. It had moved quite a bit east of our track.

07 03 33 03 CC Come close enough to where?

07 03 33 05 P It had moved east of our track.

07 03 33 09 CC Okay. Understand.

CONFIDENTIAL

CONFIDENTIAL

613

07 03 34 27 CC Okay. Turn your Quantity Read Switch OFF at this time.

07 03 34 32 P Roger.

07 03 34 33 CC Okay. We've done it.

07 03 36 13 CC What kind of rates are you having now?

07 03 36 15 P Very, very, very low.

07 03 36 18 CC Sure does show up on the telemetry real good.

07 03 36 21 P They say what?

07 03 36 22 CC Really are giving us much better telemetry.

07 03 36 25 P Oh yes, we're hardly moving at all, now that that hydrogen has stopped venting.

TEXAS

07 03 36 56 CC Gemini-5, Houston.

07 03 36 59 P Go ahead, Houston.

07 03 37 01 CC Pete, we're sort of looking at the preparation for retrofire for tomorrow, and it looks like the most straight forward way is to arm the RCS and have you do the platform alinement 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.

07 03 37 21 P No, we concur with that.

07 03 37 22 CC Okay. Very good. We'll look into it and try to 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 about TR minus 2 hours down to TR minus 30.

07 03 37 38 P Okay. TR minus 30 is over Carnarvon, or past Carnarvon, that's right.

07 03 37 44 CC Just a second. It's over Carnarvon.

07 03 37 51 CC Did you get that? It is over Carnarvon at TR minus 30.

CONFIDENTIAL

CONFIDENTIAL

07 03 37 55 P Yes, I got that.

07 03 37 57 CC Okay.

07 03 38 04 P About 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.

07 03 38 12 CC That's right.

07 03 38 14 P And otherwise, it ought to be about the same.

07 03 38 16 CC That's right. That's what I say, there are very few things that are different. We're just trying to line it all up here to make sure; if there are any differences, we'll let you know about them.

07 03 38 23 P Okay.

07 03 38 27 CC We were planning on just telling you a little summary of what we have here and we're going to figure it all out. We shouldn't have any changes at all except for that one little thing we've already mentioned.

07 03 38 36 P Okay.

07 03 38 41 P That, by my calculations, ought to be somewhere around 08:11:25 or so.

07 03 38 48 CC Roger. I think we've got you over Carnarvon at 08:13:33:00. Is that what you're talking about?

07 03 38 50 CC Are we still talking to you?

COASTAL SENTRY QUEBEC

07 04 35 42 CC Gemini-5, CSQ CAP COM.

07 04 35 45 C Go ahead, CSQ. Gemini-5 here.

07 04 35 48 CC Roger. We have you GO on the ground and be advised Command Pilot has medical data pass at Hawaii. Acquisition time 18:54:11. Do you copy?

07 04 36 06 C Roger, 18:54:11, medical pass. And who's that for?

CONFIDENTIAL

CONFIDENTIAL

615

07 04 36 10 CC That's for the Command Pilot.

07 04 36 22 CC I also have a Flight Plan update when you're ready to copy.

07 04 36 32 C Wait one.

07 04 36 46 C Go ahead.

07 04 36 48 C Roger. D-4/D-7, Sequence 426. It's to be done when both crew members are awake. Do it in drifting flight and use the recorder.

07 04 37 12 CC D-6 Experiment. Expend remaining film on features of opportunity. Do you copy?

07 04 37 20 C Roger.

07 04 37 28 CC CSQ has nothing further this pass. We're standing by.

07 04 37 32 C Okay, standing by, here.

07 04 38 35 P CSQ, Gemini-5.

07 04 38 37 CC CSQ, go ahead.

07 04 38 39 P Roger. We were supposed to do an MSC-1 at 17:20:00 and we were doing something and the time got by us. And could you check with Houston experiments please and get us another time later today to do it?

07 04 38 54 CC MSC-1, is that affirm?

07 04 38 57 P It's affirm.

07 04 39 04 CC Gemini-5, Houston is checking on a new time for that.

07 04 39 10 C Okay.

HAWAII

07 04 55 25 CC Gemini-5, Hawaii. We do not have a valid temperature.

07 04 55 38 CC Gemini-5, Hawaii CAP COM.

CONFIDENTIAL

CONFIDENTIAL

07 04 55 41 P Go ahead, Hawaii.

07 04 55 42 CC We do not have a valid temperature yet.

07 04 55 45 P It's coming.

07 04 55 46 CC Roger.

07 04 57 13 CC Gemini-5, Hawaii Surgeon. We have valid blood pressure. Give us a mark when you begin exercise.

07 04 57 20 C Roger.

07 04 58 12 C ... exercise ... blood pressure.

07 04 58 24 CC Gemini-5, cuff full-scale.

07 04 58 59 CC Gemini-5, we have a valid blood pressure. Standing by for your water and sleep report.

07 04 59 05 C Roger, 34 pounds 4 ounces of water. Sleep, I just had an hour and a half of sleep.

07 04 59 15 CC Roger, Gemini-5. Understand 34 pounds 4 ounces water, 1.5 hours of sleep. Is that affirm?

07 04 59 23 C Roger, 1.5 hours of sleep today.

07 04 59 28 C Thank you, Gemini-5. Hawaii Surgeon out.

07 04 59 30 C 5A at 15:00:00.

07 04 59 37 CC Understand Meal 5A at 15:00:00.

07 04 59 41 C That's affirmative.

07 04 59 42 CC Gemini-5, thank you. Hawaii Surgeon out.

07 04 59 44 CC Gemini-5, this is Hawaii CAP COM.

07 04 59 47 C Roger. Go ahead.

07 04 59 48 CC What was your approximate sleep cycle between the Command Pilot and the Pilot?

07 04 59 55 C Now, when was this?

CONFIDENTIAL

CONFIDENTIAL

617

07 04 59 56 CC What do you plan on doing, you know, to get your rest?

07 05 00 01 C Oh well, we're going to try to follow our sleep cycle further ... Flight Plan, but it doesn't always work out that way.

07 05 00 08 CC Roger. Understand.

07 05 00 15 CC Gemini-5, just let us know when the Pilot is going to be awake, would you, please?

ROSE KNOT VICTOR

07 05 18 10 CC Gemini-5, RKV CAP COM.

07 05 18 13 P Go ahead, RKV.

07 05 18 15 CC Roger. We'd like for the Pilot to be awake if possible over CSQ and Hawaii on the 110 Rev.

07 05 18 28 P Okay, what's that?

07 05 18 29 CC That's CSQ acquisition is 20:09, 20:09. That's your upcoming revolution.

07 05 18 38 P Okay. I'll be up.

07 05 18 39 CC And what we'd like to do, we're going to perform a thruster check and we want to give you the instructions on this revolution over the CSQ and Hawaii and perform the test the next revolution over CSQ and Hawaii.

07 05 18 54 P Okay.

07 05 18 56 CC We have all your systems real good here on the ground. Everything looks fine.

07 05 19 00 P Okay. We're GO up here.

07 05 19 02 CC Roger. We have nothing else for you. We'll be standing by.

07 05 19 05 P Okay.

07 05 20 53 CC Gemini-5, RKV CAP COM.

CONFIDENTIAL

CONFIDENTIAL

07 05 20 55 P Go ahead.

07 05 20 56 CC Flight advises that if you want to sleep for the next revolution you can go ahead and the Command Pilot can take down the instructions, and then you could be awake to do the test. Both the switches are on your side of the cockpit is the problem.

07 05 21 10 P Okay. Well listen, we're working on stowage and a lot of things right now, so we'll probably both be awake for the next couple of revolutions.

07 05 21 17 CC Roger, understand.

COASTAL SENTRY QUEBEC

07 06 10 15 CC Gemini-5, CSQ CAP COM.

07 06 10 27 C Roger, CSQ, Gemini-5 here.

07 06 10 31 CC CSQ has you GO on the ground and I have quite a bit of information for you to copy this pass. Let me know when you're ready to copy. First of all, Flight Plan update.

07 06 10 52 C CSQ, ready to copy.

07 06 10 54 CC Roger. MSC-1, 20:33:00, MSC-1, 04:00:00 and Remarks, if Command Pilot is awake, turn E-S Sensor circuit breaker switch to open, hold momentarily, return C/B to closed position. Do you copy?

07 06 11 30 C Roger, we got that.

07 06 11 32 CC Okay, I have a map update.

07 06 11 35 C Okay.

07 06 11 36 CC Map 19:58:59, coordinate 2.3 degrees east longitude, Rev 110. ... 1 hour 58:59, 23:14:44.

07 06 12 15 C 23:14:44.

07 06 12 18 CC That's affirmative.

CONFIDENTIAL

CONFIDENTIAL

619

07 06 12 21 CC And CSQ also has another long procedure for checking Thrusters 7 and 8. Let me know when you're ready for that.

07 06 12 29 C All set.

07 06 12 33 CC Okay, I'd like to ... attempt the heat up and possibly free the thrust chamber assemblies 7/8 by the following procedure. It's scheduled to start 5 minutes prior to the next CSQ acquisition. That GMT is 21:40:00, Rev 111. Do you copy?

07 06 13 00 C Roger.

07 06 13 01 CC Okay. We'll attempt to contact you on HF at 21:35:00. It is a monitor test.

07 06 13 16 C Okay.

07 06 13 18 CC Okay, I have a list of 20 steps for switch positions, etc.

07 06 13 25 C All right.

07 06 13 26 CC Okay, No. 1 - Rate Gyros are PRIMARY.

07 06 13 36 C All right.

07 06 13 37 CC Squib Batteries 1 and 2 OFF.

07 06 13 42 C Okay.

07 06 13 44 CC OAMS TCA Circuit Breaker Nos. 7 and 8 closed, on.

07 06 13 52 C Roger.

07 06 13 54 CC OAMS TCA Circuit Breaker Nos. 1 through 6 open, off.

07 06 14 01 C Roger.

07 06 14 02 CC DC Power Switch ACME.

07 06 14 08 C Okay.

07 06 14 09 CC ACME Power Switch PRIMARY or SECONDARY.

07 06 14 15 C ...

CONFIDENTIAL

CONFIDENTIAL

07 06 14 16 CC OAMS Propellant Motor Valve Switch OFF.

07 06 14 22 C The ACME Power Switch, either PRIMARY or SECONDARY.

07 06 14 26 CC That's affirmative, and following that is OAMS Propellant Motor Valve Switch OFF.

07 06 14 31 P Okay, wait one.

07 06 14 46 C OAMS Propellant Valve OFF, that right?

07 06 14 50 CC That's affirmative, OFF position.

07 06 14 56 C Okay.

07 06 14 57 CC OAMS Power Switch ON.

07 06 15 02 C OAMS Power ON.

07 06 15 04 CC OAMS Attitude Control Motor Switch DIRECT.

07 06 15 08 C DIRECT.

07 06 15 11 CC Next procedure is hold Attitude Hand Controller to yaw left position for 10 minutes.

07 06 15 20 C Okay, hold Attitude Controller to your left yaw for 10 minutes.

07 06 15 24 CC That's affirmative. Release Hand Controller.

07 06 15 32 C Okay.

07 06 15 33 CC Squib Batteries 1 and 2 ON.

07 06 15 38 C Roger.

07 06 15 39 CC OAMS Propellant Motor Valve Switch ON.

07 06 15 44 C Okay.

07 06 15 46 CC TCA No. 8 circuit breaker open, off.

07 06 15 52 C Say that again slower ...

07 06 16 04 C ... Propellant OFF, OAMS Motor Valve ON.

CONFIDENTIAL

CONFIDENTIAL

621

07 06 16 10 CC And Propellant Motor Valve Switch is on. Did you copy that?

07 06 16 14 C Yes.

07 06 16 15 CC Okay. Next is Thrust Chamber Assembly 8 circuit breaker open, off.

07 06 16 21 C Okay, leave the No. 8 open, off.

07 06 16 24 CC Attempt to fire No. 7 TCA in Direct Mode. If successful, try a Pulse Mode also.

07 06 16 34 C All right.

07 06 16 37 CC TCA 7 circuit breaker open, off.

07 06 16 44 C All right.

07 06 16 46 CC TCA 8 circuit breaker closed, on.

07 06 16 51 C Okay, repeat the procedure.

07 06 16 54 CC That's affirmative, and attempt to fire No. 8 TCA in Direct. If it's successful, try Pulse also.

07 06 17 01 C Okay.

07 06 17 02 CC Okay, that last. Let's see, damp any rates, then power down the ACME system.

07 06 17 09 C Okay.

07 06 17 13 CC Okay, then do a test ... monitor the common control bus voltage; if it drops to 20 volts or less, discontinue the test immediately.

HAWAII

07 06 28 42 CC Gemini-5, this is Hawaii CAP COM.

07 06 28 45 C Go ahead, Hawaii, Gemini-5 here.

07 06 28 47 CC Okay. In your pass over CSQ you missed a little bit there on this test. Are you ready to copy?

CONFIDENTIAL

CONFIDENTIAL

07 06 28 56 C Roger. Ready to copy.

07 06 28 57 CC Okay. If you see the common control bus drop below 20 volts at any time, stop the test immediately. And remember that fuel shortage. Flight wanted us to remind you.

07 06 29 10 C Right.

07 06 29 13 CC Okay. We have one more here. When you close the prop valves holding the Hand Controller, you're probably going to get all the fuel out of the manifold, so you'll have to watch that. It'll give you a slow start on your next try with Motor Valve open. Watch it for any big bunches of fuel.

07 06 29 36 C Okay.

07 06 29 39 P Do you have any plans to continue what you said there?

07 06 29 43 CC Oh, okay, Pete. If you see, when you're holding the Hand Controller open, if you see fuel coming out, it's just evacuating it between the Motor Valve and the opening. So the next time you try to start it, get it heated up and it will start because there's no fuel in the lines. Okay?

07 06 30 11 P Yes.

07 06 30 12 CC All right. Okay, I've got a block update for you on PLA.

07 06 30 20 P Okay, wait one.

07 06 30 21 CC Roger.

07 06 30 41 P Ready to copy.

07 06 30 43 CC Roger. Here we go. 112-3, 23:05:05, 13 plus 54, 19 plus 08. All bank angles are roll left 53, roll right 67.

07 06 31 13 P Got it.

07 06 31 14 CC 113 Delta, 23:58:58, 26--negative, it's 20:26.

CONFIDENTIAL

CONFIDENTIAL

623

07 06 31 27 P I think it's 02.

07 06 31 30 CC 20:26. The next RETRB would be then 26 plus 13.
Got that? I'll read it back if you haven't.

07 06 31 43 P Okay. What's the GMIRC?

07 06 31 45 CC Roger. That's 23:58:58.

07 06 31 49 P What was the GMIRC of Area 112-3?

07 06 31 54 CC 23:05:03.

07 06 31 57 P Okay.

07 06 32 01 P I'm ready for 114.

07 06 32 03 CC Okay, 114 Delta. This is Day 8, 01:29:44, 20
plus 19, 26 plus 02.

07 06 32 25 P Okay for 115.

07 06 32 28 CC 115 Delta, 03:05:12, 19 plus 35, 25 plus 00.

07 06 32 44 P Okay.

07 06 32 46 CC 116-2, 04:40:33, 18 plus 34, 23 plus 44.

07 06 33 04 P Okay.

07 06 33 05 CC Okay. You got them all, Pete?

07 06 33 07 P Got them all.

07 06 33 08 CC All right.

07 06 33 22 CC You got any questions, Pete, on that test while
you're still around?

07 06 33 26 P No, we don't. It looks pretty straightforward.

07 06 33 29 CC All right. Hawaii standing by.

07 06 33 33 P Roger, Gemini-5 standing by.

CONFIDENTIAL

CONFIDENTIAL

ROSE KNOT VICTOR

07 06 50 20 CC Gemini-5, RKV CAP COM.

07 06 50 30 CC Gemini-5, RKV CAP COM.

07 06 50 33 P ... RKV, Gemini-5 here.

07 06 50 35 CC Roger. We'd like your experiment status to date, if you have it.

07 06 50 41 P Okay. Just a minute.

07 06 51 28 P Okay. The experiments given to us today. We got the two S-5's over Africa and we saw the ... targets, the S-8/D-13. We got no D-6's. The S-7 was to photograph storm Betsy. Betsy was too far east of our track when we passed over it at the proper time. ... got ... your track. ...

07 06 52 02 CC Roger.

07 06 52 04 P That's about it.

07 06 52 05 CC Okay. Thank you.

07 06 52 06 P We're standing by to do D-4/426 whenever we just ...

07 06 52 11 CC Roger. All systems look real good here on the ground.

07 06 52 17 C Okay. Mighty fine.

07 06 52 57 CC Gemini-5, RKV CAP COM.

07 06 52 59 C Go ahead.

07 06 53 00 CC Did you turn your ACQ Beacon circuit breaker off over us?

07 06 53 03 C Yes, we did. We were late on that one.

07 06 53 06 CC Okay. It was on when we got acquisition; then it went off during our pass. We were wondering if you were conducting your MSC-1 or what happened.

07 06 53 17 CC Right. We're in our MSC-1 right now.

CONFIDENTIAL

CONFIDENTIAL

625

07 06 53 19 CC Roger, understand. Thank you.

COASTAL SENTRY QUEBEC

07 07 46 02 P CSQ, CSQ, Gemini-5.

07 07 46 05 CC Gemini-5, CSQ. Read you loud and clear. We have you GO on the ground.

07 07 46 11 P I guess apparently you didn't hear us.

07 07 46 13 CC Negative. All we got was a louder noise on HF.

07 07 46 16 P Okay. We're in the middle of the test and we're really building up some horrendous rates, but we'll damp them out when we get done.

07 07 46 24 CC Roger. CSQ copy.

07 07 46 38 P ... 23.1.

07 07 46 49 CC Gemini-5, CSQ. Say again.

07 07 46 51 P Roger. Out ... control is holding at 23.1.

07 07 46 55 CC Roger. Copy.

07 07 47 35 CC Gemini-5, CSQ. Request you place Quantity Read Switch to the Fuel Cell H₂ position.

07 07 47 44 P Roger.

07 07 48 09 CC Gemini-5, CSQ. Did you turn OAMS Yaw Left circuit breaker on and off?

07 07 48 15 P Yes, we did and we have no negative results.

07 07 48 18 CC Very good.

07 07 50 03 CC Gemini-5, CSQ. Remind you that Pilot has medical data pass at Hawaii, and you can place the Quantity Read Switch OFF.

07 07 50 12 P Roger. Do you have acquisition of Hawaii, please?

07 07 50 15 CC Roger. 22:02:46 and we'll be monitoring HF.

CONFIDENTIAL

CONFIDENTIAL

HAWAII

07 08 03 07 CC Gemini-5, this is Hawaii CAP COM.

07 08 03 10 C Roger, Hawaii. Gemini-5 here.

07 08 03 13 CC We have a valid temperature. Standing by for blood pressure.

07 08 03 16 C Okay.

07 08 03 27 CC Gemini-5, Hawaii Surgeon. Your cuff is full-scale.

07 08 04 02 CC Gemini-5, we have a valid blood pressure. Give me a mark when you begin your exercise.

07 08 04 07 P MARK.

07 08 04 49 CC Gemini-5, Hawaii Surgeon. Your cuff is full-scale.

07 08 05 23 CC Gemini-5, Hawaii Surgeon. We have a good blood pressure. Standing by for your water report only.

07 08 05 30 P Roger. Wait one.

07 08 05 38 P 34 pounds 8 ounces.

07 08 05 46 CC Roger, Gemini-5. Thank you. And happy landing to you and Gordo tomorrow. Hawaii Surgeon out.

07 08 05 53 C Roger. Thank you.

07 08 05 54 P Roger. Thank you.

07 08 05 56 CC Gemini-5, Hawaii CAP COM. I'd like a readout on your onboard quantity, source pressure, and source temperature for the QAMS.

07 08 06 05 C Roger. Our onboard quantity is about 6 percent. The temperature is 50 degrees, and source pressure is 1000 psi.

07 08 06 21 CC Roger. Understand.

07 08 06 24 C You want a result of our little test we did?

CONFIDENTIAL

CONFIDENTIAL

627

07 08 06 27 CC That's affirmative. We'd like to know what you did there.

07 08 06 30 C All right. We followed a procedure to the letter, and first thing we did was roll up pretty good when the gas started going out through the left yaw thrusters. ... pretty good rates all set up fine. We held the thrusters on for yaw left for 10 minutes and we went through the other procedure of rearming and trying them, and we still had no thrust.

07 08 06 59 CC Roger. Understand.

07 08 07 02 C In the meantime, we've discovered that we don't have--couple more thrusters are out. So we're getting down with just very few thrusters left on the OAMS system.

07 08 07 15 CC Do you happen to know the numbers of the ones that have failed?

07 08 07 17 C No, we were unable to get any left roll with the Roll Jets and the Yaw Logic.

07 08 07 29 CC Roger. Understand that.

07 08 07 33 C Just a minute, let me recheck that. ... roll.

07 08 07 37 P Yes, it was Roll Logic in, that's right, left roll only with 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.

07 08 07 54 CC Roger. Understand.

07 08 07 56 C And the yaw is feeding through into the pitch, which indicates a very weak thrust on the right yaw also.

07 08 08 06 CC Okay.

07 08 08 25 C Other than that, it's a pretty good system.

07 08 08 33 CC What are your rates now, Gemini-5; are you pretty well damped out?

CONFIDENTIAL

CONFIDENTIAL

07 08 08 36 C Roger. We managed to switch back and forth, work our few left remaining thrusters and we have our rates damped pretty well now.

07 08 08 44 CC Roger.

07 08 08 57 CC Okay, Gemini-5, we have nothing further. Hawaii is standing by.

ROSE KNOT VICTOR

07 08 28 03 CC Gemini-5, this is RKV comm check. How do you read?

07 08 28 07 P RKV, Gemini-5. Read you loud and clear.

07 08 28 09 CC Roger. Would you close your ACQ Beacon circuit breaker?

07 08 28 15 P Roger.

07 08 28 16 CC Okay, and we'd also like you to bring up the platform at this time. The reason for this is we might start venting H₂ and we want to prevent this. Right now hydrogen and oxygen pressure is GO.

07 08 28 44 P Okay. Platform's on at this time.

07 08 28 47 CC Roger.

07 08 28 50 P What are you going to want us to do?

07 08 28 57 CC ... in the powered up position right now at the present time. We don't want you to do anything.

07 08 29 04 P Okay.

07 08 29 12 CC We'd like to pass some information to you. They're going to cancel the medical data pass on the Command Pilot over the CSQ on Rev 114.

07 08 29 27 P ...

07 08 29 29 CC Okay, and the Surgeons recommend that both of you concentrate on water and sleep for the next 10 hours.

07 08 29 36 P Roger.

CONFIDENTIAL

CONFIDENTIAL

629

07 08 29 44 P Have you got the hack time for the pass on CSQ?

07 08 29 49 CC Roger. CSQ on 114 is 02:28:26 and that medical data pass has been deleted.

07 08 30 01 P Oh, you want us to sleep?

07 09 00 03 CC That's affirmative.

07 09 00 04 P We thought you wanted ... Okay.

COASTAL SENTRY QUEBEC

07 09 20 47 CC Gemini-5, CSQ CAP COM.

07 09 20 57 P CSQ CAP COM, Gemini-5, over.

07 09 21 00 CC Roger. We have you GO on the ground. Also, we'd like you to place your Quantity Read Switch to the Fuel Cell Hydrogen position, please.

07 09 21 11 P Roger. Going to Fuel Cell Hydrogen now.

07 09 21 12 CC Okay. Houston advises they feel that possibly you'll have insufficient time to fill the line to the thrusters. They'd like you to power up again, and go to Pulse Mode, TCA Circuit Breakers 7 and 8 closed, Rate Gyros ON, and again check your thrusters. Over.

07 09 21 37 P You mean the other thrusters that are working, or 7 and 8?

07 09 21 43 CC I believe he means 7 and 8. I'll check it.

07 09 21 45 P Okay.

07 09 22 05 CC Gemini-5, advise all circuit breakers on the thrusters closed. Check all the thrusters.

07 09 22 12 C Okay.

07 09 22 34 CC Also, Gemini-5, Houston advises there is sufficient hydrogen for remainder of flight, and no problem with water. Over.

CONFIDENTIAL

CONFIDENTIAL

07 09 22 42 P Okay. And you want us to leave the platform up all the time, is that correct?

07 09 22 45 CC That's affirmative. Leave the platform on and after your thruster check, turn the Rate Gyros back off.

07 09 22 52 P Roger.

ROSE KNOT VICTOR

07 10 00 43 CC Gemini-5, RKV CAP COM, comm check.

07 10 00 49 P RKV CAP COM, Gemini-5 here, read you loud and clear.

07 10 00 53 CC 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.

07 10 01 03 P Roger. We have 113, and be advised that we went back through the thruster checks again and ran them in Direct, and ran them in Pulse, and what we called them before, it's still the same.

07 10 01 15 CC Roger, understand.

07 10 01 29 CC We'd like to have the fuel purge at this time.

07 10 01 32 P Roger.

07 10 01 33 CC Give me a mark.

07 10 01 39 P Roger, stand by. Mark, hydrogen ... Mark, hydrogen No. 2 on my mark.

07 10 02 01 P MARK.

07 10 02 23 P Stand by for oxygen on No. 1.

07 10 02 29 P MARK.

07 10 04 31 P No. 1 purge complete, commencing No. 2.

07 10 05 15 CC Gemini-5, this is RKV. We'd like to know your platform position, please, when you can give it.

CONFIDENTIAL

CONFIDENTIAL

631

COASTAL SENTRY QUEBEC

07 10 54 34 CC Gemini-5, CSQ CAP COM.

07 10 54 39 P Go ahead, CSQ. Gemini-5.

07 10 54 42 CC Roger. Be advised this is a UHF-6 and we'd like you to place your Quantity Read Switch to the Fuel Cell Hydrogen position, please.

07 10 54 51 P Roger. It's in Fuel Cell Hydrogen at this time.

07 10 54 55 CC Also be advised that due to bad weather in Area 121-1, Flight has decided to come into 121-1. We'll be updating your T_R time.

07 10 55 06 P Roger. Understand 121-1 is the recovery area.

07 10 55 15 CC That's affirmative. I also have the coordinates if you're ready to copy.

07 10 55 25 P Roger. Wait one.

07 10 55 38 P Okay. Ready to copy.

07 10 55 41 CC Roger. 29 degrees 43 minutes north, 68 degrees 00 minutes west.

07 10 55 57 P Roger.

07 10 56 06 CC End transmitting T_R.

07 10 56 17 P Do you have the GMTRC?

07 10 56 22 CC Gemini-5, say again.

07 10 56 24 P Do you have the GMTRC at 121-1, please?

07 10 56 28 CC Roger. Stand by to copy.

07 10 56 32 CC GMTRC 01:29:45.

07 10 56 44 CC RET 400K, 20 plus 24.

07 10 56 59 P I thought ... Would you give me the GMTRC 121-1?

CONFIDENTIAL

CONFIDENTIAL

07 10 57 07 CC Disregard what I gave you. The GMTRC is 12 plus 27 plus 39.

07 10 57 20 P Okay. 12 plus 27 plus 39.

07 10 57 24 CC That's affirmative. RET 400K, 14 plus 08.

07 10 57 32 P ... we cut each other out. Say again.

07 10 57 36 CC Roger. RET 400K is 14 plus 08.

07 10 57 45 P Okay. I got it.

07 10 57 47 CC RETRB, 19 plus 20.

07 10 57 54 P Roger. And could you tell us what the recovery source is? Will the carrier be there?

07 10 58 03 CC Affirmative. Carrier will be there and I have expected weather in that area. Over.

07 10 58 11 P Ready to copy.

07 10 58 13 CC Roger. Cloud cover 5/10, 2000 feet scattered, 10 miles visibility, wind 230 degrees ... 12 knots, wave height 2 to 3 feet, water temperature 82 degrees.

07 10 58 41 P Sound very good to me.

07 10 58 43 CC Roger.

07 10 58 50 CC Gemini-5, we'd still like to know your platform mode, please.

07 10 58 55 P Roger. We're in ORB RATE.

07 10 58 58 CC Copy. Orbit Rate.

07 10 59 33 CC Gemini-5, advise we have our Tr in sync.

07 10 59 43 C And you can advise Flight that we'll be ready for 21-1.

07 10 59 49 CC Roger. Copy.

CONFIDENTIAL

CONFIDENTIAL

633

07 10 59 57 CC Gemini-5, you can return to the OFF position on your Quantity Read Switch.

07 11 00 03 P Roger.

07 11 00 12 P Could you give me GMT time hack, please?

07 11 00 15 CC Roger. On my mark it will be 01 hours 00 minutes 25 seconds. 2, 1,

07 11 00 25 CC MARK.

07 11 00 31 CC Would you like a longer one?

07 11 00 33 P Yes, just give it to me on the even minutes, please. Just on the minute is fine.

07 11 00 39 CC Okay. We'll be coming up at 01 hours 01 minutes 00 seconds. ... 5, 4, 3, 2, 1.

07 11 01 00 CC MARK.

07 11 01 03 CC That was 01 hours 01 minutes 00 seconds.

07 11 01 08 P Roger, we got it. Thank you.

ROSE KNOT VICTOR

07 11 35 49 CC Gemini-5, RKV CAP COM. Comm check, how do you read?

07 11 35 52 P RKV, Gemini-5 reads you loud and clear.

07 11 35 55 CC Roger. Have a map update for you. Acknowledge when you're ready to copy.

07 11 36 00 P Ready to copy.

07 11 36 02 CC Roger. Map 01:55:42, longitude 19 west, Rev 114. Star 01:55:42, 23:07:11.

07 11 36 37 P Roger.

07 11 36 39 CC Okay. All systems are GO on the ground.

07 11 36 45 P All systems are GO up here.

CONFIDENTIAL

CONFIDENTIAL

07 11 37 23 CC Gemini-5, RKV. Are your rate gyros on at the present time?

07 11 37 27 P Negative.

07 11 37 28 CC Roger.

07 11 39 41 CC Gemini-5, this is RKV. We have nothing else for you. We'll be standing by.

07 11 39 46 C Okay, fine. Thank you, RKV.

07 11 39 48 CC Oh, would like to ask you one more question. Would like to know if you recorded your thruster check and thruster failure onboard?

07 11 39 56 P You mean written them down?

07 11 40 00 CC Say again.

07 11 40 02 P You mean written them down?

07 11 40 06 CC That's affirmative.

07 11 40 07 C Onboard recorder is ...

07 11 40 12 CC We'd like to have you record your comments onboard.

07 11 40 17 C Okay. ...

COASTAL SENTRY QUEBEC

07 12 28 51 CC Gemini-5, CSQ CAP COM.

07 12 28 54 C Roger, CSQ. Gemini-5.

07 12 28 56 CC Roger, we have you GO on the ground. We would like to get a ground readout of all your Cryogenic quantities. Will you select ECS O₂ on the Quantity Read Switch, please?

07 12 29 05 C Okay, it is.

07 12 29 11 CC And we'd also like to obtain the total water consumption of both ... please.

07 12 29 23 C Wait just a second.

CONFIDENTIAL

CONFIDENTIAL

635

07 12 29 43 C ... the Command Pilot has had 36 pounds.

07 12 29 48 CC Copy.

07 12 29 49 C And Pilot has had 34 pounds 4 ounces.

07 12 29 54 CC Roger, copy.

07 12 29 58 CC Would you select Fuel Cell O₂, please?

07 12 30 00 C That's 35 pounds 4 ounces on the Pilot.

07 12 30 05 CC Roger, 35.4.

07 12 30 07 C Roger.

07 12 30 48 CC Gemini-5, would you select Fuel Cell H₂, please?

07 12 30 52 C Roger, have it.

07 12 31 49 CC Gemini-5, you can return to the OFF position on the Quantity Read Switch.

07 12 32 45 CC Gemini-5, CSQ.

07 12 32 48 C Go ahead, CSQ.

07 12 32 50 CC Roger, this is your last pass. It's been nice having you come around. Hope you'll have a nice landing; we'll see you in Houston.

07 12 32 55 C Thank you, thank you for all your help. Thank all the troops down there. You did a real fine job for us.

07 12 33 00 CC Thank you.

07 12 33 02 C Nice to work with you.

07 13 10 04 CC Gemini-5, RKV CAP COM.

07 13 10 07 P Go ahead, RKV, Gemini-5.

07 13 10 09 CC Roger, everything looks real good here on the ground. I have some landing area updates for you. Acknowledge when you are ready to copy.

CONFIDENTIAL

CONFIDENTIAL

07 13 10 19 P Okay, just one second, we'll be ready.

07 13 10 22 CC Roger.

07 13 10 34 P Okay, we're ready to copy.

07 13 10 36 CC Roger, the weather is good in all areas. It is Day 8, the bank angle remains the same for yaw; roll left 53, roll right 67.

07 13 10 50 P Okay.

07 13 10 51 CC Area 117-2, 06:17:03, 17 plus 07, 22 plus 11.
Area 118-2, 07:52:49, 15 plus 42, 20 plus 47.
119-1, 09:15:18, 17 plus 12, 22 plus 16. 12--
120-2, 11 plus 04, 18, 12 plus 52, 18 plus 16.
121-1, 12:27:39, 14 plus 08, 19 plus 20.

07 13 12 24 P Roger, we got all of them.

07 13 12 26 CC Roger.

07 13 15 28 CC Gemini-5, RKV CAP COM. We'll be standing by for the remainder of the pass.

07 13 15 32 P Okay, mighty fine. Thank you.

07 13 15 38 C We'll catch you one more time tonight, won't we, RKV?

07 13 15 43 CC That's affirmative.

07 13 15 45 P Okay.

CANARY ISLAND

07 13 32 02 CC Gemini-5, this is Canary CAP COM. We have nothing for you this pass. Everything looks good from here. And good morning.

07 13 32 13 C Roger. Good morning to you. Everything looks good up here.

07 13 32 18 CC Roger.

07 13 33 00 C Hello, Canaries, Gemini-5 here. Are we on Rev 115 or 116 now?

CONFIDENTIAL

CONFIDENTIAL

637

07 13 33 06 CC You're on Rev 115 at the present time.
07 13 33 10 C Roger. We just started 115, did we not?
07 13 33 13 CC That is affirmative. You've just gotten a start
on 115.
07 13 33 16 C Okay, mighty fine.
07 13 33 17 CC Roger, and we'll be with you for--up until Rev 120.
07 13 33 23 C Okay, real fine.

ROSE KNOT VICTOR

07 14 43 38 CC Gemini-5, RKV CAP COM.
07 14 43 46 CC Gemini-5, RKV CAP COM.
07 14 43 57 P Roger, RKV. Gemini-5 here.
07 14 43 59 CC Roger. We'd like to purge your fuel cells, both
sections, on hydrogen and oxygen this pass.
07 14 44 04 P Okay.
07 14 44 06 CC We're ready when you are.
07 14 44 09 P All right here. Transformer down.
07 14 44 25 P ... Section 1.
07 14 44 28 CC Good.
07 14 44 36 P ... Section 2.
07 14 44 57 P Purge 2 hydrogen complete.
07 14 44 58 CC Roger.
07 14 45 13 P No. 1 oxygen complete.
07 14 45 16 CC Roger.
07 14 46 05 CC Gemini-5, if you'd switch your Quantity Read Switch
to H₂ it would speed us up a little bit. Thank you.

CONFIDENTIAL

CONFIDENTIAL

07 14 47 14 P Oxygen complete and on the way.

07 14 47 16 CC Roger.

07 14 47 21 P Oxygen on No. 2.

07 14 47 22 CC Roger.

07 14 48 05 CC Place your Quantity Read to Fuel Cell O₂ please.
Thank you.

07 14 49 19 P ...

07 14 49 20 CC Roger. Thank you.

07 14 49 21 P Transformer off.

07 14 49 22 CC Roger.

07 14 49 36 CC You can put your Quantity Read Switch in the OFF
position now.

07 14 49 52 CC Gemini-5, RKV CAP COM. Everything looks real
good here on the ground.

07 14 49 57 P Roger. Very good. Thank you.

07 14 50 01 CC And all the people here on the RKV would like to
pass along their congratulations, and we'll see
you back in Houston.

07 14 50 08 P Okay, fine. Thank everybody for all the great
job they did for us.

07 14 50 11 CC Roger. It was our pleasure.

07 14 50 13 C Yes, RKV, we thank you very much.

CANARY

07 15 05 15 CC Gemini-5, this is Canary CAP COM. I have a single
Flight Plan item update for you.

07 15 05 26 P Roger, wait one.

07 15 05 29 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

639

07 15 05 54 CC Gemini-5, would you switch Quantity Read to ECS O₂, please? Thank you.

07 15 06 17 P Okay, hand up Flight Plan item.

07 15 06 19 CC Roger. It's UHF Test, time 06 hours 26 minutes 55 seconds. Sequence 5, Remarks, if it interferes with sleep, delete it. Do you copy?

07 15 06 45 P Roger.

07 15 06 47 CC Okay. Would you give us Fuel Cell O₂ please?

07 15 06 54 P Roger.

07 15 07 21 CC Would you switch to Fuel Cell O₂ please? Thank you.

07 15 07 25 P Can you reswitch ... take place. Over.

07 15 08 05 CC Gemini-5. You can switch to Quantity Read to the OFF position.

07 15 08 12 CC And I just got a reading from Flight. It will be over Antigua.

07 15 08 17 P All right.

07 15 08 21 CC Everything's looking real good here.

07 15 08 23 P ... mighty fine here.

07 15 08 26 CC Roger.

HOUSTON

07 16 27 00 CC Gemini-5, Gemini-5, Houston CAP COM. Over.

07 16 27 18 CC Gemini-5, Gemini-5, Houston CAP COM. Over.

07 16 27 25 P Go ahead, Houston CAP COM, Gemini-5.

07 16 27 28 CC 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'll try and be quiet the rest of the way. First, we'd like you to place your Reentry C-band to CONTINUOUS.

CONFIDENTIAL

CONFIDENTIAL

07 16 27 43 P Roger. C-band CONTINUOUS.

07 16 27 46 CC Roger. Now I have some updates on your PLA's if you're ready to copy.

07 16 27 51 P Roger. A moment.

07 16 27 54 CC Okay.

07 16 28 01 P Okay, we're ready.

07 16 28 03 CC Roger. Area 122-1, 14:02:24, RET 400K is 12 plus 58, 18 plus 17; roll left 53, roll right 67. Area 123-4, 16:47:58, 15 plus 50, 20 plus 55, roll left 53, roll right 67. Copy?

07 16 28 55 P Roger. Got those.

07 16 28 57 CC Okay, and now some general instructions. When you get to Carnarvon, set your Event Timer to 27. I say, 27 instead of 36. Copy?

07 16 29 10 P 27 instead of 36. Roger.

07 16 29 13 CC Roger. And the weather in the recovery area is improving. The forecast at present for your landing is 2000 scattered, 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 5/10 coverage.

07 16 29 40 P Okay ...

07 16 29 41 CC All right. On your medical data passes we would like to delete the Canary medical data passes on Rev 119 and 120 and add the following if you're ready to copy.

07 16 29 57 P Okay. Ready.

07 16 29 59 CC Roger. 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.

07 16 30 25 P Say again that Carnarvon time.

CONFIDENTIAL

CONFIDENTIAL

641

07 16 30 27 CC Roger. Carnarvon is 08:48:10.

07 16 30 38 P Go ahead.

07 16 30 39 CC Okay. 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.

07 16 30 53 P Okay.

07 16 30 54 CC Okay. Elliot's got some procedures on your retro checklist now.

07 16 30 59 CC 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. Now 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?

07 16 31 41 CC Let me go ahead and give you the procedures for it and then you can continue to think about it, because you've got awhile before it should be done. Are you reading me, Gemini-5?

07 16 31 52 P Roger, we're reading you.

07 16 31 54 CC Okay. The procedures would be as follows: Time Day 8, 08:13, purge both fuel cells. Would you put your Reentry C-band on, please?

07 16 32 21 CC Would you put your Reentry C-band on CONTINUOUS please, Gemini-5?

07 16 32 25 P It is.

07 16 32 26 CC Okay. The 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

CONFIDENTIAL

CONFIDENTIAL

this period you should be carrying about 32 amps, which we think will bring you down to about a 23-volt main bus 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 okay with you guys. Now Sea Lab 2 is standing by and they're ready to talk to you at this time.

07 16 33 25 P Okay.

07 16 33 29 CC You can go ahead and call them.

07 16 33 31 C Hello, Sea Lab, Gemini-5 here.

07 16 33 37 CC Roger. Sea Lab 2 transmitting from 200 feet down. We're off Hawaii. How do you read, Gordo?

07 16 33 46 C Good, how you doing, Scott?

07 16 33 49 CC I read you, Gordo. You're doing a great job. We almost missed you this time. We were just brought down this afternoon and the Lab would get a chance to tell you what a great job that you guys are doing. Hope you have a very pleasant reentry shortly. Over.

07 16 34 08 C Right. Very shortly.

07 16 34 12 CC Roger. I guess ... over.

07 16 34 20 C Good to hear from you down there. How are things going?

07 16 34 24 CC Roger, Gordo. Things are going very well. We just occupied Sea Lab about 6 ...

07 16 34 55 C He's fading out and I can't hear him.

07 16 34 59 CC Have about 20 seconds to LOS, Gordo.

07 16 35 04 CC Gemini-5, Houston here. Would you check and make sure your Reentry C-band is on and your Adapter C-band is off please.

07 16 35 13 C You want Adapter C-band off?

CONFIDENTIAL

CONFIDENTIAL

643

07 16 35 16 CC On COMMAND. Adapter on COMMAND and Reentry on CONTINUOUS.

07 16 35 25 C Houston, Gemini-5 here.

07 16 35 27 CC Go ahead.

07 16 35 33 C Houston, Gemini-5.

07 16 35 38 CC Go ahead, Gemini-5.

CANARY

07 16 38 48 CC Gemini-5, this is Canary CAP COM. Confirm that the Reentry C-band Beacon Switch is in the CONTINUOUS position. Adapter C-band Beacon Switch in the COMMAND position.

07 16 39 03 C Okay. We just put the Adapter to COMMAND and the Reentry C-band is in CONTINUOUS.

07 16 39 09 CC Roger. Thank you.

07 16 39 13 C Didn't quite get from Houston which way they wanted the Adapter when we left them at LOS.

07 16 39 19 CC Roger. That's about what we thought.

07 16 39 28 CC They would also like to have you place the Antenna Select Switch to the REENTRY position.

07 16 39 34 C And ... fuel cell.

07 16 39 42 CC Say again, Gemini-5. I guess I cut in on you.

07 16 39 45 C Roger. I said would you tell Houston that we'll do the Fuel Cell Test if we like the voltage that we get when we shut the other fuel cell down.

07 16 39 55 CC Roger. Understand.

07 16 40 14 CC Roger. Gemini-5, Flight concurs.

07 16 40 17 C Okay.

07 16 40 19 CC Roger. Would you place the Antenna Select Switch to the REENTRY position please?

CONFIDENTIAL

CONFIDENTIAL

07 16 40 26 C It's in REENTRY now.

07 16 40 28 CC Okay. Real good.

07 16 40 46 CC Okay, Gemini-5. You're looking real good from the ground here. We have nothing else for you. We're standing by.

07 16 40 52 C Roger. We're GO up here.

07 16 44 29 CC Gemini-5. This is Canary CAP COM. A reminder from Flight. The computer should be off during the Fuel Cell Test. The computer should be off during the Fuel Cell Test. Do you copy?

07 16 44 41 P Roger. It will be.

CARNARVON

07 17 15 46 CC Gemini-5, Carnarvon CAP COM.

07 17 15 49 C This is Gemini-5. Go ahead, Carnarvon.

07 17 15 52 CC Roger. I have a Flight Plan update when you're prepared to copy.

07 17 15 57 C Ready to copy.

07 17 16 00 CC Title Map: 09:21:34, Remarks, 132.8 degrees left, Rev 118. Next item, Star: same time, 09:21:34. Remarks, right ascension 22 hours 59 minutes. Do you copy?

07 17 16 41 C Roger, copy.

07 17 16 43 CC That's it. You're looking good down here.

07 17 16 45 C We're GO up here.

07 18 00 10 C Houston CAP COM, Gemini-5.

07 18 00 13 CC Gemini-5, Houston CAP COM. Everything looks good on the ground. You've got about 14 hours and 27 minutes to Retro. We recommend beginning stowage, and are standing by. Go ahead.

CONFIDENTIAL

CONFIDENTIAL

645

07 18 00 24 P Roger. We have a question for you.

07 18 00 27 CC Go ahead.

07 18 00 28 P Has anybody thought of what is the effect of the RCS probe on the scanners?

07 18 00 36 CC Stand by.

07 18 00 43 CC Are you wondering about using them for platform alinement, Pete?

07 18 00 47 P Affirmative.

07 18 00 49 CC We'll check that one out for you.

07 18 00 52 P Okay.

07 18 01 00 CC 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 in Carnarvon. And we're checking the thrusters and the scanners out for you.

07 18 01 11 C We're ready to copy.

07 18 01 14 CC Okay. Coming up.

07 18 01 37 CC Okay, Pete. Day 8, 10 hours 27 minutes. Power up checklist with one change. Rate gyros on before computer on. Start Preretro Checklist. Copy?

07 18 02 03 P Okay. 08:10:27, power up checklist, rate gyro on before computer.

07 18 02 10 CC Right.

07 18 02 18 CC Okay. Did you get that time? That was 10:27 and 00 on the seconds.

07 18 02 24 P ...

07 18 02 27 CC Okay. At 11 hours 00 minutes 00 seconds, OAMS Power Switch OFF. Activate and check RCS operations. Then aline platform using RCS. Do you copy?

CONFIDENTIAL

CONFIDENTIAL

07 18 02 51 P Okay. 08:11:00. Power switch OFF. ... and activate RCS and a line platform with RCS.

07 18 03 04 CC Right. That was 11 hours. It's Day 8, 11 hours. Okay. At Day 8, 11 hours 26 minutes 00 seconds, which is approximately T_R minus 1 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 it's just blasting it out pretty good in Direct, we're cleared out or whether we're essentially out of fuel. When completed, fire the OAMS regulator squib, complete preretro checklist; and RCS Switches will have to come back on, of course, because you'll be pretty close to being out of OAMS.

07 18 04 17 P Okay. We got it. Go ahead.

07 18 04 19 CC Okay. And at Day 8, 12 hours--stand by a minute.

07 18 04 58 CC Pete. On the last Carnarvon pass before retro-fire, which will be a time of 11 hours 57 minutes, report preretro checklist complete and continue nominal Flight Plan. Do you copy?

07 18 05 27 P That's affirm.

07 18 05 33 CC That's all we have. We're standing by.

07 18 05 37 P Okay. Well give us a reading on the scanners, which as I see, we have a night retrofire. Is that correct?

07 18 05 43 CC That's affirmative.

07 18 05 45 P And we will not have a countdown from Hawaii. Is that correct?

07 18 05 52 CC We plan that you will have a countdown from Hawaii.

07 18 05 57 P We have that much acquisition time with them on Orbit 121, huh? I mean 120, huh?

07 18 06 03 CC That's correct.

CONFIDENTIAL

CONFIDENTIAL

647

07 18 06 05 CC Roger. Acquisition at Hawaii on Rev 120 is 12:23:22.

07 18 06 14 P And when do we lose them?

07 18 06 16 CC Okay. LOS is 12:30:47.

07 18 06 23 P Okay. ... we'll make out pretty well on that.

07 18 06 30 CC Roger. They ought to be able to get your IVI's and attitudes and everything.

07 18 06 34 P Okay. Very good. And if you can answer the questions on what the RCS will do to the scanners, we're very happy.

07 18 06 42 CC Okay. We'll check it and get it to you at Carnarvon.

07 18 06 47 CC We'll get some info on that to you as quickly as we can.

07 18 06 51 P Okay.

07 18 06 54 P Incidentally, as a matter of information, our OAMS Propellant Gage has blown on down to below zero.

07 18 07 04 CC The OAMS Quantity Gage?

07 18 07 06 P Yes, the Prop Quantity Gage ...

07 18 07 08 CC Roger.

07 18 07 13 CC It's no problem if in this exercising you just run it on out of fuel.

07 18 07 19 P Fine.

CANARY ISLANDS

07 18 14 06 CC Gemini-5, this is Canary CAP COM. We have a valid oral temp. Would you give us blood pressure please?

07 18 14 19 CC Gemini-5, Canaries Surgeon. You have a cuff full-scale.

CONFIDENTIAL

CONFIDENTIAL

07 18 14 52 CC We have a good blood pressure. Give me a mark when you begin exercise.

07 18 14 56 P MARK.

07 18 16 00 CC We have a good blood pressure. Standing by for your water, food and sleep report.

07 18 16 07 C Roger. Water is 36 pounds and we ate our last meal about 2 hours ago, which was 5C, and got 4 hours sleep.

07 18 16 24 CC Was that 4 hours sleep?

07 18 16 26 C Confirm.

07 18 16 27 CC What was the quality of that sleep?

07 18 16 29 C Fine.

07 18 16 31 CC Roger. Surgeon out.

07 18 17 01 CC Gemini-5, we're showing you in the Quantity Read to the ECS O₂ position. Was there a reason for that or not?

07 18 17 10 C Roger, Flight.

07 18 17 12 CC All right. How's it look up there?

07 18 17 16 C Fine.

CARNARVON

07 18 49 10 CC Gemini-5, Carnarvon. We have a good oral temp; stand by for Surgeon.

07 18 49 16 CC Gemini-5, Carnarvon Surgeon standing by for your first blood pressure.

07 18 49 19 C Roger.

07 18 49 30 CC Cuff is full-scale.

07 18 49 35 CC Would you place your Quantity Read Switch to Fuel Cell H₂ and leave it there for remainder of mission.

CONFIDENTIAL

CONFIDENTIAL

649

07 18 50 06 CC We have your blood pressure; standing by for exercise on your mark.

07 18 50 15 C 2, 1, MARK.

07 18 50 47 C End of exercise.

07 18 50 59 CC Cuff is full-scale.

07 18 51 25 CC We have your blood pressure. Standing by for food, water and 24-hour sleep reports.

07 18 51 31 C Roger. I've had 37 pounds 4 ounces of water, 08:07:00:00. Had Meal 5C. I've had 2 hours of sleep just recently, very sound.

07 18 51 51 CC Very good. How are you feeling in general at this time?

07 18 51 55 C Fine.

07 18 51 57 CC Thank you, Gordo, and if you're feeling as good as you look on the ground, you're in good shape. Carnarvon Surgeon out.

07 18 52 02 C Thank you.

07 18 52 05 CC Gemini-5, Carnarvon CAP COM. Flight advises that for your OAMS Thruster check at 11 hours 26 minutes to use Attitude Thrusters only. Do not use Maneuver Thrusters.

07 18 52 23 C Roger.

07 18 53 29 CC Gemini-5, Carnarvon. Flight advises on this RCS ... effect on scanner, there should be no effect. He said that they run tests on the GT-3 and found no problem.

07 18 53 43 C Okay, mighty fine. Thank you.

GUAYMAS

07 19 26 55 CC Gemini-5, Guaymas CAP COM. Turn your T/M Control Switch to REAL TIME and ACQ-AID position.

CONFIDENTIAL

CONFIDENTIAL

07 19 27 03 C Roger.

07 19 27 28 CC Gemini-5, Guaymas CAP COM. Turn your T/M Control Switch to REAL TIME and ACQ-AID position.

07 19 27 34 C Roger. Guaymas CAP COM. It is there now. Do you read us?

07 19 27 39 CC Roger. Read you loud and clear.

07 19 27 40 C Okay.

07 19 27 43 CC How're you doing?

07 19 27 52 CC How you all doing up there?

07 19 27 55 P Just fine.

07 19 27 56 CC Okay, we're showing you real good here on the ground.

07 19 28 02 C Roger.

07 19 28 22 P Guaymas, Gemini-5.

07 19 28 23 CC Go ahead.

07 19 28 24 P Would you advise Flight that we tried the No. 2 fuel cell, and at the time we had 35 amps, which gave us about 22.9, so we went back on both fuel cells.

07 19 28 35 CC Roger. Understand.

07 19 28 51 P And advised that they'd like to get some data off it. We'll be glad to go back on it for a short period of time if they want to look at it.

07 19 28 57 CC Roger.

TEXAS

07 19 30 36 CC Gemini-5, Houston CAP COM.

07 19 30 39 C Go ahead, Houston CAP COM, Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

651

07 19 30 41 CC Roger, you're looking good on the ground. Have you performed a purge since you passed the Canaries last time?

07 19 30 48 C Yes, we have.

07 19 30 49 CC Roger. Understand. Would you please turn off Section No. 1 Power switch?

07 19 31 00 C Roger. No. 1 Power going OFF.

07 19 31 02 CC Roger.

07 19 31 12 C Getting that data?

07 19 31 13 CC Roger.

07 19 31 17 C 22.9 volts.

07 19 31 20 CC Same on the ground. That's just about what we expect, Gemini.

07 19 31 26 C Okay, well as soon as you get it, we're going back on both.

07 19 31 29 CC Okay.

07 19 31 42 CC Gemini, we concur, you can bring it back on.

07 19 31 45 C Okay, turn it back on. Lights got bright.

07 19 31 51 CC Roger.

07 19 31 52 C Incidentally, just for your information - I guess you had telemetry - we're running ECS O₂ again.

07 19 31 58 CC Roger. Understand.

07 19 32 22 CC Gemini, Houston here. Would you place your T/M Switch to COMMAND please, and we'll be standing by.

07 19 32 29 C Roger. COMMAND.

BERMUDA

07 19 37 11 CC Gemini-5, Houston.

CONFIDENTIAL

CONFIDENTIAL

07 19 37 14 C Go ahead, Houston, Gemini-5.

07 19 37 16 CC Good morning to you.

07 19 37 18 C Good morning. How are you?

07 19 37 20 CC Fine. Would you like to have me review what the initial downrange needle deflections mean as far as the bank angle for you for this particular orbit, or are you pretty familiar with it?

07 19 37 34 C As far as 30, 60, 90.

07 19 37 36 CC Roger.

07 19 37 41 C I'm very familiar with it as far as--60 degrees is the nominal with the footprints and 30 degrees would show you're beyond your footprint. A deflection of 90 degrees would show that you are targeting the thumbwheels down towards the heel.

07 19 38 03 CC Roger. What I was referring to exactly was that for your initial downrange deflection on your needle, if it deflected full scale up, it would require zero bank angle to get there. If it shows no downrange deflection, it's roughly 45 degrees bank angle; and for full downrange short, it requires about an initial 75 degrees bank angle.

07 19 38 35 C Okay, those are lower scale readings, right?

07 19 38 38 CC Roger, and that's pretty nominal. It's just about right in the middle of all the other lines on the graph.

07 19 38 43 C Right.

07 19 38 53 C Retro Time still 12:37--12:27:39?

07 19 39 00 CC That's affirmative.

07 19 39 02 C Okay.

07 19 40 15 CC Gemini-5, this is Surgeon. Good morning, Gordo.

CONFIDENTIAL

CONFIDENTIAL

653

07 19 40 19 C How are you?

07 19 40 22 CC I would 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?

07 19 40 34 C Make a house call.

07 19 40 35 CC Yes, could I do that?

07 19 40 39 C ... up.

07 19 40 42 CC Say, incidentally, Trudy asked me to tell you "Happy Anniversary" this morning.

07 19 40 48 C Will you return the wishes to her?

07 14 40 51 CC Will do.

CANARY

07 19 49 08 CC Gemini-5, this is Canary CAP COM. Everything looks okay on the ground here; we have nothing for you this pass.

07 19 49 15 P Roger. We're GO up here.

07 19 49 17 CC Roger.

07 19 49 22 C You can report to Flight that we've just completed our stowage and we're putting our helmets on and strapping down at this time.

07 19 49 29 CC Roger. Understand. Copy, Flight?

CARNARVON

07 20 24 15 CC Gemini-5, Carnarvon CAP COM. You look good on the telemetry; we're standing by.

07 20 24 20 C Roger, Carnarvon, we're ...

07 20 29 01 CC Have you blown RCS?

07 20 29 05 P That's affirmative, Carnarvon.

CONFIDENTIAL

CONFIDENTIAL

GUAYMAS

07 21 00 17 CC Gemini-5, Guaymas CAP COM.

07 21 00 19 C Go ahead, Guaymas, Gemini-5.

07 21 00 22 CC Okay. We show you GO here on the ground; how do you do?

07 21 00 24 C Roger. We're GO here. Everything's just peachy-keen.

07 21 00 27 CC Okay.

07 21 00 30 C Nice to have a control system again.

07 21 00 32 CC I imagine it is.

07 21 00 41 P Say, Guaymas.

07 21 00 44 CC Go, boy.

07 21 00 45 P We sure appreciate everything you did for us. We'll see you on the ground.

07 21 00 49 CC Okay, Peter.

07 21 00 50 C Yes, thank all the people there for all the fine job they all did.

07 21 00 53 CC We sure will. I think you all have done a real great job.

07 21 00 56 C Thank you. We couldn't have done it without you folks.

07 21 01 08 CC Give me your status on that OAMS at this time. What are you doing with it?

07 21 01 11 C We're in RCS. The OAMS is pooped out.

07 21 01 14 CC Okay, did you run that OAMS check?

07 21 01 19 P We didn't have enough OAMS system left to run it. We tried a little bit and if you'll stand by, I'll go ahead and blow the stick just to see if I can hear it, but we're in RCS.

CONFIDENTIAL

CONFIDENTIAL

655

07 21 01 29 CC Okay.

07 21 01 38 P No, I blew the stick but I couldn't hear it.

07 21 01 40 CC Okay, very good.

07 21 01 46 CC I'm not showing any OAMS lights at all on my console.

07 21 02 08 C Our whole OAMS system is pretty well shot; there aren't many thrusters left, and those that are left are pretty cruddy.

07 21 02 15 CC Roger. Got that.

07 21 02 18 C We're also indicating below zero on the quantity gage; so I expect everything's in pretty bad shape, generally.

07 21 02 25 CC Roger.

07 21 02 38 C We're all set with the platform all alined, and all ready to fly around once more and follow along.

07 21 02 45 CC Here we go.

07 21 02 49 P And we even got everything stowed.

07 21 02 52 CC Now you're talking of a real accomplishment.

07 21 02 54 C Yes, it is, but we started 12 hours ago.

07 21 03 12 CC Your RCS seems to be holding real well.

07 21 03 15 C Yes, it's a real fine system.

07 21 03 20 P We're using Ring A and we'll use it all the way around.

07 21 03 23 CC Say again.

07 21 03 25 P I say, we're using Ring A and we'll use it all the way around for the alinement.

07 21 03 29 CC Roger.

CONFIDENTIAL

CONFIDENTIAL

07 21 03 32 C We'll also start our--we'll use two rings for retrofire, and then we'll use Ring A for reentry until we need to bring on the other ring if we run out or need additional damping.

07 21 03 45 CC Roger. Copy that.

TEXAS

07 21 05 51 CC Gemini-5, Houston.

07 21 05 53 C Roger, Houston, Gemini-5. All set ... ready to go.

07 21 05 57 CC 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.

07 21 06 04 C Roger, on PRELAUNCH and Green ... light on.

07 21 06 07 CC Okay, very good. I've also got your backup information. Are you ready to copy it?

07 21 06 12 C Wait one.

07 21 06 15 CC Okay. GMT of retrofire at 12:27:38. Time to 400,000 is 14 plus 18. Time to reverse bank, 19 plus 25, roll left 53, roll right 67.

07 21 06 40 C Roger ... again. Can you give us those again?

07 21 06 46 CC Gemini-5, Houston. Say again, please.

07 21 06 50 C Roger. I wasn't quite ready to copy. Can you give us those again?

07 21 06 53 CC All set now?

07 21 06 55 C Right.

07 21 06 58 CC Roger. GMT of retrofire is 12:27:38. Time to reverse bank, the time to 400,000 feet, 14 plus 18. Time to reverse, 19 plus 25. Bank left 53, bank right 67.

07 21 07 29 P Copy.

CONFIDENTIAL

CONFIDENTIAL

657

07 21 07 31 CC Roger. Your altimeter setting for the recovery area is 30.10.

07 21 07 50 CC Gemini-5, Houston again.

07 21 07 52 C Go ahead.

07 21 07 54 CC Be advised that by some calculations 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 hours after you run the tank full that the fuel cell will still operate properly.

07 21 08 18 C Roger. So, no sweat.

07 21 08 21 CC Okay.

07 21 08 29 C Those fuel cells have done very well, haven't they?

07 21 08 32 CC They sure have. We've run all kinds of tests on them, haven't we?

07 21 08 36 C Yes, we have!

07 21 08 39 P Listen, on the OAMS system. It was just so sick that there was no sense working with it. I got the information down what was coupling into what, so you can figure which thrusters were bad.

07 21 08 49 CC Roger.

07 21 08 51 P And I blew the squib and couldn't hear it, but I did pulse the regulator and it worked.

07 21 08 56 CC Okay, very good. You have a good DCS load for 121-1 and a good Tr time.

07 21 09 05 P Roger. We'll put the computer to REENTRY at this time.

07 21 09 08 CC Roger.

07 21 09 25 CC Gemini-5, this is Surgeon. I want to check again for sure that we're in agreement that we will not

CONFIDENTIAL

CONFIDENTIAL

use Item B. Is that affirm?

07 21 09 36 C Tell them we took one for the road.

07 21 09 40 CC One for the road. Okay. Gordo, I want to confirm again this blood pressure for Pete's use on reentry. We've checked the times here, and we see that the only time that we'll be over a site where we could get any blood pressure prior to the time that you're on the water would be over Guaymas, Pete. This will 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 after bridling of the chute or on the water, be sure and pump those calves and get your feet elevated, slide down so that your feet are above your head.

07 21 10 44 P I've got the blood pressure roll installed, and I have the programmer in my pocket. All I have to do is put it on and pump up the blood pressure, and it goes on the recorder.

07 21 10 53 CC Roger, correct.

07 21 11 07 CC Gemini-5, Houston. Be advised everybody ran out, looked up, and there you were.

07 21 11 12 C Very good.

07 21 11 14 CC They want me to tell you it looks like you're moving fast.

07 21 11 19 C Yes, we're really whistling!

07 21 11 21 P Did you see that we're BEF?

07 21 11 25 CC Well, it looks like you're about 3 degrees off in yaw.

07 21 11 30 C No, that's wrong.

07 21 11 32 CC Okay.

CONFIDENTIAL

CONFIDENTIAL

659

07 21 11 34 C ...

07 21 11 35 CC Must have been the sun angle.

07 21 11 37 C What it was.

07 21 11 44 CC Did Dave Scott mention to you the fact that you're going to have a lighted horizon at 400,000 feet on your reentry.

07 21 11 52 C That we're going to have what?

07 21 11 56 CC Just about as you get to 400,000 feet you should have a lighted horizon.

07 27 12 01 C Roger.

BERMUDA

07 21 12 28 CC Gemini-5, Houston again.

07 21 12 30 C Go ahead.

07 21 12 32 CC The ships that will be in your landing area will be the "Lake Champlain" and two destroyers, the "DuPont" and the "Waldren". The commander in charge of airborne operations' call sign will be Airborne, and the helicopters will be called Recovery 1 and 2, and Search 1, 2, and 3.

07 21 12 59 C Okay.

07 21 13 00 CC And 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.

07 21 13 07 C Roger.

07 21 13 12 P What's the call sign of "Lake Champlain"?

07 21 13 15 CC Call sign is Night Hawk, but I think it'll be referred to as the "Lake Champlain".

07 21 13 24 P Okay, we just wanted to call her to get a Charlie time and a Fox Corpen.

07 21 13 29 CC Roger. Do you still remember those paddle signals

CONFIDENTIAL

CONFIDENTIAL

for coming aboard?

07 21 13 36 P You betcha!

07 21 13 43 C ... Pete's going to coach me.

07 21 13 46 CC Say again.

07 21 13 48 C Tell ... that Pete's going to coach me.

07 21 13 55 CC Listen, I don't know how you log time like that.

07 21 13 59 C ...

07 21 14 06 CC Gemini-5, Houston here. Be advised since you've changed microphones, you're pretty difficult to read. It would be better if you talked a little bit slower.

07 21 14 16 C Roger. We ... headsets for the entire flight till about 15 minutes ago.

07 21 14 23 CC Okay, very good. They're a lot better. You seem to be picking up a lot of background noise when you're transmitting.

07 21 14 31 C Okay.

07 21 14 33 CC What kind of headsets are those, Gordo?

07 21 14 37 C ...

07 21 14 40 CC Think I've heard of that before.

07 21 14 42 C Roger.

07 21 14 45 P Houston, Gemini-5, we'd like to report the Pre-retro Checklist is complete.

07 21 14 49 CC Roger, understand. Preretro is complete.

07 21 15 02 C Houston, could you give us a GMT time hack, please?

07 21 15 05 CC Roger. GMT time hack on my mark it will be 11:16:00 and that'll be about 50 seconds. I'd like to remind you again, Gemini-5, that your

CONFIDENTIAL

CONFIDENTIAL

661

Event Timer should be set up at 27 minutes over Carnarvon rather than the 36 that was in the Flight Plan.

07 21 15 42 P That's Charlie.

07 21 15 44 CC Okay, in 15 seconds, approximately, it'll be 11:16:00. 5 seconds, 3, 2, 1,

07 21 16 00 MARK, 11:16:00.

07 21 16 04 C Roger, we're on.

07 21 16 12 C I'll have to trade this Accutron in. I've had to change it 4 seconds now throughout the flight.

07 21 16 21 CC Roger, Gemini-5.

07 21 16 31 CC Gemini-5, 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.

07 21 16 44 C Okay, is that better now?

07 21 16 46 CC Yes, it is. Did you put the faceplate down?

07 21 16 49 C No, I moved the microphone further away.

07 21 16 51 CC Okay.

07 21 16 58 P How do I sound now with the faceplate down?

07 21 17 01 C Okay, how's that now?

07 21 17 02 CC That's a little better.

07 21 17 05 P Okay.

07 21 17 14 CC It looks like we'll have adequate coverage across the States so that we should be able to provide you your backup guidance quantities before you go into blackout.

07 21 17 23 C Very good.

07 21 18 04 P Houston, Gemini-5.

CONFIDENTIAL

CONFIDENTIAL

07 21 18 06 CC Go ahead.

07 21 18 08 P Where would you like the No. 1 Bio-med Recorder put on, what time?

07 21 18 14 CC Right now would be a good time, right now. Did you get that, Gemini-5?

07 21 18 21 P I say, what time would you like the Bio-med No. 1 Recorder on? It is not on the checklist.

07 21 18 29 CC Roger. Put it on now. Put it on now.

07 21 18 32 P Roger.

07 21 18 33 CC We're just coming up on LOS now.

CANARY ISLANDS

07 21 23 29 CC Gemini-5, this is Canary CAP COM.

07 21 23 34 C Go ahead, Canary CAP COM, Gemini-5.

07 21 23 37 CC Roger. We would like to confirm that Bio-med Recorder No. 1 is off.

07 21 23 44 P Roger. It's off.

07 21 23 47 CC Okay, and what computer mode are you in?

07 21 23 51 C REENTRY.

07 21 24 09 CC Flight would like me to get another reading on the Bio-med Tape Recorder No. 1 status.

07 21 24 16 C Roger. It is ON, No. 1 and 2 are both on.

07 21 24 21 CC Roger. I copy No. 1, 2 both on.

07 21 24 45 CC Gemini-5, we'll give you a time hack on T_R at 1 hour. That will be 60 minutes.

07 21 26 36 CC Gemini-5, Canary CAP COM. I'll give you a time hack on T_R in roughly 1 minute.

07 21 26 44 P Gemini-5, Roger.

CONFIDENTIAL

CONFIDENTIAL

663

07 21 27 36 CC 3, 2, 1, MARK. You're 60 minutes.
07 21 27 44 P Roger. It's right on the button, 60:00.
07 21 27 48 CC Roger. We'll have LOS in about 30 seconds.
Everybody here at Canary Islands would like to
extend their congratulations.
07 21 27 56 P Thank you very much. We'd like to say the same
to you for your wonderful help.
07 21 28 00 CC Roger. Our pleasure.
07 21 28 02 P See you in Houston.
07 21 28 04 CC Roger.

CARNARVON

07 21 57 44 CC Gemini-5, Carnarvon CAP COM.
07 21 57 48 P Go ahead, Carnarvon, Gemini-5 here.
07 21 57 50 CC Roger. I'm going to update you with a new
preretro load and a new T_R time. I've also got
the backup guidance quantity. Are you prepared to
copy?
07 21 58 03 P Ready to copy.
07 21 58 08 CC Transmitting your T_R .
07 21 58 19 CC You got a T_R , you're in sync, transmitting your
load.
07 21 58 23 P Wait a minute. It's not transmitting yet.
07 21 58 24 CC I'll transmit the load.
07 21 58 28 P Okay, go ahead.
07 21 58 31 CC Roger. I got a hack--let me give you the backup
guidance quantity preview and then we'll check a
couple of the cores in the MDIU.
07 21 58 44 P Read it.

CONFIDENTIAL

CONFIDENTIAL

07 21 58 45 CC Roger.

07 21 58 46 CC GMTRC, 12:27:53; RET 400K, 14 plus 12; RETRB
19 plus 21; bank left 53, bank right, go right 67.
Copy?

07 21 59 21 P Copy.

07 21 59 22 CC Roger. Okay, let's check Core 03 ... 03.

07 21 59 35 P 52192.

07 21 59 40 CC Roger. Stand by one. Okay, read out Core 10.

07 22 00 03 P 02955.

07 22 00 06 CC Roger. You've got it.

07 22 00 09 P Good. Good.

07 22 00 10 CC I'll give you Event Timer countdown time hack
at 27 minutes 00 seconds.

07 22 00 21 CC ... about 20 seconds.

07 22 00 34 CC 10 seconds, 4, 3, 2, 1,

07 22 00 43 CC MARK.

07 22 00 46 P Got it.

07 22 00 47 CC Okay, I'll give you GMT time hack at 12 hours
01 minute in about 5 seconds.

07 22 00 58 P Roger.

07 22 00 59 CC 2, 1,

07 22 01 00 CC MARK.

07 22 01 03 P Okay, we're right on. Verify the computer is in
Reentry.

07 22 01 09 CC Roger.

07 22 01 17 P I don't quite understand why I didn't get a DCS
light on either of the TR's, but I guess it went in.

CONFIDENTIAL

CONFIDENTIAL

665

07 22 01 24 CC Roger. We got the maps back. And those core readouts you gave me check out with my ET message.

07 22 01 30 P Give me a T_R at 26.

07 22 01 33 CC Roger. 10 seconds to go.

07 22 01 38 CC 5, 4, 3, 2, 1,

07 22 01 43 CC MARK.

07 22 01 48 CC Did you get it?

07 22 01 50 P Okay, we're right on the button, Carnarvon. Thank you very much. We appreciate all your help and we'll see you back in Houston and say hello to everybody.

07 22 01 59 CC Roger. Will do.

CANTON

07 22 18 04 CC Gemini-5, Gemini-5, Houston here. Standing by.

07 22 19 36 CC Gemini-5, Gemini-5, Houston here. We're standing by in case you need anything.

07 22 19 54 P Houston, Gemini-5. Did you call?

07 22 19 57 CC Roger. Houston here. We're just standing by in case you need anything.

07 22 20 02 P Roger. Everything's fine.

07 22 20 05 CC Very good. Very good.

HAWAII

07 22 23 54 CC Gemini-5, Hawaii CAP COM.

07 22 23 57 P Read you loud and clear, Hawaii; standing by.

07 22 23 59 CC Roger. I'll give you a mark at 3 minutes.

07 22 24 02 P Roger.

07 22 24 38 CC Stand by. 3, 2, 1,

CONFIDENTIAL

CONFIDENTIAL

07 22 24 43 CC MARK.
07 22 24 47 P We're right on.
07 22 24 49 CC Roger.
07 22 25 43 CC MARK, 2 minutes.
07 22 25 47 P Roger. We're right on.
07 22 26 43 CC MARK, one minute.
07 22 26 51 P SEP OAMS, SEP ELECTRIC, and SEP ADAPT.
07 22 26 54 CC Roger. ADAPTER SEP.
07 22 27 08 CC We'll pick up the count at T_R minus 10 seconds.
07 22 27 11 P Roger.
07 22 27 13 CC 30 seconds.
07 22 27 33 CC 10, 9, 8, 7, 6, 5, 4, 3, 2, 1,
07 22 27 43 CC Retrofire!
07 22 27 44 CC Auto-Manual Retrofire.
07 22 27 50 CC Rocket 3 fired.
07 22 27 55 CC Rocket 2 fired.
07 22 28 00 CC Rocket 4 fired.
07 22 28 03 CC Verify all retros fired.
07 22 28 05 P All four retros fired.
07 22 28 08 CC Roger. Standing by for IVI readouts.
07 22 28 10 C 269 aft. 009 left. 181 down.
07 22 28 16 CC Say again the first.
07 22 28 17 C 269 aft. 010 left. 181 down.
07 22 28 32 C Retropack is jettisoned.

CONFIDENTIAL

CONFIDENTIAL

667

07 22 28 34 CC Roger. Retrojettison.
07 22 29 38 CC How were the attitudes?
07 22 29 39 P Attitudes looked pretty good.
07 22 29 42 CC Roger.
07 22 29 49 CC I'll give you mark at T_R plus 3 minutes.
07 22 30 40 CC 3, 2, 1,
07 22 30 43 CC MARK.
07 22 30 45 CC Hawaii has LOS.

PT. ARGUELLO

07 22 33 03 CC Gemini-5, Gemini-5, Houston.
07 22 33 25 CC Gemini-5, Gemini-5, Houston.
07 22 23 29 P Hello, Houston. Gemini-5. Read you loud and clear.
07 22 33 31 CC Roger. I'm reading you loud and clear also. I'll have your backup guidance quantities for you at about 15.
07 22 33 38 P Oh, Roger.
07 22 33 40 CC Enjoy the view.
07 22 33 43 P It's dark out here!
07 22 33 45 CC Oh, that's right.
07 22 34 15 CC Gemini-5, Houston. Your weather remains the same. It's at 2000 feet scattered. Visibility 10 miles. Weather is good. Winds are only 8 knots. The altimeter remains the same; and the wave height's only about 3 feet.
07 22 34 27 P Very good.
07 22 34 46 P Sorry I can't report a ... package but it was pitch black outside.

CONFIDENTIAL

CONFIDENTIAL

07 22 34 51 CC Where's your night vision?

07 22 34 54 P We got the lights off like the simulator.

07 22 34 57 CC Roger, Roger.

07 22 35 18 CC Gemini-5, you can give us the blood pressure any time now. We've got good T/M on you.

07 22 35 25 P One blood pressure ...

07 22 35 42 CC Cuff full-scale.

07 22 36 01 CC Okay. We got a valid blood pressure there on the Pilot.

07 22 36 05 P Say again.

07 22 36 07 CC Your blood pressure is valid. Thank you.

07 22 36 09 CC Gemini-5, your time to 400,000 of 14 plus 12 looks good from our data.

07 22 36 18 P Very good.

07 22 36 58 CC Gemini-5, Houston. If you've got time, you might tell us when you can see the light of the horizon.

07 22 37 05 P Okay. The sun is shining on the spacecraft now, but we have no horizon yet.

07 22 37 10 CC Okay. You should get the lighted horizon just slightly before 400,000.

07 22 37 18 P Roger.

07 22 38 04 P This is a very fantastic sight out here! I don't know what all the stuff is, I guess pieces of the retro-adapter or whatever is following along with us, but it's all lit up in the sunlight into a complete black void.

07 22 38 19 CC Roger. Can you see the retro-adapter back there at all?

07 22 38 22 P No.

CONFIDENTIAL

CONFIDENTIAL

669

07 22 38 24 CC Okay.

07 22 38 32 P Okay. I'm beginning to see the horizon straight below us. We're across the terminator now.

07 22 38 32 CC Okay.

TEXAS

07 22 39 10 P Okay. We have a good horizon now.

07 22 39 13 CC Roger on the good horizon.

07 22 40 06 P Okay. We just passed White Sands.

07 22 40 09 CC Roger.

07 22 40 15 CC We should have your backup guidance quantity for you shortly.

07 22 40 18 P Okay.

07 22 40 21 P ...

07 22 40 24 CC Okay. I guess you're cleared. You know the control zone only goes up to about 60,000 feet, so you're safe till you get down to there.

07 22 40 31 P Okay.

07 22 41 12 CC Gemini-5, Houston. We'll get blackout around 16 plus 14.

07 22 41 22 P Roger. Understand 16 plus 14.

07 22 41 25 CC Roger.

07 22 41 26 CC Gemini-5, Gemini-5. Houston with your backup guidance.

07 22 42 00 P Go ahead.

07 22 42 02 CC Roll left 54. Roll right 68. Time to reverse bank, 19 plus 25.

07 22 42 13 P Okay. Understand. Roll left 54 and roll right 68, and reverse bank 19 plus 25.

CONFIDENTIAL

CONFIDENTIAL

07 22 42 21 CC That's affirmative. You'll be in the blackout at approximately 16 plus 14. Out of blackout at approximately 21:20.

07 22 42 32 P Okay. In at 16 plus 14; out at 21 plus 20.

07 22 42 37 CC Roger.

07 22 42 57 CC Gemini-5, your time for the drogue chute is 22 plus 05. For main 23 plus 48.

07 22 43 09 P Roger. Drogue is 22 plus 05. Main is 23 plus 48.

07 22 43 14 CC Roger.

07 22 43 17 P Just passed the Mississippi.

07 22 43 33 CC You're coming up on blackout now, Gemini-5. Have a nice ride.

07 22 43 36 P Thank you very much.

07 22 45 58 CC Gemini-5, Gemini-5, Houston calling in the blind during blackout. Gemini-5, Houston calling.

07 22 46 45 CC Gemini-5, Gemini-5, Houston transmitting in the blind during blackout.

07 22 47 14 CC Gemini-5, Gemini-5, Houston here. CAP transmitting in the blind during blackout at 19 plus 37.

07 22 47 45 CC Gemini-5, Gemini-5, Houston transmitting in the blind during blackout at 20 plus 38.

07 22 48 14 CC Gemini-5, Gemini-5, Houston transmitting in the blind during blackout at 20 plus 38.

07 22 48 48 CC Gemini-5, Gemini-5, Houston here transmitting now. Do you read?

07 22 49 09 P ...

07 22 49 10 CC Gemini-5, Gemini-5, Houston. You were unreadable that time. Can you give me your guidance information?

07 22 49 17 P I don't think we got guidance.

CONFIDENTIAL

CONFIDENTIAL

671

07 22 49 25 CC Roger. Understand. Gemini-5, Gemini-5, Houston. Can you tell me what you are flying?

07 22 49 37 P ... bank angles. I think we're a little bit short.

07 22 49 41 CC Roger. Understand you're flying bank angles and you think you're a little short. Do you have guidance at all?

07 22 49 47 P Yes. ... We have the drogue out.

07 22 49 55 CC Roger on the drogue.

07 22 50 53 CC Gemini-5, Gemini-5. If you read, give us a call when you put your main out.

07 22 50 58 P ... on the drogue at ... 15,000.

07 22 51 02 CC Roger. Understand you are still on the drogue.

07 22 51 09 P ...

07 22 51 39 CC Gemini-5, Gemini-5, Do you have your main out yet?

07 22 51 50 CC Gemini-5, Gemini-5, Houston. Do you have your main chute out yet?

07 22 51 56 C ... on the main. We're in landing attitude.

07 22 52 00 CC Roger. Understand your main's out and you're in landing attitude. Have a nice landing.

07 22 52 04 P Thank you. Do you know where we are?

07 22 52 08 CC It looks like you're a little up-range. We've got some radar tracking from the destroyer, and it looks like you're a little bit up-range from him. How do you feel, Gemini-5? How do you feel?

07 22 52 22 C ...

07 22 52 24 P I feel fine, too.

07 22 52 26 CC Okay. Understand you both feel okay.

07 22 52 34 CC ... this is Air Boss. ...

CONFIDENTIAL

CONFIDENTIAL

07 22 52 36 C Gemini-5 reads you loud and clear.

07 22 52 43 CC Gemini-5, Gemini-5, Houston. We'll have to stand by for a minute or two to get some radar tracking from the recovery forces.

07 22 52 53 C Okay, Gemini-5.

07 22 53 10 CC Gemini-5 ... Air Boss. ... Air Boss.

07 22 53 26 CC This is Air Boss. Would you give me a short count for a DF steer please?

07 22 53 30 C Roger. Gemini-5; 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Over.

07 22 53 44 CC Gemini-5, this is Air Boss. Roger, your short count.

07 22 54 38 CC Gemini-5, this is Air Boss. Would you give me another short count?

07 22 54 43 C Roger. Gemini-5; 1, 2, 3, 4, 5, 4, 3, 2, 1. Over.

07 22 54 52 CC Gemini-5, this is Air Boss. Air Boss requests another short count please. Over.

07 22 54 58 C Roger. Gemini-5; 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Over.

07 22 55 08 CC Gemini-5, this is Air Boss. Roger. I have a good bearing on you on that transmission. You're bearing 275 degrees from me. My position is 22 miles west of the carrier. Over.

07 22 56 49 CC Gemini-5, this is Air Boss. Do you read me now? Over.

07 22 57 07 CC Gemini-5, Air Boss. Are you reading me? Over.

AIRCRAFT CARRIER LAKE CHAMPLAIN

07 23 04 16 C This is Gemini-5 on the water.

07 23 07 35 CC Gemini-5, Gemini-5, Air Boss. How do you read?

CONFIDENTIAL

CONFIDENTIAL

673

07 23 08 57 C Air Boss, Gemini-5 ... over.

07 23 09 20 C Hello, Air Boss. Hello, Air Boss, Gemini-5 here.
1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Do you read?

07 23 09 33 CC This is Air Boss, Roger.

07 23 17 27 CC Gemini-5, Gemini-5, Air Boss. Over.

07 23 17 41 CC Gemini-5, this is Air Boss. Over.

07 23 18 50 CC Gemini-5, Gemini-5, Air Boss. Over.

07 23 19 54 CC Gemini-5, Gemini-5, this is Air Boss. Do you read?

07 23 26 36 CC Gemini-5, Air Boss.

07 23 34 10 CC Gemini-5, this is Air Boss. If you can read,
helos have you in sight and they'll be there in
a couple minutes.

07 23 36 40 CC Gemini-5, if you can read, this is Air Bqss.
Have helos in sight and they'll be along any
moment.

07 23 36 56 CC Gemini-5, this is Air Boss. I heard a ... after
my last transmission. If you read me would you
give two ... please.

CONFIDENTIAL