

ASTP (USA) MC450/2
Time: 16:25 CDT, 129:03 GET
Date: 7/20/75

CMP Okay, I'll pass that on to him. He's up there right
now.

CC-H Okay, also Vance, he's got a TV press coming up and
we would appreciate verifying after he does that press - - that particular
camera light comes on make sure that it is operative.

CMP Okay, I think the prep's probably done now, I'll
check.

CC-H Okay.

END OF TAPE

ASTP (USA) MC451/1

Time: 16:34 CDT, 129:12 GET

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ACDR Houston, Apollo.

CC-H Rog. Go ahead.

CMP Okay. The camera's set up. The prep is like I said.

It has been completed. But we had a question. During Tom's exercise period, why do you think you would need a comm cable?

CC-H This is the one we were supposed to do on biomed.

It's noted out for - got him under - to don the obs there at about ;29:45 or so.

CMP Okay.

CC-H One a day.

CMP (Garble)

CMP Yeah, Okay.

CC-H One a day. And this is his day.

CC-H For your information, Vance, tomorrow's your turn in

the vil(?).

CMP Oh, okay. I'm looking forward to it, Crip.

CC-H Okay. We'll just spread it around here.

END OF TAPE

ASTP (USA) MC452/1

Time: 16:44 CDT, 129:22 GET

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PAO This is Apollo Control. At 129:31 ground elapsed time we're still 16 minutes away from loss of signal through AT56 satellite. Toward the end of this revolution as Apollo spacecraft comes across the Hawaiian Island chain, the first of two scheduled Earth observations will be made. Starting at around 130 hours and 5 minutes visual observation sites at Hawaii will be for observing upwellings in the sea, biowaves and island wakes. And later in that same ground track as the spacecraft crosses the Pacific Northwest of the United States, snow peaks on mountains in Oregon and Washington as well as glaciers will be observed.

CC-H Vance, we still got, oh, 18 more minutes of night here but we assumed that should have finished up with that purge about now and we just wanted to make sure that we got the cover closed on it before we go out in the sunlight.

CMP I'm still - after turning the purge switch, I waiting ten minutes and I sort of assumed that that was for the case of when you turn on the high voltage power but not being sure, I thought I'd wait ten minutes anyway. Guess I could have asked. Okay to close it now, I assume.

CC-H It's okay to go ahead and close it and I - you assumed correct about the - the wait there. One other item, whenever you get a chance to it after you do that I have the updates for the DET times for rev 79 and 80 when you can get the supplement out.

CMP Okay, stand by. Why don't I close the cover first?

CC-H Okay, no rush.

CMP Okay, ready to copy.

CMP Houston, Apollo.

CC-H If I could talk on the right loop I could get up to you. For the DET time for rev 79, Vance, it's 130:36:36. And we are planning on doing that x-ray pad and seeing how our data looks.

CC-H Apollo, Houston. Did you copy that time, Vance?

CMP Roger, I did. Yeah, excuse me a minute but what do you mean by DEP time there? I guess I just don't find the right spot or it doesn't- -

CC-H Okay, I'm - it's the time that we set the DET timing up to - up there at the top, which is your sunset time.

CMP Oh, okay. I thought you said - very good, I thought you said DEP. Very good, I got it. And we'll go ahead with it.

CC-H Okay, fine. Also now the time for the EUV pad, and this is that rev 80 contingency pad I had you dig out while ago. I'll wait till you get that out.

CMP Right.

CC-H Okay. It's 1 - 132:05:27.

CMP Okay, got it. 132:05:27.

CC-H Okay Vance, then- -

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CMP The first - -
CC-H Sorry, go ahead.
CMP And the first one was 130:36:36.
CC-H That's right. 130:36:36. That is correct. Vance,
one item here I ought to remind - I just thinking about looking at all
pads as much as we're running this DSC and we're not around you just like
to remind you that, course everything you say on inter comm, we're managing
to be able to get ahold of since it's recorded on the DSE for us.
CMP Okay, thanks for the reminder. We'd probably forget.
CC-H I know I would.
ACDR Crip, how do you read me?
CC-H Loud and clear, Tom. Go ahead.
ACDR All right- -

END OF TAPE

ASTP (USA) MC453/1
Time: 17:03 CDT, 129:40 GET
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ACDR Cripp, how do you read me?
CC-H Loud and clear, Tom. Go ahead.
ACDR All right.
CC-H AC, Houston. We're reading you loud and clear.
Go ahead.
CC-H Apollo, Houston. Do you read, Tom?
ACDR Loud and clear, Cripp. Loud and clear.
CC-H Okay. We're with you anytime you want to talk to
us. Still got you for about - oh 6 more minutes here.
ACDR Okay. I got the Biomed on and I'll start doing some
exercise.
CC-H Oh boy, I bet that's fun.
ACDR I've waited all of five days for this.
CC-H (Laughter) Okay. I'm glad you're finally getting
to it - -
ACDR Not the - not the exercise, I'm pulling on that
wonderful harners.
CC-H I suspected that was what you were talking about.
CC-H Okay. And for a reminder on that we - we're not
looking at live data now, Tom and we will need the DSC on to - to re-
cord that.
ACDR DSC on - you mean the VTR, the DSC or what?
CC-H Tape recorder.
CC-H Apollo, Houston. Tom, I'm informed that we've got
a little show and tell scheduled here, so - and unfortunately with
our data recording plan and dropping it, we're going to need you to
delay starting that exercise and we'll have to get it on DSC and VTR
as what - as planned right now after we leave Hawaii and that's not going
to be until about oh - .5, almost 30 minutes from now.
ACDR Beautiful. It's all right, Crip.
CC-H I thought you would appreciate that.
ACDR Every little thing helps, Cripp. (Laughter) Like
Alley Oop and Slayton to the trees - a - a - ah!
CC-H (Laughter) If you say so.
CC-H Apollo, Houston. We are about to lose you here
through the ATS and one item we need is on the UP TELEMETRY switch on
panel 230. We need to go back to CENTER UP TELEMETRY position please
and we'll see you in about 2 and a half minutes at Orroral.
ACDR Okay.

END OF TAPE

ASTP (USA) MC454/1
Time: 17:13 CDT, 129:50 GET
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CC-H Apollo, Houston. We're talking on VHF at you through Orroral. It's only a little over a minute here and our next station contact is going to be at Hawaii in 15 minutes. That's 130:07.

ACDR Okay, Crip.

CMP Okay, and Tom would like to know when he should start the exercise. Right. I presume, as scheduled at 130:15. Is that right?

CC-H That's approximately correct. We're going to be rewinding the DSE when we go over the hill at Hawaii and you're going to have to wait until it's rewound by looking at the talk-back. And when that happens you can have at it.

CMP Okay. When the DSE talk-back's barberpoled he'll have at it.

CC-H That's affirm.

PAO This is Apollo control. Loss of signal through Orroral Valley tracking station. Hawaii in 13 minutes. We're making a broad estimate of change of shift briefing with offgoing flight director Frank Littleton for 6 p.m. central time in the main Auditorium. As that time firms up, we'll pass the word. 12 minutes till Hawaii. At 129:54, this is Apollo control.

END OF TAPE

ASTP (USA) MC455/1

Time: 17:28 CDT, 130:06 GET

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PAO Apollo Control. Ground elapsed time 130 hours 6 minutes. Acquisition coming through the Hawaii tracking station in 45 seconds. We'll bring the line up for CAP COMM Bob Crippen.

CC-H Apollo, Houston. AOS through Hawaii for 6 minutes.

ACDR Okay, Crip.

CMP Okay, Crip.

ACDR Okay. I'm exercising away up here in the docking module, Crip. How long do you want?

CC-H Oh, I'm afraid that I loused you up there, because what I was trying to tell you while ago, we wanted you to cut it when we went LOS from Hawaii, not from Orroral.

DMP Only another 20 minutes, Tom, that's not bad.

ACDR (Laughter) Okay. Well, we had a tape motion STOP, so we thought that was it.

CC-H Sorry about that. I just didn't make myself plain. We're still in the process of ex - can you tell us what you - you started the DSE, is that right?

CMP Yeah. About 5 minutes ago.

CC-H All right, The - You've already started it. You can go ahead and press on and we'll go ahead and get it. Are we getting VTR also?

CMP That's right.

CC-H Okay. That's fine. No big problem.

CC-H Apollo, Houston. Tom, we've actually - if you've been going for as long as you said there on exercise, we've got an adequate amount, and we'll just go ahead and take the tape recorder and rewind it and set it up for our next pass. And you can do what you like regarding further exercise.

ACDR Okay. I'll go here about 4 or 5 more minutes. You want us to rewind it or do you want to command it?

CC-H We'll go - we'll - -

CC-H Rog. You can press on and we'll go ahead and handle the commanding of the DSE.

ACDR Okay.

CMP And Crip. Just for general interest, it looks like the Pacific is just full of eddies. Great big eddies. We see them a lot. And we think they eddies because there are giant cloud ringed areas that sort of make you think the water there is either hotter or colder than the rest.

CC-H Rog, Vance. Any estimate on size, diameter.

CMP Well, we'll give you some. They're all many sizes. We'll try to give you some maximums and minimums here shortly.

CC-H Okay, fine. Also, we would be interested in some further comments regarding the attitude that you've got right now for this vis ops pass. I know Tom commented on it this morning and we were looking and trying to do something different. However, it doesn't appear to be too easy right now, and we were wondering maybe

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It's just a matter of getting used to it a little bit.

DMP Well, I'll tell you. We just passed Hawaii, and got zero for two reasons. Number one, it's cloud covered over the island that we're looking for, and secondly, it's too far to the north, and don't know - this attitude is probably not the greatest. But I hesitate to recommend a better one right at this point.

CC-H Okay. We're still looking at it. A little bit reluctant to come up with attitudes because of a different attitude that we haven't really wrung out, like we have what we got, but we're not getting the data with what we got. We'll press on and continue to look at it.

DMP Well, this is a good attitude to acquire things in you know, you see them coming up, which is good. The problem is that we're really rotating along here, and once it gets into view where you can shoot it with a camera, you go by it in about 5 seconds.

CC-H Rog. Understand. We're about 30 seconds from LOS. And our next station contact will be through Newfoundland in 15 minutes. See you there at 130:28.

DMP Okay.

PAO Apollo Control. Ground elapsed time 130 hours 14 minutes. We've lost the signal through Hawaii. Next acquisition will be Newfoundland in 14 minutes and 12 seconds. Vance Brand describing to CAP COMM Bob Crippen, the observation of - he sees a lot of eddies in the Pacific. He said the Pacific is full of eddies. We see them a lot. Makes you think that the areas are hotter or colder. This is a phenomena that was first observed during the Skylab program, and the crew has been asked to observe and photograph and describe these oceanographic phenomena, which were discovered during the Skylab program. Next acquisition will be through Newfoundland at 13 minutes and 30 seconds. At ground elapsed time of 130 hours and 14 minutes, this is Apollo Control.

END OF TAPE

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Time: 17:49 CDT, 130:27 GET
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PAO Apollo, Control. Ground elapsed time 130 hours, 27 minutes. Acquisition coming through Newfoundland in 55 seconds as the crew of Apollo continue to perform the scientific experiments aboard the Apollo spacecraft with command module pilot, Vance Brand, and commander, Tom Stafford, performing the x-ray experiment while docking module pilot, Deke Slayton, works on preparations of the television camera. Opening the line up for cap comm Dick Truly.

DMP Houston, Apollo.

CC-H Go ahead, Deke.

DMP Okay, Dick, we just finished on Earth obs here, and talked to Crip about the Hawaii one. We hit the Washington (garble) line and we did get a few pictures of that area and have accomplished our effort there. And we've been doing a little bit of experimenting since then. We've managed to strike in 10 degree down pitch towards the horizon and we think we can tolerate about another 20 to get us into better viewing attitude for Earth obs. Problem we've got here is that we can't wait to much stuff above the horizon and out to the horizon which is of no value to us at all. And when we get over the target we don't even get above it and it's already disappeared through the window. We're having a real tough time here with this Earth ops attitude.

CC-H Okay, Deke. Copy, I did copy your conversation with Crip awhile ago. I've been here for about the last hour.

DMP I guess we propose to try another 20 degrees adjustment in pitch.

CC-H Now, you mean a total of 20 of a total of 30?

DMP (garble seem to do much - it was just obviously an improvement.

CC-H Deke, Houston. The only confusion I have on - on what you said was that - I thought you said that Vance has already tried about another 10 degrees down and then you mentioned the 20 degrees and I was wondering if you thought that a total of 20 degrees for the pitch down or a total of 30 for the pitch down would be about as much as you could stand.

DMP I'm talking a total of 30. We tried 10 and we're still looking at a lot of stuff above the horizon. So we think another 20 on top of that might be about right.

CC-H Okay, why don't you let our guys think about that Deke, and we'll get back to you.

DMP Okay. Thank you.

CC-H Deke, Houston. You got a minute to talk?

DMP Yes, (garble).

CC-H I tell you what, we're gonna look at the - we have another Earth ops pass coming up down here in just a minute and if we can gin up a new number for you before this Ascension pass, maybe we can update this upcoming P20 and you can give that a whirl and let up know how it turns out. For your information, it's printed in the flight plan

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but we're - we have no ATS coverage this pass and - due to the attitude constraint.

DMP Okay. Yeah, we would have raked(?) in the 10 degrees adjustment but we only have ten minutes of Hawaii to west coast and we didn't think that was enough to start experimenting.

CC-H Okay.

CC-H Apollo, Houston. We're about 1 minute from LOS at Newfoundland. I'll give you a call at Ascension at 130 plus 46. That's about 11 minutes from now.

PAO Apollo Control. Ground elapsed time 130 hours, 36 minutes. Loss of signal through Newfoundland. Next acquisition in 9 minutes and 47 seconds will be Ascension tracking station on this revolution number 79. The Apollo spacecraft will pass over Australia and the crew will be asked to again perform earth observation experiments. Again looking at the Lake Eyra region, the salt flats of Australia and they'll be asked to vis - observe and compare this region of Australia to the Niger river, the Fals(?) delta and also take stereo photographs of the desert Erosion and dune patterns in this region of Australia. And as the spacecraft crosses over the coast of Australia, they'll be asked to describe and photograph any suspended sediments off the coast of north Australia and also take stereo photographs of the great Barrier Reef. Again they'll will be asked to observe any water eddies that they may observe in the Coral sea. And on this pass as they go through the Pacific, they'll be asked to photograph and describe cloud pattern which they may pass over. On a previous stateside pass, Vance Brand described to the ground that he had observed the - the Pacific ocean was full of eddies and he said we see alot of them, and this is part of the exper - ob - earth observation experiments program, which was instituted during Skylab. Next acsqisition in 8 minutes and 13 seconds through Ascension at ground elapsed time of 130 hours and 37 minutes, this is Apollo Control.

END OF TAPE

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Time: 18:33 CDT, 131:10 GET

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PAO There will be an Apollo announcement in 30 - -
PAO Apollo Control. Ground elapsed time 131 hours and
10 minutes. We have approximately 2 minutes and 40 seconds of tape
made through the Ascension pass during the change of shift briefing.
We'll play that now. Next acquisition will be through Orroral Valley
in 12 minutes, and we'll bring that station up live. We'll play the
tape from Ascension now.
CC-H Apollo, Houston. Ascension for 4 minutes.
CC-H Apollo, Houston. Ascension for 4 minutes.
CC-H Apollo, Houston. Ascension for about 3 and a half
minutes.
ACDR Roger. We read you Crip. (Garble).
CC-H Rog. And I've got a update to the up coming P20
for this Earth obs attitude, Deke, if you'd, you'd like me to update
that flight plan.
DMP Okay.
CC-H Okay. It's at 131 hours and 15 minutes.
DMP Roger.
CC-H Are you ready to copy?
DMP Roger.
CC-H Okay. There's a NOUN - this one change. The NOUN
78, VERB 7- VERB 25 NOUN 78, I want to change the middle number to read
plus 06000. And that'll end up the three numbers will be plus all balls
plus 06 three balls, plus 18 three balls. Over.
DMP Okay. Tom (garble).
CC-H And if you copied that, due to the data that we see here
on the experiment, Vance, from the x-ray, we got a change in the pad we
want you to do. Right now we would like - okay. We'd like x-ray H high
voltage power to OFF, now, down on panel 230. And I've got one write-in
for you at 29 minutes.
CMP Okay.
CC-H And the write-in is just write-in there x-ray
high voltage power to number 1 at 29 minutes. The rest of the pad re-
mains exactly as is.
CMP Okay. Part of your save the wear and tear program?
CC-H No. I'll tell you what it is, we don't think we're
getting good data on the x-ray. There's a very important target down
there at 29 minutes. We're going to turn the high voltage power OFF
now and turn it back to number 1 at 29 minutes and the rest of the pad
will make it all work. The reason we're not changing any of the interim
part of the pad is we're also getting EUV data. Over.
CMP Okay. Understand.
CC-H Okay. Great.
CC-H Apollo, Houston. We're about 30 seconds from LOS.
Orroral Valley comes up at 131 plus 22. See you there.
CMP Okay. See you there.
CC-H Okay.

END OF TAPE

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CMP Hey, we're going over the Simpson Desert right now. And it's just fantastic. It's got dunes in it, it looks like, that are very long and they look like - -

CC-H Apollo, Houston. Orroral Valley for 3 or 4 minutes.

CC-H Apollo, Houston. On VHF through Orroral Valley.

How do you read?

CC-H Apollo, Houston. Orroral Valley.

USA (Garble)

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

ACDR Clear, how us?

CC-H I get a loud background noise every now and then, Deke, but I read you loud and clear.

ACDR This is Tom but the new attitude is lots better.

CC-H Hey. Very good. I've got a couple of things for you. First thing - I just - since I didn't talk to you about it, I'm assuming that Crip had told you, do not activate the primary evaporator where it said in the flight plan and one came up there a few minutes ago. I just wanted to verify that you didn't do that.

ACDR That's affirmative. We left the evaporator OFF completely.

CC-H Okay. Fine. And you can delete that. There's a couple of more places between now and the end of the day where it appears, and just pass those over. Also, I've got one change to the upcoming EUV pad that you're going to be doing on rev 80.

CC-H Apollo, Houston. Do you read?

ACDR We're shooting pictures like mad. Stand by.

CC-H Okay. I'll tell you what. Let me just talk and you guys keep on. The - and I can get the rest of it up to you later. We're about 30 seconds from Orroral Valley. At the start of the x-upcoming EUV pad, delete X-ray ops, delete x-ray ops at 55 minutes. I'll tell you the rest of it later.

ACDR Delete X-ray ops at 55 minutes.

CC-H That's affirmative, Tom. See you later.

PAO Apollo Control. Ground elapsed time 131 hours and 29 minutes. Loss of signal through the Orroral Valley tracking station. Next acquisition will be through Rosman tracking station in 31 minutes and 53 seconds, as the crew of Apollo concludes their day's activities. Just completed is a pass over Australia, during which time docking module Deke Slayton performed visual observations of sand dunes and desert features in central Australia, as well as oceanographic features on the north coast, specifically the Great Barrier Reef. Next on the agenda is leg volume measurements of the three crew members. This is an ongoing experiment for the flight surgeons here at the Johnson Space Center. The crew is to perform the EUV X-ray Experiment again this evening, and then the docking module height measurements. This is designed to provide data for the next manned spaceflight program, the Space Shuttle. The principal investigator for these experiments is Dr. - Bob - Bob Johnson of the Johnson Space Center. Next acquisition will be in 30 minutes and 35 seconds. At ground elapsed time of 131 hours and 30 minutes, this is Apollo Control.

PAO Apollo Control. Ground elapsed time 131 hours 59 minutes. Acquisition coming through Bermuda tracking station in

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1 minute and 30 seconds. In about 45 minutes from now, the crew will perform the height measurements of the crew. In space it seems that when the crew members are beyond Earth's gravitational forces, a crewman grows taller, and the purpose is to measure the crewmen in various in sitting and standing positions. These measurements will be used for the Space Shuttle program. The principal investigator for this program here at the Johnson Space Center is Robert Ward - Bond, excuse me. Bob Bond of the engineering and development directorate here at the Johnson Space Center. We'll have acquisition in 40 seconds. We'll bring the line up for Cap Comm Dick Truly.

END OF TAPE

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PAO Apollo Control, ground elapsed time 131 hours 59 minutes. Acquisition coming through Bermuda tracking station in 1 minute, and 30 seconds. In about 45 minutes from now, the crew will perform the height measurements of the crew. In space it seems that - when the crew members are beyond the Earths' gravitational forces, a crewman grows taller - and the purpose is to measure the crewmen in various modes and sitting and standing positions. These measurements will be used for the Space Shuttle Program. The principal investigator for this program here at the Johnson Space Center is Robert Ward - Bond excuse me Bob Bond of - the Engineering and Development Director here at the Johnson Space Center. We'll have acquisition in 40 seconds, we'll bring the line up for CAP COMM Dick Truly.

CC-H Apollo, Houston. Bermuda for 6 minutes.

CMP Hello, Richard. How you doing?

CC-H Hi, Vance, how are you? I got cut off there but - I'm sorry I was interrupting you guys while you were taking pictures during that Earth Resources pass. I think I got up the delete x-ray ops for this pass at 55 minutes. I have one more change.

CMP Okay, go ahead.

CC-H Okay, down at the tail end of the pad is a time of 34 plus 55. I want you to do - in addition to the EUV power down, I want you to do an x-ray contingency power down procedure. It's in the experiments checklist page 1-24. It's about a 6 or 7 minute procedure.

CMP Okay, I've got it. Seem to recall that from one of our sims.

CC-H Yeah, we're doing our best to get to see if we can understand what's the matter with the x-ray. And we're going to sleep - after you do the x-ray contingency power down we're going to sleep with it in - in that configuration.

CMP Roger.

CC-H Also Apollo, I have one change to the flight plan at about 32 - excuse me, at about 132 hours and 30 minutes or so. I want to delete the waste stowage vent valve to vent.

ACDR Okay, Dick, we have that.

CC-H Okay, thank you, Tom.

DMP And, Dick, as far as the last Earth ops is concerned I think that attitude is much better than the previous one. We'll keep running with it.

CC-H Okay, real good, Deke. We'll take that input and crank that into our planning for all the - all the other pads that are coming up.

DMP Okay.

CC-H I mean all the other passes that are coming up.

DMP I think they're still a little bit maybe fast, but it gives you a chance to look at them fast in nadir, which we couldn't do before.

CC-H Okay, well why don't we try that approach for a while?

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And if - if you have any other suggestions just give them to us and we'll try to help you out.

DMP Well we kind of wish we had more film. It's very discouraging to have to stay within a film budget with this many - rest of the things to shoot.

CC-H Roger. Understand. Record them in your mind.

DMP Unfortunately, we have no other choice.

CC-H Roger.

ACDR Houston, Apollo.

CC-H Go ahead Tom.

ACDR Okay, Dick, down in that - again in that same area - about 32:34 - it says activate primary evaporator - do they still want us to leave this off?

CC-H That's affirmative. Delete that there were it says activate primary evaporator. And that's the last one of the day. We're going to leave it off.

ACDR Okay, we're going to leave it off all night huh?

CC-H That's affirm. We're about - and Tom we're about a minute from LOS. Ascension comes up about 10 minutes from now at 132:19. See you there.

ACDR REal good.

CC-H And for the pad, we'll probably get locked up on ATS before we get Ascension.

ACDR Roger.

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ACDR Houston, Apollo. How do you read?
CC-H Apollo, Houston. Tom, I read you loud and clear.
How me?
ACDR Okay. Are we locked up on the ATS?
CC-H Yes we are, Tom. We're talking through the satellite.
ACDR Okay. I'll go ahead there and go to the stop re-
wind, and command reset.
CC-H Okay.
CC-H And Apollo, Houston. When somebody gets a chance,
on panel 230 request UP TELEMETRY switch to RELAY.
CMP Rog. Tom's getting it right now.
CC-H Okay.
CC-H Okay. We've got our command in. Now on panel 230
requests UP TELEMETRY back to UP TELEMETRY position. That's the center
one.
CMP Roger.
CMP Holy mackerel! Why did the music stop?
CC-H Sounds like you guys are having a party up there.
We thought you were working on this EUV pass.
CMP Well, we - we're trying to do both, we'll see how
it works out.
CC-H Roger. Hey, if Deke is listening, I have a com-
ment on his comment about the film.
CMP Okay. Stand by.
CC-H Okay.
USA (Garble)
ACDR Deke - Dick, he's inventorying the film. We'll
just wait a couple of minutes on it and then we can talk to him.
CC-H Well, I tell you what Tom, it wasn't that big of
a deal and I can just pass it on to you. He was commenting about the
frustrations of having to live within the film budget when you saw so
many things out the window on good passes that you'd like to record.
I'd just wanted to remind you and make sure you hadn't forgotten that
there's four film magazines listed in the Earth Ob's book under film bud-
get on page 5-1 there. Four - there listed as Hasselblad PAO
magazines. They're your choice as to what to use them on. The numbers
are CXO 6, 7, 8, and 9, located in B5.
ACDR We've already used those.
CC-H Roger.
ACDR One thing that we do have as a reserve and we are get-
ting quite a bit of things on targets of opportunity, is the little Nikon.
CC-H Roger.
CMP No Dick, there's no party. We're just playing
a little music to make the computer in the spacecraft feel at ease.
CC-H Roger. Understand, Vance.

END OF TAPE

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CMP Houston, Apollo.
CC-H Apollo, Houston. Go ahead, Vance.
CMP Dick, right now, Tom's doing the contingency power
DOWN, and there's a step that says - let's see - it says X-ray
cover OPEN. Verify." and of course it's closed, and he wonders - wants
a little advice on that.
CC-H Okay. We do want to open that cover, Vance.
CMP Okay.
ACDR Okay, Dick. Everything is done except the closing
the X-ray cover. We're in that 5 minute wait after the X-ray low voltage
power ON.
CC-H Okay. Real fine, Tom. And we'll be watching you too.
Thanks a lot Tom.
SPKR Thanks.
ACDR Yes.

END OF TAPE

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CC-H And Apollo, Houston. We're getting ready to start a dump now that you're through with that pad (garble)

CMP Please repeat, Dick.

CC-H Okay, I was gonna tell you that I might drop out for a second because we're getting ready to start a dump, but I dropped out in the middle of what I was saying because we starting the dump and now I'm back up.

CMP Okay.

CC-H And Apollo, Houston. Vance, when you get a minute to listen, I had a comment to you about what you told us about the eddies that you saw out on the Pacific awhile ago.

CMP Okay. All right, yeah, go ahead.

CC-H Okay. Farouk is here and we were talking to him, the question that he had that you might notice on the future passes over the Pacific if you see the same thing was the color and the texture of the ocean down between the clouds and he's interested there mainly in the sea surface conditions and not just the clouds. Thought you might - I have some news sometime later on this evening that I'll have available if you'd like to hear it. There's one item in here that I thought I'd read to you. It says an earthquake which struck an area off the western Pacific today prompted a tidal wave alert for parts of Hawaii but was later cancelled. The University of California Seismographic Laboratory at Berkeley reported that an earthquake registering a 7.7 on the Richter Scale occurring at 7:50 a.m. Pacific daylight time and they were centered in the region of the Soloman Islands. The - for your information the Solomans are about 2000 miles to the southwest of Hawaii. We did check with our recovery weather people just a minute ago and it turns out that they have not seen any tidal wave action as a result of the earthquake either at Hawaii or at Quadland.

CMP Yeah, that is interesting. We've been flying repeatedly over that area of course but I don't know if you can see something like that from up here.

CC-H Roger. Yeah, you're not going to be flying over direct area here in the next pass or so. I just thought you might be interested in that one.

CMP Yeah, that is very interesting. After our last conversation I took distance mea - or size measurements on a few of the eddies we've seen and seems like a typical size is 10 to 15 kilometers in diameter.

CC-H Okay. Copy.

USA But we have seen some giant ones that would be tens of kilometers so we'll try to look at them more closely in the future and see what the sea state looks like.

CC-H Okay, thanks alot, Vance.

USA Right.

ACDR Okay, and Dick, do you want us to maneuver this VERB 49 to our solar inertial plus X4 sleep attitude now?

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CC-H Stand by on that just a second, Tom. Please.
CC-H Tom, in answer to your question. As soon as you
get the x-ray cover closed after your five minute wait, yeah, go ahead
and do the maneuver.
ACDR Okay, ATS is coming up right now.
CC-H Yeah, I marked it too and I noticed it was very
close to that.
ACDR Okay, that x-ray cover is closed.
CC-H Okay, fine, tom. Incidentally, while I'm talking
to you and we're talking about maneuvering, I wonder if I could have
a second. It appears that we're developing an unbalanced in the propellants
in quads Alpha and Charlie and we think we can stop this imbalance
trend by changing the one jet configuration on panel 8. And that is
in the roll jets, what we'd like to do is turn Bravo, correction, turn
Delta 2 to main A and then turn Bravo 2 to OFF. And of course if
you needed to get back to the nominal configuration, due to some problem,
or forgot what it is, those little decals that mark - that's pointed
toward B2 would remind you which ones it was. And incidentally - -
CMP Okay. Understand, Dick. We'll - would you like
to have us do that right now ?
CC-H Yeah, what we'd like to do is go ahead and put
D2 to MAIN A and B2 to OFF. And incidentally for your information
we're not going to have to be switching these back and forth. This
configuration is good for the SIM BAY experiment.
ACDR Okay, good. We have a Delta 2 ON and Bravo 2 OFF.
CC-H Okay. Real fine. Thanks a lot.
ACDR Dick, where are we now? We heading across Africa?
CC-H No, you're - on ATS ending pass, you're just
crossing the coast of south western Australia. And then you'll be, of
course, crossing Indonesia then you'll get another long pass over the
western Pacific.
ACDR Okay. Sometimes it's hard to remember where you're
at - you're in and out playing with the UV attitude all the time.
CC-H Roger. Well, you guys move so fast, I'm not surprized.
ACDR Okay, we'll maneuver the solar inertial attitude.
CC-H Okay. Fine.
CMP Hey, Dick, you still there?
CC-H Yes, we're here. Go ahead.
CMP Okay - -

END OF TAPE

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CMP Hey, Dick - are you still there?
CC-H Yes, we're here. Go ahead.
CMP Hey, we're going over the Simpson Desert right now, and it's just fantastic. It's got dunes in it - it looks like - that are very long, and they look like road tracks, there're so many of them - like hundreds of parallel road tracks. And we'll commen on it in our usual fashion with the onboard tape recorder but -
CC-H Yea, okay, thanks alot.
USA Just plain spectacular.
CC-H Roger.
ACDR There's a long red streak that matches about the color (garble), I would say, on an orange wheel.
CC-H Okay. Thanks a lot for the input - wish I could see it myself. Dino, and I are whipping out our color chart, and seeing what color it is ourselves.
CMP This is one of those cases where there was light coming in the window falling on the color chart. That made it easy to use. Sometimes when it's in the shadow, it's hard.
CC-H Roger. Understand. Incidentally, if you ever do have a question about the chart or any comment on it we've got one here at the console that's just about identical to yours, I think.
CC-H And Apollo, Houston. We're a couple of minutes from LOS. I'll give you a call at Guam at 133:01.
CMP Okay, understand..
ACDR And some of those long streaks - those long sand streaks could have even gone to the - between 9 and 10.
CC-H Okay, thanks Tom. Is it - could you differentiate 9 or 10 A or B? They dark or light?
ACDR When the Sun gets on the wheel where I can see it, it was more like 9.
CC-H Okay.
USA I'm sorry. Okay. Be about like 9A.
CC-H Okay, thanks a lot.
PAO Apollo Control, ground elapsed time 132 hours 58 minutes. Loss of signal through the applied technology satellite. Next acquisition in 3 minutes and 15 seconds will be through the Guam tracking station. Vance Brand's comments during this pass on the view out the window as he was performing the Earth observation experiment - visual observation experiment on the Australian Simpson Desert. Commenting that the - it was a fantastic view that the dunes in the Simpson Desert looked like hundreds of road tracks. Commander Tom Stafford adding his comments referring to the color wheel. Wheel in about ten inches in diameter with various colors that they hold up to the window to match the color that they see from their spacecraft. This is one of the landsights that the crew has been asked to photograph and describe on the tape recorder onboard the spacecraft.
PAO In less than ten hours from now, Soyuz will splash down at its landing spot near Karaganda in the Kazakhstan(?) Republic of

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the Soviet Union. When Soyuz makes its - fires its retro rockets, Soyuz will be in the center of the south Atlantic Ocean, and Apollo will be slightly behind, approximately 200 miles behind Soyuz at the time. Apollo will be approximately 1000 miles south of the Ascension Islands, and about 1680 miles east of Rio de Janeiro. Apollo will be trailing Soyuz 407 nautical miles at the time of retro fire. And when Soyuz splashes down, or lands, in Karaganda, the command and service module will be approximately 660 miles southeast of Tokyo in the Pacific Ocean. Next acquisition will be in 1 minute through Guam. We'll hold this line up for the last pass through Guam for the evening, as the crew finishes out their performance of the scientific experiments and begins preparations for their eat period and presleep period. They are scheduled to bed down for the night at 13⁴ hours and 45 minutes, or approximately 1 hour and 45 minutes from now. We'll hold the line up for CAP COMM Dick Truly.

CC-H Apollo, Houston. Guam for 7 minutes.
ACDR Okay Dick and right over this area, you can mark the GET's a whole series of eddies - maybe 15 to 18 kilometers in diameter - just clumps of 'em.
CC-H Okay, copy.
USA We're using the Nikon to shoot it.
CC-H Okay.
CC-H And Apollo, Houston. We'd like ACCEP'T please, and we'll get - get up the evening loads here, the new state(?) Vectors().
ACDR You got ACCEP'T.
CC-H Okay, thanks.
ACDR Houston, Apollo.
CC-H Go ahead Tom.
ACDR Okay, we'll get these height measurements later on. We're getting such good - Earth observation data here, we'll just delay that. You'll get it on the VTR.
CC-H Okay, whenever you get a chance. From now until bedtime, as far as flight planning goes, it's mainly your time. So just be sure and get it, please.
CC-H Apollo, Houston. The computer is yours. You can go back to BLOCK.
ACDR Roger. Back to BLOCK.

END OF TAPE

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CC-H Apollo, Houston. We're 1 minutes from LOS Guam.
Rosman comes up at 133:32. See you there.

ACDR All right.
Okay.

PAO Apollo Control. Ground elapsed time 133 hours and 8 minutes. Loss of signal through Guam tracking station. Next acquisition will be in 23 minutes and 15 seconds through the Rosman tracking station. As Sky - Apollo crosses the north Pacific on an ascending track, trailing behind Soyuz. Following a very vivid description by Command Module Pilot, Vance Brand, of the Simpson Desert, an out to window view as he photographed the Simpson Desert, he described the vivid colors. Dr. Farouk El Baz, one of the principal investigators of the Vis Ops program aboard Apollo, said that the Simpson Desert is one of the most reddest deserts in the world. And the desert apparently has a lot of iron in it. The iron has oxidized, giving it its vivid red color. The purpose of these Vis Ops programs is to study the Simpson Desert and compare it to the equatorial deserts to - versus high latitude deserts throughout the world. Next acquisition in 22 minutes and 5 seconds through Rosman. At ground elapsed time of 133 hours and 9 minutes, this is Apollo Control.

END OF TAPE