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CMP Okay.

CC-H Operationally, of course, it doesn't make any difference.

CMP Yeah. You're exactly right, although it does make a difference in some maneuvers and that sort of thing. But if it affects the TM, that's a good reason.

CC-H Okay. One other thing, and there's no hurry on this. But when you get a chance, we were thinking about asking you to isolate the audio centers, one by one, and try the caution and warning tone, and see if you had any difference with less of a load on the audio center. So sometime this evening you might just sequentially turn all the audio centers off but one, and then try the caution and warning tone and see if that makes any difference. We're just trying to isolate the problem if we can.

CMP Okay. So you want power to OFF, two at a time. Go around the range(?) and see how it comes out, right?

CC-H Yeah. I think that would be the easiest thing, just put up there, go from power from audio tone to OFF on two of them, and then on the one that's listening, create the tone and see how it turns out. And you could do the - -

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CC-H - - and see how it turns out you could do the- -
CMP Okay.
CC-H And Apollo, Houston. When somebody gets a chance,
I've got some updates on the SAM times. The first one is at 157 plus
15 but we've got lots of time whenever somebody's got a flight plan in
front of them I'll give you the numbers.
CMP Stand by.
CC-H Okay.
CMP Okay, ready to copy.
CC-H Okay, at 157 plus 15 there, Vance, that little pad
that's in there, the time should read 157:13:22.
CMP Okay, at about 157:15, it's 157:13:22.
CC-H Okay, and if you'll turn the page over there to
about 157 plus 45, those times should read, 157:52:09.
CMP Okay and about 157:45, it's 157:52:09.
CC-H Okay, thanks alot, Vance.
CMP Right.
CC-H Deke, Houston.
DMP Go ahead.
CC-H Okay, on this next SAM operations for sunrise since
we missed some of the film, for that first one and it's not good - that
film is not good for anything else, I've got one minor change to the
procedure on page 134. And it's real simple, all I want to do is - is
to turn the intervalometer OFF at 3 minutes instead of 1 minute and
that'll use up the film in there because we're gonna be changing that
mag out after this anyway.
DMP Okay, OFF 3 instead of - okay, my checklist says just 2 and
a half. You want shoot 3 minutes instead on 1 and a half worth of
film. Is that the idea?
CC-H Well, let's see, you looking at page 1-34? I think
intervalometer OFF is at 1 minute. I want to change that to 3 minutes
but of course that's for this operation only.
DMP Okay, I got you.
CC-H Okay, thanks Deke.
DMP Roger.
CC-H Apollo, Houston. Incidentally, we've been watching
here in the MOCR a film of Alexey and Valeriy landing earlier this
morning. They ended up in a stable 1 and a half lying on their side.
ACDR Beautiful.
CC-H It was - -
ACDR Was that with the (garble) guard off?
CC-H Oh, I doubt if there back there that far but they-
we watched them on TV when they got out of - they turned them right side
up and they opened the hatch and they were walking around. Looked real
fine. Looked happy to see home.
CMP Were they on level country?
CC-H Oh, yes.
CMP Good.
CC-H Very flat and good pictures of it. Of course the

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pictures, they showed pictures of the - descent taken from a helicopters at the scene. But it looked real fine.

CC-H And incidentally Deke, I guess I imagine you've already done this but prior to that next SAM data take after you've - after you've gotten a lens on there, you might run off a couple of frames and just make sure it's working okay, because we have plenty - -

DMP I've already done that.

CC-H I assumed that you had.

DMP Yeah, we already did that.

CC-H Fine, thanks alot.

DMP (Garble).

DMP Yeah, we got faked out because we could feel the thing running but it (garble).

CC-H Roger, no problem.

ACDR Okay, Dick. On sample 4 on the electrophoresis, in 45 minutes the column voltage went down to about 4 so it looks like it's all shut off and working good and I'm in the freeze cycle.

CC-H Okay, thanks, Tom.

CC-H And Apollo, Houston. Tom, hold up on the freeze. We think we're just supposed to do an ETE terminate. We're not supposed to do a freeze on that sample.

ACDR Hang on.

CC-H And Tom, Houston. We did recheck with the back room and we want to do a ETE terminate procedure on that sample, and not a freeze.

ACDR Roger.

CC-H Apollo, Houston. If you called, say again please.

ACDR No, we didn't call you.

CC-H Okay.

ACDR Houston, Apollo.

ACDR Houston, Apollo.

CC-H Go ahead, Tom.

ACDR Okay, I'm looking at the checklist here on the ETE operations on page 1-8, 1-7, 1-9. And just going by the checklist and it doesn't tell you not to freeze. We could see samples 4 all right. Maybe the flight plan has a thing that says "Do not freeze," or something.

CC-H Yes, I think, Tom, that the way that it was intended to be done was go to the flight plan to tell you which of the procedures to do and then of course go to the checklist - you know - to accomplish that and the flight plan for the previous experiments -- I mean the previous sample did have a freeze in there and there, I'm sure you've looked at it by now but at about 156 hours and 20 minutes, it shows ETE terminate and that's for sample 4.

ACDR Roger.

CC-H So it's - it's - I can see how it could be misleading.

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ACDR Houston, Apollo.
CC-H Go ahead, Tom.
ACDR Okay. There's one (garble) appears in the check list says store the - remove the assembly from the ETE and store the assembly in the bag in the ETE with a little sample tab on it. It won't fit in one of those slots. I'm sure they don't want us to pull the sample out. They want us just to maybe break off the top half in the loop where you pull it out of the freezer. Check it.
CC-H Okay. Stand by, please.
CC-H Tom, Houston. On your problems in stowing sample 4. Backroom thinks that by rotating it 90 degrees, you probably ought to be able to get it into that bag, but if you can't, don't worry about it. Just dispose of it in any of the trash bags.
ACDR That's a throwaway sample, huh, Dick? Can't we keep this one?
CC-H That's right. The sample 4 is a throwaway one. But that of course - that does not apply to the others.
ACDR Can we - (garble) throw it in the freezer already.
CC-H Yes. Okay.
ACDR (garble)
CC-H Okay.
ACDR (garble) Never understood that we were supposed to bring back 4.
CC-H Roger.
CC-H Apollo, Houston. On panel 230 we need UP TELEMETRY to RELAY, if somebody can get it for us.
CC-H Apollo, Houston. On panel 3 we would like to stop the DSE. You just go center on that forward rewind switch.
ACDR You got center.
CC-H Okay. Thanks.
CC-H And Apollo, Houston. On panel 230, one more. I need the UP TELEMETRY switch to UP TELEMETRY center position.
CC-H Apollo, Houston. We're about to dump - continue the DSE dump. And so I'll be dropping out in 30 seconds. I'll call you back.
ACDR Okay.
CC-H Apollo, Houston. Back up on the air-to-ground.
DMP Okay. Do you think that that really went all right Dick? Sould of had good data.
CC-H Okay, Deke. We couldn't understand that - we had a problem in the comm there and it looks like a command reset was done in a procedure and we were talking about - we didn't understand that.
ACDR Houston, Apollo.
CC-H Apollo, Houston. Go ahead.
ACDR Okay. I guess the (garble) were trying to coordinate everything real tight. Somebody asked - either myself - I don't know - whoever Vance, do we have a command reset? About that time Deke got the call command reset. Did that blow your data?

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CC-H No. We're doing our best to it. I guess we can't say right now. We're dumping the data now and we'll get back to you. What we thought perhaps you had done was the sunset procedure instead of the sunrise procedure because the sunset procedure does have a command reset. But at any rate, we've got the data on the ground and we'll take a good look at it.

ACDR Okay. Real good.

CC-H Okay.

ACDR Just a question asking - kind of a busy time.

CC-H Roger. Understand.

CC-H Apollo, Houston. It turns out we only lost - the impact of that was is we probably wrote over about 30 seconds of helium glow data and we got all the SIM data, so it looks like no problem.

ACDR Okay. Real good.

CC-H Roger.

ACDR Okay, Houston. Before we leave ATS, what time do they want me to hook up with that bio-med data?

CC-H Okay, Tom. Here's the deal. On this next ATS right at the AOS we got a little bit of DSE to dump which is not going to take too many minutes. And after that for the whole rest of that ATS pass we don't have anything that would interfere except for that SIM - there is some SIM operations there at sunrise. So, my suggestion would be to - at ATS AOS would be to - for you to be prepared to do the exercise. And I'll let you know when the dump is over and you just let us know when you're starting and we can just watch it in real time and we'll be all done with.

ACDR Okay.

CC-H Okay, real fine.

ACDR (garble) say it.

CC-H Go ahead, Tom.

ACDR We used to say if this data gets lost, the cabin temperature's going up about 3 degrees if that request comes up again.

CC-H (Laughter) Roger. Copy. That's about - -

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CC-H Go ahead, Tom.
ACDR - - to say if this data gets lost the cabin temperature is going up by about 3 degrees if that request comes up again.
CC-H Roger, copy.
CC-H Incidentally, that's one of the reasons we're doing it real time so if we do have any data problems we'll be sure and know it right there and we can fix it.
ACDR Roger.
CC-H Apollo, Houston. We're about 1 minute from ATS LOS. I'll give you a call here in about 4 minutes at Guam. See you there.
CMP Okay, Dick.
PAO Apollo, control. Ground elapsed time 156 hours, 39 minutes. Next acquisition through Guam in 2 minutes and 25 seconds. At this time in the mission Deke Slayton is performing the SAM experiments. This is the stratospheric aerosol measurement. He places a photometer at the right hand window of the Apollo command module and this is designed to measure the amount and location of aerosols in the stratosphere to determine whether a set of simple photometers would be effective in long term monitoring of such aerosols if they were used in the unmanned satellite. - - period for the crew tonight will be - will began at 160 hours, approximately 4 - 3 hours and 20 minutes - scheduled for 168 hours, an 8 hour sleep period. That wakeup time in the morning is 7:20 a.m. central daylight time. We'll hold the line up for this Guam - -
CC-H Apollo, Houston. Guam for 7 minutes.
CC-H Apollo, Houston. Guam for 6 minutes.
CC-H Apollo, Houston. We're about a minute from LOS. Rosman comes up at 157 plus 12. The SAM ops will be very close to that time so I thought I'd get this comment to you now. The experiment people said it would help them some while they're watching their real time downlink data if you give your intervelometer voice marks on the air-to-ground. See you at Rosman.
USA Okay, we'll do it.
CC-H Okay.
PAO Apollo Control. Ground elapsed time 156 hours, 50 minutes. Loss of signal through Guam. Next acquisition will be through Rosman. - -scheduled to complete their day's activities at 166 hours and 30 minutes. 160 hours, approximately 3 hours and 10 minutes from this time, tomorrow, another busy day of experimentation aboard Apollo. In the astromany field continued experimentation with the extreme ultra-violet survey, helium glow experiment and another attempt probably scheduled for the soft xray experiment. In the earth environment, the crew will again be looking out the command module windows, using cameras and be asked to observe and photograph certain earth features. Life sciences area - the crew will perform for the first time, this will be done by Deke Slayton. The light flash experiment and also performance of the zone forming fungi experiment. And again the electrophoresis

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experiment will be conducted by the crew of Apollo. Next acquisition
in 20 minutes and 15 seconds. At ground elapsed time of 156 hours and
52 minutes, this is Apollo Control.

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PAO This is mission control. There will be an Apollo announcement in 1 minute.

PAO Apollo Control. Ground elapsed time of 157 hours and 11 minutes. As Apollo concludes the 96th revolution, contact - com - will be coming through the Rosman tracking station. As the crew settles down for their evening meal, Commander, Tom Stafford, this evening has a meal of seafood mushroom soup, meatballs with barbecue sauce, stewed tomatoes, and strawberry drink. Command module pilot, Brand, has beef - seafood mushroom soup, beef steak, cranberry sauce, and coffee. And Deke Slayton also has the same soup, with beef steak, macaroni and cheese, spinach, vanilla pudding, and strawberry drink. We'll bring the lineup for CAP COMM, Dick Truly.

ACDR Hello. Houston, Apollo.

CC-H Apollo, Houston. Loud and clear, Tom. How me?

ACDR Okay. Real good. And we're only 40 seconds away from starting the SAM, but again to confirm per checklist, high bit rate records forward command and reset to start it. Over.

CC-H That is affirmed, Tom.

ACDR Roger.

CMP Okay. Zero counting up. MARK. InterVelometer ON.

CC-H Okay. Vance, thank you.

CMP MARK. InterVelometer OFF.

CC-H Okay.

USA Okay.

CC-H Go ahead, Apollo.

ACDR Looks like everything went pretty good that time.

CC-H Hey, real fine. Thanks a lot.

CC-H And when you get around to it, I'll copy down your frame count.

ACDR Roger. 35.

CC-H Okay. Thanks a lot.

ACDR DET is 1 - is 15716.

CC-H Okay.

ACDR Hello. Houston, Apollo.

CC-H Go ahead, Tom.

ACDR Okay. I want to stand by after I've figured(?) on that - on ATS to get your GO for us go ahead on the exercise. I'm all set for it. One thing we would like to know onboard is just how the experimenter's doing with his x-ray.

CC-H Okay. I tell you what, let me get back to you and get the story myself. I - I've - I haven't - I don't have it at my fingertips, we're about a minute from LOS. We'll see you at the ATS, and we will be ready to - as soon as we get data for you to do the exercise, Tom. We advise that we had real good data on that last SAM pass and that was the highest priority SAM pass of all of them. We al - because we also had ground truth data with a balloon and it went real well.

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ACDR Alright. Real good.
PAO Apollo Control. Ground elapsed time 157 hours and
20 minutes with loss of signal is through the Rosman tracking station.
Next acquisition in 2 minutes when Apollo acquires the applied technology
satellite number 6. Dick Truly, CAP COMM, advising Tom Stafford that
the SAM pass just recently conducted, provided very good data.
And that was - had the highest priority. He mentioned that the ground
truth data with the balloons also provided good information. The space-
craft is measuring the stratospheric aerosol measurements on the
previous pass. And the balloon flights, which have been launched, cover
the lower 30 kilometers of the atmosphere, the troposphere. And the
ASTP data from Apollo will cover the lower 150 kilometers of the atmo-
sphere. Acquisition in 1 minute. We'll hold the line up for the
ATS pass. As Commander, Tom Stafford, prepares to perform exercise with
the biomedical harness, flight director, Neil Hutchinson, asked if the
flight surgeons were ready to record the data here on the ground. He
told the flight surgeon the Commander is going to sweat for you tonight.
Flight surgeon replied, "We appreciate that flight." We'll hold the
line up as Commander Tom Stafford will conduct his exercise period
during this pass.

CC-H Apollo, Houston. Through the satellite. How do
you read?

ACDR Five by Dick.

CC-H Okay.

ACDR I was up there getting ready to do exercises.

CC-H Okay. Real fine. Then let me check the other(?) data?)
real quick.

CC-H Apollo, Houston. We're getting spacecraft data
here in the building. I don't know if you're hooked up yet. We are
not getting any biomed - med data. Are you hooked in yet or not ?

ACDR I am hooked in solid.

CC-H Okay. Stand by a second and let's - let me see
if we can get biomed data, and we'll give you a GO. Tom, hang
on just a second.

ACDR Dick, everything's hooked up. Suit power's on.

CC-H Okay. We have a couple of other controllers that
are having a little problem with their data also. We're going to do
something with the computers here and I'll get right back to you. Hang
on.

DMP Say, Dick. How do you read?

CC-H Loud and clear, Deke.

DMP Okay. Hey, did you guys dump on that fish experi-
ment yet?

CC-H Stand by. Let me check with INCO.

CC-H Negative, Deke. We have not dumped the VTR that's
got that on there.

DMP Okay.

CC-H When we planned on - -

DMP The reason I was curious - -

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DMP is that - we just shot two shots around here on the inside of the DM to give you an idea of what that video looks like right now. We thought, though you might find it amusing.

CC-H I'm sorry, Deke. Say again, I didn't copy it.

DMP I said we shot a few random shots here on inside of the DM on that same tape. Thought you might find it amusing.

CC-H Okay. We're looking forward to it. We're going to dump that while you're asleep tonight. Incidentally, we've - we've taken a look at the data coming out of the spacecraft and it looks like we've got no biomed data on the downlink, and the only thing that I know to check is - -

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CC-H - -data coming out of the spacecraft, and looks like we've got no biomed data on the downlink. And the only thing that I know to check is to make sure the suit power is ON, which you've already reported there. Might check the connection.

ACDR Yes.

ACDR Okay. What I can do, I can change leads here. I can go over to Vance's leads since you got good data on him, this morning.

CC-H Okay. We might try that. They might - or a loose electrode or connector - I'm not sure what else to try. I think you got a good idea Tom. Why don't you check the connectors real quick and then go over to Vance's and let's see if we can get data from there.

ACDR I'm going to change comm cables with Vance.

CC-H Okay, Tom. We're standing by.

CC-H Okay. Let us look at the data again and see if it's any better. Hang on.

ACDR I've double checked all the connectors, too.

CC-H Okay, Tom. We're still not getting data. It's not coming out of the spacecraft and we're sitting here thinking hard as to what else we could check that might be wrong. Stand by please.

ACDR Okay.

ACDR Okay. Have you got high mid rate, Dick and all that?

CC-H It's affirmed, Tom. We're getting - we're in the only ATS mode that we can get the giomed data on the downlink and the other indications on the downlink seem to be okay. It's just that one.

ACDR Well, I have double checked and I've traded off with Vance and he's checked me. And all the electrodes are on here.

CC-H Okay. We're - Neil and I are sitting here looking at the drawing now. Hang on.

CC-H Apollo, Houston. I don't know waht you just did but we're getting data now.

CC-H Apollo, Houston. I don't know if you copied me or not, but we do have data now. It looks good to us. I don't know if you changed anything. We'd like to know if you did, but at any rate, you're clear to go ahead, Tom, we have data.

ACDR How do you read?

CC-H Tom, I read you loud and clear now.

ACDR Did you read my last transmission?

CC-H No, I didn't. I called you a couple of times and I didn't get anything back. At any rate we are getting good data now, I don't know what happened - what you did if anything but we're getting good data.

ACDR Yes. Okay. What I said is I opened up the biobelt at the bottom of it. I just started checking the cables around. They all felt tight and then suddenly you said we started getting it.

CC-H Okay. Maybe they - -

ACDR Okay. I'll go ahead.

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CC-H Okay. Maybe it's something down there in the biobelt but at any rate, right now we're getting good data so press on. We - to tell you again what we wanted was about 10 minutes of exercises then a 5 minute cooldown.

CC-H Apollo, Houston. Apparently we've got a short of kind some in the biobelt because as soon as you started exercising the data became extremely poor and noisy. You might - -

ACDR Is that right?

CC-H Yes. You might look at the belt again. I'm not sure how we can help you but at any rate as soon as you exercised we got ratty data.

ACDR Let me look at it again down there.

CC-H Okay.

ACDR The only time I can think of, when I exercised yesterday - I'm up in the docking module - brought it up here - I'm using that strap between these two rails to tie me down, of course it goes across the belt sometimes, of course you move back and forth. Okay. I'm going to start to move these around, is that getting any better?

CC-H Okay. Stand by just a second.

ACDR Is it better, Dick? Over.

CC-H Tom, it - every now and then it will jump in and have just a little bit of data and just a couple of beeps and then it gets bad again. How much trouble would it be to switch biobelts to Vance's that you tried today?

ACDR It would take about 15 minutes to get down there and get to the bottom of those lockers down there. I'll go get one.

CC-H Okay - -

ACDR (garble) altogether.

CC-H I don't know what else to do, Tom. Since you've already invested this much time, maybe what we ought to do is go ahead and start our DSE dump and get his biobelt and then towards the tailend of the ATS pass we still have 40 minutes left of the ATS pass maybe we can try again a little bit later.

CC-H So if you would do that - -

ACDR All right.

CC-H Okay. Why don't you do that and when you're squared away again, let's try it again.

ACDR Okay. I'll go change out with Vance.

CC-H Okay. Thank you.

DMP Hey Dick. I recollect the data I got was no good either. Is that right? In other words you don't like my belt?

CC-H Deke, let me check with the surgeon. Stand by just a second.

CC-H Deke, about all we can say was we did not get very good data on you in the first exercise period, but we don't - I don't have any reason to believe that it was you biobelt. It may have been

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instrumentation leads, but at any rate we did get good exercise data on Vance. I'd say your belt is an unknown at this point.

ACDR Sorry Dick. We're getting things unravelled here. Look - this morning Vance was in a hurry and he used my belt. Now what happens - when we take this exercise, the only way you could hold yourself down using this thing - you put a big strap across your waist. And it's right where that biobelt is and you're putting a hell of a strain on it. Over.

CC-H Roger, I copied and I'm not sure what to - to respond - stand by just a second.

ACDR (Laughter) We expect this - Vance used my belt this morning, it was good but he used it quite a while and I'm sure my data was probably pretty good, but again, that big strap goes right across where that belt is. There's no way to avoid it using this exercise to hold yourself down, over.

CC-H (Laughter) Roger. Stand by.

CMP So it was good this morning.

CC-H Okay. Copy.

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ACDR Hello, Dick.
CC-H Yes, Sir. Go ahead.
ACDR Okay. I got Deke's bio belt here in his accessory bag, and I'll start changing it out. Vance used mine because his was stowed away someplace, he couldn't get ahold of it this morning. I can't remember right now, at this period in time, but he's all set up on the SAM pass, so I'll take Deke's and that'll give you a data point anyway.
CC-H Okay. That's -- I was just getting ready to call you and to try that. It turned out that there was some problem in getting good data on Vance this morning. We ended up getting a good pass, but it just may be that your belt does have some sort of a short in it and I guess we can prove it if you'll take the trouble to put on Deke's and let us look at that.
ACDR I'll put it on now, but I can't really put out. The exercise we're taking here with this big shoulder strap and leg strap -- and you have to tie yourself down or you'll flip all over the place. And that's the big belt you wear, and you slide up and down, and that bio belt gets rough with it all the time. Over.
CC-H Okay. Why don't you -- I copy and why don't you go ahead and put on Deke's and let me know when you're ready.
ACDR In work.
CC-H Okay.
DMP Say Dick.
CC-H Go ahead.
DMP Yeah. On this Sam sunrise, you want to go back to normal cutoff time, 1 minute, right? Instead of 3 minutes?
CC-H No. As a matter of fact, I just got an input that on this one we wanted to let the camera run out of film. We wanted to use it all up.
DMP Okay. (garble)
CC-H Okay.
DMP Okay. I'll just let her rip.
ACDR Okay, Dick. I'm on Deke's BIO belt, but don't say anything, because it distracts the SAM. You can just look at it for awhile.
CC-H Okay.
CMP Mark, zero.
CC-H Okay.
GMP MARK. Intervalometer ON.
CC-H Roger.
CMP One minute.
CC-H Roger.
CMP MARK, 3 minutes.
CMP Okay. I guess that's it.
CC-H Okay, Vance. Thank's a lot.
CMP Roger.

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CC-H Apollo, Houston. Tom, we have seen no data since you called me before that SAM pass started. I think you did tell me that you have on Deke's belt, and I assume you have not changed the leads.

CC-H Apollo, Houston. How do you read?

ACDR Loud and clear.

CC-H Tom, I'm not sure if you copied me there. We are not getting data. I'm assuming you do have on Deke's BIO belt and I'm also assuming that you did not change the leads. Is that correct?

ACDR That's affirmative. I thought you read me when I talked to you there before, Dick. Sorry, didn't you hear me when I said I changed them out and had everything hooked up.

CC-H Yeah, I heard you, and then I kept quiet through the SAM pass, and I was just verifying what configuration we're in, because we are not getting any data at all now.

ACDR Okay. The only other thing I can think of is going to be the comm carrier, and I'll change out a comm carrier and that way I'll have changed out every component. Except both leads, which I doubt are bad.

CC-H Yeah. Understand. Okay. We'll stand by while you do that then. I think we're gonna -- we have 20 more minutes left in the ATS pass, so why don't you do that and call me back, and if we don't have any luck there, we'll probably just give it up for now.

ACDR Okay.

ACDR Okay, I'm hooked up to Deke's helmet, and his comm lead, and I'll be hooking up the belt.

CC-H Okay. We're looking at the data.

ACDR Okay. I'm hooked up and on another belt.

CC-H Okay. Incidentally, I meant to call. If Vance has not already done the VERB 49 maneuver to the sleep attitude, we want him to delay that just to make sure we kept this ATS pass since we have a good lockup now.

ACDR Okay.

CMP Okay. We'll hold it.

CC-H Okay. Thanks.

ACDR Okay. I'm on Deke's comm lead, Deke's belt, and my sensors.

CC-H Apollo, Houston. We just picked up biomed data. I don't know if you did anything different in the last 10 seconds or so, but we have it now.

ACDR Negative. I haven't done a thing since that time I told you I was hooked up on Deke's biomed.

CC-H Okay. I recommend that you not start exercising here for a few minutes and let's see what happens to the data. Maybe we can troubleshoot a little better while we have it.

ACDR Okay.

ACDR All right.

CC-H Okay, Tom. We've gotten a little bit of data here

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while you're being still. We'd recommend you go ahead and start exercising, and if we -- if we lose it when you do start exercising, we're going to knock off the drill at any rate. So why don't you go ahead and do your exercise period now.

ACDR All right. Okay. How do you read me?

CC-H Loud and clear, Tom.

ACDR Okay. I'll start.

CC-H Okay.

CC-H Apollo, Houston. For Tom - Tom, if you're still listening, as soon as you started exercising we -- or shortly thereafter, we did lose data. We still have about 5 minutes left in this pass, so anytime you're ready to quit, we'd recommend knocking it off when you're ready - before LOS - and we'll watch - if we do get data back, at least we'll be able to watch you recover.

ACDR Okay. I just stopped exercising when you called me there.

CC-H Okay. Real fine, Tom. And we're getting good data again, as soon as you stopped.

END OF TAPE

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CC-H Apollo, Houston. Wnace we think you may - we think you may have missed a jet or two in the configuration there. How about rechecking it again? It's in the flight plan at 157 plus 57.

CMP Okay, it says inhibit all jets except D1, B2, and C - -

CMP Okay, that's better -

CC-H Okay, it looks - -

CMP It was a standard one, but I though you were t to get me into some other configuration, and I couldn't figure it out. Okay.

CC-H Okay, and we're pretty slippery down here. Yea, we - we agree with it now. Looks good.

CC-H Apollo, Houston. Tom, the biomed data is noisy. One thing that the surgeon would like you to do is just not change the leads, of course, but first press them, and see if that improves the quality of the data.

ACDR Okay, what did you want me to press?

CC-H Just press the leads - that are attached to you, and see if that improves the quality of the data.

ACDR Alright, here goes the ground lead, PRESS. Sternum lead, PRESS. Lap lead, PRESS. Lap respiratory lead, PRESS. Right lead, PRESS.

CC-H Okay, Tom, Flight said to just sit still here for a couple of minutes and the examination will be all through.

ACDR Alright.

CC-H Tom, Houston. Thank very much for putting up with us. We got enough data there to satisfy the objective I hope. At any rate even though we didn't get any while you were exercising, we're about 5 minutes to LOS. So we're going to switch to a DSE dump mode. So thank you much.

ACDR Okay, Dick. Roger. Do you read me okay?

CC-H Yea, I'm reading you loud and clear. And also for Vance, now that we've got that, I guess that we can go ahead with the VERB 49 maneuver.

ACDR Roger.

USA Okay, see you later.

CC-H Apollo, Houston for Deke. We see the - SAM shutdown going on Deke - or already having gone on. The - just a reminder, be sure and get the furnace ops before you eat if you would, because of you're sort of on a thight time schedule there.

DMP I'll pass the word on.

CC-H Okay, thanks.

CMP Houston, Apollo.

CC-H Go ahead.

CMP Say again what you want Deke to get done - before - he eats

CC-H Oh, we just - wanted we - we saw this furnace was not

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operating, but he was doing the SAM shutdown. Just wanted to remind him to be sure and get the furnace before too long, because it is sort of time critical.

CMP Okay, he's gonna have a word with you.

CC-H Okay.

CC-H And Apollo, Houston, while Deke's coming on the line there we're two minutes to LOS. Goldstone comes up at 158 plus 39.

DMP Okay, Dick, I'm on the air here. What was it that you were talking about?

CC-H Oh, Deke the experiment ops are looking at his data, and saw that you were in the same shutdown which was fine. But, he had not seen the furnace ops. Are the furnace starting up yet? And just wanted me to remind you to not miss that because there is a little time critical, before you all start eating.

DMP Okay, - yea, we've been scratching around here trying to find flash attachment for the video pictures for the SAM, and - would they be happy if we shot them with the same kind of stuff that we shot the crystal growth (garble) 100?

CC-H Roger. We're going to have to - we're about to go LOS here Deke. And I'll be back with you at Goldstone, 158 plus 38-9.

DMP Okay, we'll go to the furnace, and forget the video.

CC-H Okay.

PAO Apollo Control ground elapsed time of 158 hours, 18 minutes. Loss of signal through the ATS-6 satellite as Apollo concludes - nearing the end of it's 96th revolution. The Apollo crew in their eat period for this evening. Commander Tom Stafford just concluding a rather - rather bothersome exercise period trying to get one of several biomedical harnesses on board to work properly in order that the flight surgeons here at the Mission Control Center could receive his biomedical responses to an exercise period he was performing in the docking module. Sleep period begins tonight at ground elapsed time of 160 hours, a little more than an hour from this time. Wake up call in the morning will come at - 166 hours and - 168 hours or 7:20 in the morning central daylight time. At ground elapsed time of 158 hours, and 19 minutes, this is Apollo Control.

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SPEAKER There will be an Apollo announcement in 10 seconds.
PAO Apollo Control. Ground elapsed time 158 hours and
38 minutes. Acquisition coming through Goldstone tracking station.
We'll bring the line up for CAP COMM, Dick Truly.
CC-H Apollo, Houston. Through Goldstone for 4 minutes.
ACDR Roger. Read you loud and clear.
CC-H Okay.
ACDR Sorry to have to miss that Soyuz splashdown party where
the group is going tonight.
CC-H I'm sorry. I'm missing it too as a matter of fact.
ACDR Well, I'm sure that Crip, George Evans, and a few
others involved represent you real well there.
CC-H Well, as a matter of fact, - - You still there, Tom?
ACDR Yea. Go ahead.
CC-H Okay. As a matter of fact, George just walked in.
He's sitting right here. So, he claims he didn't go to it. He says
he played a softball game.
ACDR Oh, I see. Tell him hello.
CC-H Roger. George says hello. He also says Nukowshi (?)
says hello.
ACDR Thanks. Thanks - - (Laughter)
CC-H Roger.
DMP How do you read?
CC-H Loud and clear, Deke. And I was just getting ready
to tell you if you never did find the flashgun, we'd be satisfied to
take those photos with a crystal globe setup.
DMP Okay. Yea, I find in experiments also that there's only
room for about one guy working up in that DM. So, kind of keep that in mind
when you got somebody up there trying to do something that they can't do
anything else.
CC-H Okay. I'll - I will, Deke. And you were very
weak and might put the mike closer to your mouth.
DMP Okay. That's all I had anyway.
CC-H I guess you're just winding down at the end of a
long day.
DMP (Garble)
ACDR And, Dick, whenever you get a chance, did you get
much information - I guess on status of all experiments. Evidently
they - the helium glow and UV are coming along real good, but the
x-ray's the one that's having the problems. Over.
CC-H That is affirm, Tom. And since you asked the
question, the e experiments officer is putting together a little history
on what we've done on x-ray and where we stand now and where we think
we're going. And this evening before we go to bed I'll have it for you.
ACDR Rog. Real good. Thank you.
CC-H Okay. And we're about 1 minute from LOS. I'll
see you at Quito in 158 plus 51.
CMP See you later.
CC-H Okay.

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CC-H Apollo, Houston. Quito for 5 minutes.
ACDR Hello, there.
CC-H Hello, there again.
ACDR We're still eating chow here, Dick.
CC-H Well, good. Enjoy it. We - we had Chinese
food this evening, courtesy of Al Long, who is in - in the EECOM back
room. So, you enjoy yours and we're standing by.
ACDR Okay. That sounds great.
CC-H It was.
ACDR Oh, Dick. One thing. Over.
CC-H Go ahead.
ACDR Yea. When you dump that tape tonight, the fish in
the docking module?
CC-H Yea.
ACDR Yea. Be sure you show Glynn Lunney -- Vance, anyway,
shot a picture of the docking index cycle. Be sure you show that to
Lunney.
CC-H Okay. We'll be sure and do it.
CC-H Apollo, Houston. We're 1 minute from LOS. We'll
see you when you get locked up on ATS. And if you guys are still eat-
ing, I've got some news for you, if you'd like to hear it.
ACDR Yea. We'd love to hear it.
CC-H Okay. When we get locked up on ATS, Tom, I'll be
prepared to read it up to you.
ACDR Alrighty. Thank you.

END OF TAPE

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CC-H Apollo, Houston through the satellite.
CC-H Apollo, Houston. We're AOS through the ATS.
ACDR Got you, Dick.
CC-H And we need ACCEPT so we can get up the evening loads.
And we're just too late to catch the P52, so we'll need that data.
ACDR You got ACCEPT now. We have the data.
CC-H Okay.
ACDR Alrighty. Star 1, 01; star 2, 41. NOUN 05, all zeros,
plus 110, minus 107, minus 26. Torqued at 159:01:50. Over.
CC-H Okay, Tom. I've got that and I've got the news, if
you'd like to hear it.
ACDR Okay. Wait until Vance gets down here so he can hear
it.
CC-H Okay. Fine. We're certainly in no hurry to read it
up, but I've got it here when you get ready.
ACDR Okay. Sounds great.
ACDR Ah, things are going great up here. It's just been
kind of a busy day.
CC-H Sure has. I'll agree with you.
CC-H We're very satisfied down here, too, and I've got
this - some data on the science status as of tonight, and I'll have that
to read to you also.
ACDR Okay. Real good.
CC-H Apollo, Houston. During the P52 we drifted out of
attitude a little bit. We'd recommended doing a quick VERB 49 maneuver
back to the same attitude and tweak it up, and then we'll finish up our
uplinks.
ACDR Roger. Doing it right now.
CC-H Okay. Thanks a lot.
ACDR Okay Dick. Vance is back. He's changing the LiOH
canister, but he's on the headset, so you can go ahead and give us the
news and science status. Over.
CC-H Okay. First of all, why don't I - -
ACDR I'll get the VERB 49.
CC-H I'm sorry. Go ahead.
DMP I got this VERB 49 going.
CC-H Okay. Real fine. Thanks a lot, Tom. Why don't I
give you the science status first, and then I'll read you the news. The
current status of the X-ray is that one of the two CAL sources is stuck
within the field of view. We are able to operate for short periods of
time. By that I mean about 30 seconds to a few minutes. And we believe
the problem with the high counts is in the high voltage section, some
type of leakage, either in the high voltage supply or inside the detector
itself. We do plan to do revs 104 and 105 tomorrow with some mods to the
pads, and these mods, essentially, will have you to turn on the high
voltage ON and OFF during the pass, similar to what you did tonight in
the X-ray tests. And the reason for that was, is the longer it stays on

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we cease getting good data, so we need to turn it OFF and then get it back ON. The PI passed - -

ACDR Okay.

CC-H And the PI passed his word - out to the front room that he thanks you for all the malfunction procedures you have performed. You've done everything short of dismantling the hardware.

ACDR Okay. That's what we're here for.

CC-H Roger. Well, we appreciate it. To review quickly the other service module experiments, the EUV, the helium glow, and the SAM data has been excellent quality, and the PIs are very pleased. On the GEO experiment, we've got about double the planned datas that we had hoped to get, and even with the problems that we have had on X-ray, we have seen at least two sources, so we're hoping to improve on that in the next day or so. The furnace is looking good - -

ACDR All right.

CC-H - - and we're happy with the way the furnace is going, and in general for this, you know, after only being here in the science mode for a couple of days, we think we're getting an excellent science return, and we've got a couple of more days to do even better and we're looking forward to them.

ACDR Sounds real good.

CC-H Okay. Stand by.

CC-H Okay. Here's some news for you. Postal workers won a 3 year contract that will provide scheduled raises totaling \$1,500, over 3 years, plus continued cost of living increases. By the third year of the contract, which covers about 600,000 workers, the additional cost to the postal service will be about 900,000,000 per year. Here's an interesting one that came from a Beirut newspaper today. Egypt - and that newspaper says that Egypt and Israel have agreed to a 3 year truce, under which U.S. troops will operate electronic listening posts in the Sinai Desert and Israel will pull back from key mountain passes and the oil fields in the Sinai, and this came from the Beirut newspaper Al Anwar. A closely divided House of Representatives will vote this week on whether to resume military assistance to Turkey. Both supporters and opponents view the measure as the most important foreign policy vote in this Congress. At Capitol Hill, observers report the most intense foreign policy lobbying in recent years. William Peter Blatty, author of the best selling novel, "The Exorcist," and amateur tennis star, Linda Terraro were married today in Las Vegas. Blatty, 47, and Miss Terraro 23, of New Orleans, were married Sunday. Asked by friends why he decided to marry, he replied, "An angel made me do it."

ACDR In Las Vegas, Huh?

CC-H That's right.

MCC-H (Laughter). Careful, careful.

CC-H In Montreal, six men tried to rob an estimated 10 to 12 million dollars from a Wells Fargo warehouse Sunday, but tripped an alarm and fled empty-handed, police said today. It was straight out of

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Mission Impossible, a police spokesman said, referring to pneumatic drills, explosives, gas masks, and walking-talkies (sic) the men left behind. They were so cool, they stopped and had a Coke from our machine, and even paid for it, the Wells Fargo officials said. I guess they had thought they had all day.

USA (Garble)

CC-H One thing that's kind of interesting that you guys might have some opportunity to look down tomorrow when you're in the right place and see around Key West, an unbelievable oil slick, a hundred miles long and up to 15 miles wide was reported today in the Atlantic Ocean off the lower Florida Keys. The origin of the mass was not known. After incoming pilots reported sighting the huge oil patches in the water off the lower keys, the Coast Guard sent up planes to investigate, they found the slick stretched from Marathon in the middle of the Keys to the Tortugas Islands about 65 miles west of here, a distance of about 100 miles. A Coast Guard spokesman said the slick was formed of an estimated 40,000 to 60,000 gallons of what appeared to be bunker sea or crude oil. On the sports scene, running back Duane Thomas, and tight end Marv Fleming are among the missing veterans in the NFL Washington Redskins camp. Thomas reportedly wants a hundred and sixty thousand dollars for a 1 year contract, while Fleming, signed by Miami before the Dolphins traded him to the Redskins last month, failed to show following a rookie scrimmage with the Baltimore Colts Saturday night. Their opponents were the ones once immortalized by the label, the Amazings, but that label belonged to the Houston Astros, at least for a day. Amazin, it seems, how a team could blow two commanding leads, both coming after two men were out, to lose to the mets 10 to 9 yesterday. And that closes out the news, Tom.

ACDR Okay - -

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CC-H - - coming after two men were out to lose to the
Mets 10 to 9 yesterday. And that closes out the news, Tom.

ACDR Okay. Sure appreciate the latest data down here
on the Earth.

CC-H Okay. It was - -

ACDR The - the - -

CC-H Go ahead.

ACDR Dick, I was just going to comm- comment on that oil slick.
We did have one (garble) might have been an opportunity to see it, but
that whole area was cloud covered was at quite an oblique to us. If we
get a better position tomorrow, you might give us a little lead time - or
maybe some morning (garble)

CC-H I'll do that, Deke. I'll pass the word down the
line and tomorrow Crip might - we'll give you a call if you've passed
close by and let you look out the window and see if you can see
it.

DMP Okay.

CC-H We've got about a half an hour before bedtime. I
don't know what y'all are doing, but whenever you get ready I've got
three or four things that I wanted to read up to you. And also I
could get the pe - presleep battery readings and so forth.

CMP Sounds good. Got a little free time here, Crip.
Will you need to copy into - I mean, Dick.

CC-H That's okay. Okay, I need in the presleep, I need
the battery readings and I've got some changes early in the morning
in the flight plan at a time of about 168 hours.

DMP Stand by for the batteries. I got it covered up with
my food tray right now. I'll give it to you in a little bit.

G CC-H Okay. No problem. I'll remind you.

CMP Just a note of interest. You remember how the toes
of slippers used to wear out on crewmen in Skylab?

CC-H Roger. I sure do.

DMP Same thing's happening up here. It's kind of amazing
too because we don't really have things to - to stick our toes into.
But mine completely come out into full bloom and Deke's are starting
too.

CC-H Roger. Copy. Yes, I do remember that.

CMP Okay. What page, Dick?

CC-H It's about at tomorrow morning at a time of about
168 hours. The page number's 4.3-43.

CMP Okay. Go ahead.

CC-H Okay. First of all, at - at right up there at the
top in AC's column. That P20 maneuver in preparation for the Earth
resources again, I want to change NOUN 78, the center values, to read
plus 06 three balls instead of plus 09 three balls.

CMP Okay.

CC-H And below that, under the DP's column, about 10
minutes down, the high gain. I want to change the angles to read pitch
minus 4, yaw 311.

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CMP Minus 4 and 311.
CC-H Okay. If you'll turn to page at 170 hours. I want to change those pitch angles & those high gain angles there in the DP's column to read the same - pitch minus 4, yaw 311.
CMP Got it.
CC-H Okay. If you've got that, Vance, if you'll turn back a couple of pages. This is during the rest period. At about 167 hours, you might - this is the same thing as last night. Incidentally, what we're doing is we're giving up a couple of ATS passes during the evening that we don't need, in order to save some propellant for the satellite. As you know it's got 2 CM -- CMG that's lost. You will have no ATS capability during that pass at 167 hours, so that contingency comm attitude that's listed there is no good to you. And the same is true on the previous page at 165 and a half hours.
CMP Okay. Got it. CMG's can be big problems as I recall.
CC-H Me too. Okay. One thing we wanted to verify and that was that you haven't changed the configuration in the docking module that I had you go to last night. And that is go to the reference to VACUUM and the low pressure relief to AUTO to back up to cabin pressure relief.
CMP Stand by. I'll ask around.
ACDR It's all the same.
CMP No - no one has touched it.
CC-H Okay. Good. We do want to get a waste water dump tonight. What we'd like to do is two things. We'd like the potable tank inlet to OPEN. And we'd also like to dump the waste water for 4 minutes.
DMP Okay. and we'll leave the potable open after that and let it accumulate in the - or flush through the potable tank in there.
CC-H Okay. And if - and we're watching our data now, so if you'd go ahead and start that waste water dump, we'll be able to watch it with you - with you, and again that's 4 minutes.
CMP Okay, 4 minutes.
CC-H And if you'll give us a MARK when you start, we'd appreciate it.
CMP Okay.
CC-H And, I've got one more thing in front of me. And that is I'd like to read you up a block data pad and updates for rev 123.
CMP Just a second, Dick. Be right with you.
CC-H Okay.
CMP MARK, on the beginning of the waste water dump and we're opening the potable inlet.
CC-H Okay. Real fine.
CMP Okay. And go on.
CC-H I - I have an up - a block data pad for you in the updates book.