

SKOB

AC

CRYC

Jim, On TPS for Installing & Leak Checking F/C Simulators - have completed up to step 60. Following steps may be copied per matam off the old TPS's. Suggest you find a typist to copy rest of TPS as listed below. If unable leave for me later.

TPS (Current)		Copy	Para #	of	OLD TPS
Para #	61	"	# 21	of	TPS # 11 page 5
	62	"	↓	"	" " " "
	↓	"	"	"	" " " "
Para	67	"	# 27	"	" " " "
	68	"	# 41	of	TPS # 12 pg 1
	↓	"	"	"	" " " "
	↓	"	"	"	" " " "
Para	103	"	# 16	"	" " " "
	104	"	1	of	TPS # 14 pg 1

Paul M.

2nd 4-23-68 (xferred from 101 Log)

~~4-24-68~~

1) New Road map is under Gene's blotter.

3rd 4-24-68 (xferred from 101 Log)

1) The c11-000413 & c11-000416 is needed again which are located in Bldg. 289 Dept. 659.

Mr. B. Dorsett signed out for them Jan. 68 Junction Box & cables. (B)

1st shift 4-24-68

1) TVAR #13576 written to correct pre-test set up of the SCAT-066

2) Bill Howard in the TER group is chasing the c11-000413 and -416. He is trying to come up with the adapter connector used in calibrating the -413.

See what you can find out from Gw Castillon on 2nd shift X-6877.

3) Contacted E. Hatfield Re changing st 1518-001 from level 2 to level 1 cleanliness.

4) SCAT-049 about ready for use.

3rd Shift 4-25-68 (B)

Worked on verifying equipment ect called out in Section I of OCP 1518 TFO all stamps from the stacks OCP to the proposed copy on the inspection form Section I is approx 75% complete.

4-25-68 T.T.R.L. CAT I'S 1700 hrs.

1. STE ACCUM. TPS 1
2. PERFORM SECT I TPS 2
3. VBT TPS 003 (H₂ SHELF CLAMP) SOLD 1710 hrs
4. OCP 10030 TPS 16 SOLD
5. OCP 10058 TPS 13 SOLD

ALL-286 IS IN 289 NEED FOR SEQ 53 → COULDN'T FIND THESE
SCAT 066 FT IN BME SEQ 45
SIG COND SEQ 00616 CAT I (IN CALIB?)
SCAT 049 SEQ 10 → ON 3rd LEVEL NOW.

STATION CALL TIME - MAY BE FRIDAY SOMETIME.

1) MANY problems on Section I of 1518.

I'm told by BONDERS that some agreement has been made to forget about installing vacuum pumps in 1518. Therefore TV 06676 WAS INITIATED. TO DELETE VACUUM PUMPS IN FIG 1-1 SHTS 3 & 4

- 2) N₂ FILL (FCP) Q.D. IS MISSING FROM VALVE-BOX
- 3) NEED BRACKET TO HOLD Q.D.'S (GML) FOR SUPPORT AT O₂ TIC 1 & 2 Q.D.'S & OR & OP.

WCHyam

4) DIDN'T HAVE TIME TO WORK BECAUSE I HAD TO READ SC101 FC BOOK, SC103 FC BOOK, ~~SO~~ SHORT I.L. BOOK, FC-CR40 INFO BOOK & NEW PROCEDURES BOOK, HOW ABOUT THAT? TOO BAD DR BOOK WERE EMPTY.

3rd Shift 4-26-68 D.H. Newman

- 02:45 HRS
- 1) wrote TPS-OCP-1518-003, to perform Section II of OCP - per direction of CIC & 3rd shift supervisor:
 - 2) Continuing to work of section I, of OCP-1518-

OCP 10030 TPS 16 - SOLD
 OCP 10058 TPS 13 - SOLD.
 SCAT 049 Section 4.2 - SOLD.

Pre-test Status: @ of 05:50 hrs.

Items not accounted for on Station 2c.....

4.2 & 4.3

C11-000413 - in Bldg 289

C11-000416 - in Bldg 289.

SCAT-066 - ? BME OR L&T

A14-286 - @ Bldg 289

A14-286 CABLES - Bldg 289 (4 cables)

TK-1518-001 - WNZ Supply TESTKIT ASSY.

Note: Concerning C11-000413 & C11-000416:

C11-000413 & C11-000416
 When we get to seq 14, we are to notify CIC & CTC & TER group who will go out to Bldg. 289 and pick up both the C11-000413 & C11-000416 c/o. units. after seq. 23 we are again to ~~notify~~ notify the above people types and they will deliver them back to 289.

A14-286

associated
 Cable sets

A14-286 Boxes & Cables: when we get to sequence 048, we are again to notify CTC, CIC & TER, who will run out to ^{Bldg.} 289 & deliver the boxes to stock for use in seq 50- - -.

SCAT-066.

SCAT-066 (is presently over in h&T for calibration)

07:45 -

TP. 8.0, 8.1 a, b, c. Solo.
 TP. 9.13. in work

4/26/68-HUBER

ALL S/K 103 TPS'S TO AUTHORIZE RUNNING OF AN OCP SECT. II WILL BE WRITTEN AS FOLLOWS:

1. VERIFY NO CAT. I, CONSTRAINTS TO SECT. II.
2. PERFORM SECT. II.

Must be included.

Huber

1st shift

- 1) Cables were connected to the SCAT-049 and sold to QC.
 The J17 adapter has not been connected as yet due to 5/c power down problem.
- 2) cryo/FC QD'S have been installed and sold to QC.
- 3) Adapter cable is located on pile of cables next to the SCAT-049.

The following should not be considered constraints to starting Section II:

1. The SCAT-066 hook-up
2. the ST-1518-001 hook-up.
3. the C11-000413 and C11-000416.
4. the Vac-Ion pump test set (286 Box?)

2ND 4-26-68 +2307

- 1) OCP 1518 - SEQ 06-008 DR 92136 ITEM #1
REF: SCAT 049 AC PWR CABLED
 { SCAT-049-311-P2 TO J31
 { SCAT-049-305-11-P2 TO J74
 → CLOCKING INCORRECT - WILL NOT MATE

2) RECONFIGURED TO ~~PROCEED~~ REPEAT SEQ ~~06-008~~
06-000.

3) Went into an indefinite hold for SCAT-049

4) CTC GAVE OK TO REMOVE AC PANEL FROM SCAT-049 WITHOUT INFORMING STC OR ANYONE ON THIS CHANNEL. WE WOULDNT HAVE KNOWN OF THIS CONDITION IF QCS WOULDNT HAVE BEEN KIND ENOUGH TO INFORM US THAT IT WAS BEING CARRIED OFF BY THE STACK. Nice work.!!!

START VOICE TAPE - when back in OCP.

DR 74207 A FOUR

3RD Shift 4-27-68 D.H. Newman

01:30 AC PANEL REWORK (SCAT 049), IS BEING COMPLETED.
AS SOON AS SQK #1 IS WORKED REF. SUB DR 74207A.
WE WILL RECY

01:40 I HAVE JUST BEEN NOTIFIED BY CTC THAT AN ARCING HAS OCCURED AT LEVEL 3 SECTOR 4 ON J-31 CONNECTOR.

04:20 SUMMARY OF PROBLEM:
GSE ENGINEER DIRECTED TECH THAT HE WANTED TO SEE THE WHAT THE PROBLEM WAS.

HISTORICAL:

THE OCP ON SECOND SHIFT, PROCEEDED TO SEQ 06-008 WHEN SCAT-049-311-P2 TO J31

AND SCAT-049-305-11-P2 TO J74 COULD NOT BE MATED. PROBABLE CAUSE IMPROPER CLOCKING, DR#1 WAS WRITTEN AND TER ENG. WAS ON STACK WORKING ON SUB DR 74207A AGAINST THE SCAT-049-(REF ABOVE PROBLEM)

AT SEQ ~~06-008~~, DR-1 STEP 1.2 ALL SCAT CONNECTORS WERE REMOVED.
SIC CONNECTORS REMATED PER STEP 1.3

WE THEN PROCEEDED TO SEQ 06-009 AND RAN THE OCP THRU SEQ 06-014, PWR. UP SIC SO THAT OTHER TESTS COULD CONTINUE, WHILE "TER" FIX SCAT CONNECTORS

OCP-1518 - HOLDING PENDING FIX OF SCAT CONNECTORS - AT APPROX. 01:40 HRS I WAS NOTIFIED OF ARCING - IT HAS BEEN DETERMINED THAT THE FOLLOWING OCCURED.

- 1) UNAUTHORIZED DEMATE OF J-31 WAS ACCOMPLISHED BY SMT ON VERBAL REQUEST OF "TER" ENGINEER. (NO ARC)
- 2) ARCING OCCURED, BY ACCIDENTAL CONTACT OF J31 ~~WITH~~ WITH SCAT 049-311-P2.
- 3) THE CONNECTOR J31 WAS THEN REMATED WITH P31 - UNAUTHORIZED BY STACK SMT. (NO ARC)
- 4) CONTROL ROOM CTC & STC NOTIFIED AFTER THE FACT.

- 5) AN INCIDENT REPORT BEING PREPARED BY SPE & CHIEF OF OPERATIONS, AFTER A MEETING WAS HELD TO DETERMINE WHAT HAS TAKEN PLACE, ALSO THE MANAGER ^{WAS} BY THE CHIEF —
- 6) DR #2 WAS WRITTEN, TO DOCUMENT THE PROBLEM —

PLAN OF ACTION:

- 1) TAKE PHOTOGRAPHS OF GSE & SIC PRIOR TO PWR. DOWN
- 2) PWR DOWN SIC & DEMATE J/P31
- 3) TAKE PHOTOGRAPHS OF J/31 AFTER DEMATE.
- 4) INSPECT J/31 TO DETERMINE THE EXTENT OF DAMAGE:

DR #1 ~~4~~ WRITTEN AGAINST EPS BOOK (V37 TALK), INDICATES THAT PIN LITTLE K DAMAGED.

NOTE: CTC, EPS etc. ARE RUNNING THE SHOW.

IT SHOULD BE ~~BE~~ KNOWN THAT ALL PERSONELL WERE INSTRUCTED NOT TO DEMATE CONNECTORS — BY STC — AS A MATTER OF STD. OPERATING PROCEDURE.

05:30 EPS SUPERVISION REMAINS T/S J31 —

06:00 AS PER V37 WIRE LIST. PIN K PROVIDES PWR TO HZ SYS. A CRYO MOT. SW. PWR.

06:00 ALSO PIX X - 0 DISCLOSED - NO DR AS OF YET.

→ NOTE: IN LOOKING OVER SEQ. 06. THE PWR. DOWN SEQ AS WRITTEN LOOKS LIKE IT IS INSUFFICIENT IN AS MUCH THAT IN SEQ 04-002 WE CLOSE

F/C 1 BUS CONT CB
F/C 2 BUS CONT CB
F/C 3 BUS CONT CB

WITH THE ABOVE CB'S CLOSED, WE ARE STILL ALLOWING ^{REMAINS} BATTERY BUS POWER TO REMAIN ON J-24, J-25, J-27, J-28, J-29 & J-31, J-74 & J-75

EPS - HAS SUBMITTED TEST VARIANCES, WOULD YOU REVIEW THESE PLEASE.

→ A.C. PANEL RESISTOR REWORK CONNECTED & COMPLETED & AC PANEL REINSTALLED

~~APRIL 29th 1968, 3RD SHIFT:~~

~~0200 hrs - 1) BEEN READY TO TEST SINCE 00:30 HRS, CONTROL TYPES UNABLE TO SUPPORT.~~

~~2) 03:00 hrs. - Ready for Station Call:
DR#1 - Sold NAA & NASA
DR#2 - Sold NAA & NASA, SUB DR#77 Sold.
DR#3 - Sold NAA & NASA
<~~

4-27-68 1st shift

1) Note: If powering down the S/C on your shift per instructions in OCP-P-1518 be ~~sure~~ to include the additional steps of turning off Bus Control CB's, Cryo breakers and the Quantity Amplifiers.
Ref: TVAR #13650

2) The GSE-J17 adapter cable SCAT-049-312 has now been installed. Ref. Paragraph 9.14.

3) Ask J. Burbridge to sign TVAR #13650. It is clipped to the CEE log.

4) As of 15:00 hrs there are (4) SCAT-049 connectors that must be changed in order to be compatible with the S/C. This is in work.

5) DR#2 CHECKED P-27, P-75 AND CLOCKING DID NOT MATCH GSE SCAT 049 CABLES AND DR#3 WAS WRITTEN. P-27 AND P75 WERE VERIFIED MATED 426-8 TO SCAT APARENTLY FORCE/MATED. THE TOTAL OF 4 SCAT CABLES ARE BEING REWORKED AT 1600 HRS (4-27-8) (J-27, J-31, J-14 & J25) AFTER REPLACEMENT COMPLETED DR#3 S/B CLEARED AND DR2 NEEDS INTERIM CONCLUSION BEFORE ENTERING OCP.

CONNECTORS J-24, J25, J28 AND J-29 WERE CHECKED (DR#2) AND VERIFIED CLOCKING COMPATABLE TO MATING GSE CABLES. J-31 PIN K WAS REPLACED AND VERIFIED CONTINUITY.

4/27/68 2nd

1) DR#1 & DR#3 Cleared less

NASA OC.
2) The sub DC on DC#2 must be cleared prior to power up & OK to proceed in test.
b) Also use DC#2 for power up paper work.

3) Currently at hold for safety certification to power up space craft (0035)

4) Completed Seq 06-008 at 0025.

Paul

3rd Shift April 29th 1968 -

1) Been Ready to test since 00:30 hr. Control Room type cannot support due to a lack of shop types

2) 03:20 hr:

DR#1. Sold NAR & NASA.

DR#2. Sold NAR

Sub-DR#17 Sold NAR & NASA

We are proceeding into test @ 03:30

Accomplished seq 06-15 thru seq 10:004
 Received DR A92203 Item #4:
 as Sig sel phase ABC Rotation Light -
 Sig sel Neutral Light -
 AC Voltage indication
 could not be verified:

Trouble shoot the problem & discovered
 that the O₂ TK #1 - switch position
 indicated as manual & auto, on ac
 control panel are reversed -
 requesting temporary identification of
 same and also a DR against
 the unit, indicating the problem has
 occurred in the SCAT-049 Test Book

Sub DR # A94018 Item #13 has been recorded in
 the SCAT-049 Test Book.

Back into test @ 07:45 hrs. 4-29-68-

1st SHIFT APRIL 29 1968

OCP-P 1518 S/C 103 SEQ 10-006 CONTINUED
 @ 0810, FOLLOWING SHIFT TURN OVER

2nd Apr 29 1968 -

- 1) Started testing Seq 16-005 up
 to Seq 16-009.
- 2) TVAR 13633 initiated to power
 down for mating cables which
 was not included on the OCP.
- 3) We are now in a hold for OCP 1115

NOTICE

TO GET BACK INTO TEST, PROCEED AS FOLLOWS:

- 1) ON DR # 6 #92213, Recycle to SEQ 16-007
- 2) PERFORM TV 13633
- 3) AFTER YOU GET BACK THRU SEQ 06-009, Sell
 DR #6. GO, GO, GO MF

~~We are~~

Wesley

4-30-8 1ST SHIFT

RETURNED TO OCP AT 1030 HRS SEE TV 06677
 FOR FINAL CONFIG TO ENTER OCP AT 16-009 →
 ON TV 06677

PERFORMED CII-000413 & 416 REMOVAL
 AND CONNECTION OF O₂ TK #1
 CYCLED TO SEQ 22 AND PERFORMED
 THRU 22-013 (TVASHEET 2)

(PRESENT CONFIG OCP AT 22-013)

IN HOLD FOR OCP 1115 FOR AC CHECKS AT
 SEQ 8, 9 & 10 AT 1130 HRS 4-30-8.

START VOICE TAPES (ACR)
 (TGS)

AFTER 1115 POWER UP & CONTINUE WITH
 22-020 THRU 23-010 THEN PREPARE (TV13586)
 I RUN ONLY TVAR TO RECYCLE TO 16-000
 THRU 21-010 AND 24-000 TO END OCP.
 SELL DR #6 AT 16-009 RERUN.

NOTE WE HAVE A BLOCK OF TVARS FOR
 1518. IT MAKES IT SIMPLER IF WE KEEP THEM
 IN NUMERICAL ORDER GEORGE.

~~5-1-68~~ 3RD shift: *DJM*

06:30
 5-1-68

- 1) Preparing to resume OCP 1518-A @ 06:30 hrs., as 1115
 is now completing -

5-1-68 3rd Shift:

06:45
5-1-68

2) Awaiting QCC, as soon as one is assigned we will proceed into test -
As of 06:45 we are in a Q.C. hold - would you believe!!
The janitor is presently waxing the floor in front of the Q.C. office - and he won't let them out of the Q.C. office.

06:57
5-1-68

3) We now have a QCC on station - test began @ 07:05

5-1-68 1st shift

OCP-P-1518

1) Completed sequences 22, 23, 16, 17, 18 and part of 19.
TVARS were rewritten to add Inst Breaker 3 and 4 on Panel 276 and the Bus Control breakers on Panel 226 to the power down sequences in sequence 17 and 19.

2) FC Simulator anomaly occurred during Simulator qualification. N₂ Blanket press Transducer remained at operating pressure after N₂ supply pressure removed from the Simulator. Probable cause is failure of N₂ regulator to back bleed. This is not an abnormal situation with the regulator.

5-1-68 2nd Shift

1) Sequence # 19-035 thru # 19-039 open per DC# 8. Continued testing at Sequence # 19-040

2) Cleared DC# 6 & #9

3) Continued onward to Sequence 31-003. Start Seq 32-000 page 2-31-001.

5-2-68 3rd Shift: UNN

01:00
5-2-68

Started seq 32 @ 01:04 - Shift change & clean up. Completed thru seq 36-004 line 00172 @ 04:07. started seq 36-001 @ 01:59

04:51
5-2-68

Seq 36-004 - Received DR# 10 - Unable to connect SCAT-049-410-P5 to SCAT-049-312-P3, apparent problem mislocked connector - DR# A 92205 Item # 10 - also sub DR Item 22, written AGAINST ~~SCAT-049-TAIR 1300K~~ 137-EPB-BOOK, I HAVE REQUESTED THAT THIS SUB DR ITEM #22 BE TRANSFERRED TO SCAT-049-TAIR) # 25 92205-11, 137-Item Transf to SCAT SCAT 049

DR # 26
Not OCP DR

1) ALSO IT SHOULD BE NOTED THAT PHYSICAL I.D. OF SCAT CABLES AS/PER SEQ. 36-001 LINE 00110 - IS I.D. AS SCAT-049-407-11-P2 FROM 548TK4J1 - SHOULD BE: SCAT-049-407-11-P2 FROM 548TK3J1 Q.C. RECORDING DR IN SCAT-049-TAIR BOOK DR# 26

DR # 27
Not OCP DR

SEQ 36-005 LINE 00174: SCAT-049-407-11 FROM SCAT-049-200-110 SHOULD BE SCAT-049-407-11 FROM SCAT-049-200-119, THIS IS ANOTHER PHYSICAL

I.D. PROBLEM, Q.C. RECORDING A DR IN
SCAT - TAIR Book DR#27

05:20 "TER" ENGINEER, AGREES THAT SCAT CONNECTOR
5-2-68 IS MISCLOCKED, HE IS TRYING TO SECURE
ANOTHER CONNECTOR, & WILL WORK SUB/DR ON
STACK - SUB DR ITEM # 25 A92205

NOTE: TV 13595 WAS WRITTEN AGAINST
SEQ 36-005 LINE 00181 TO CORRECT
OCP ERROR ON CALLOUT OF CABLE DASH No.

05:56 OCP 36-00 1618-A IN HOLD AT 05:56
UNTIL APPROX 07:30 HRS. AS "TER" IS
REWORKING THE CABLE, BY CHANGING CONNECTOR.

UPON RESTART OF TESTING - RE-PERFORM
SEQ 36-004, REVERIFY LINE 00172, &
PERFORM REMAINING PORTION OF SEQ 36-004

07:26 THE CABLE HAS BEEN REWORKED, SUB/DR SOLD (A92205-A
ITEM SOLD), STATION CALL HAS BEEN ACCOMPLISHED,
RESUMING OCP @ SEQ 36-005

03:55 SEQ'S 36, 37, 38, 39 COMPLETED
DOWN FOR OCP 8100
STARTED SEQ 40 DR 11 WRITTEN,
TROUBLE FOUND TO BE CB 1 S/B CB 2

DURING THIS SEQ THE LINE SHOULD
TRY ~~SEVERAL~~ 2 OR 3 PICTURES BEFORE
RUNNING THE OCP.
DRY RUN
READ THROUGH THE OCP SEQ 40
BEFORE PERFORMING.

TVAR 13599 SECOND SHEET
WILL PUT THE OCP BACK
INTO PROPER CONFIG. AT SER
40-006

5-2-68 22:06 GOT TO SIT IN POSITION TO BEGIN
TV 13599. NO LUCK OBTAINING PEOPLE

23:13 GOT PEOPLE ON STATION
0000 hrs. OZTKI Film picture not too good
DR#12. SOLD DR12
Completed Seq 40-

5-3-68 3rd shift: WAW

03:15 ① Completed sequences 41 thru 43 - sheets
seq 44 @ 02:20 hrs -

@ 03:15 hrs. SMT performing seq 44-008 -

03:36 Break for lunch.

Completed Seq 44 at 05:54 hrs. prior to completion
of Seq 44 the pre-test verification of Seq 45 was
put in work.

TK1518-001 is being installed. SCAT 079 has to
be relocated because LN₂ tanks cannot be brought
in close enough.

1st shift

5-3-68

- 1) SK 1518-001 Verified to be free of hydrocarbon contamination by taking a Hoke bottle sample through the SK from the Dewar LN₂ source.
The SK 1518-001 has been set up for use and awaits attachment to an OF GHC.
- 2) Found that one of the GHC's supplied with the SK 1518-001 was not an ME 273-0038-0001 as it should have been. TER is trying to get us the proper QD.
- 3) The SCAT-066 was found to have been sampled for hydrocarbon contamination ~~at~~ by an improper spec. It was sampled to 15 ppm total hydrocarbons and it should have been sampled to pass 5 ppm or less for use with the cryo system.
- 4) As of 1641 still in a TER hold.
- 5) TVARS against seq. 50 available in J. Martin's desk drawer.
These TVARS will allow leak checking CSM umbilical interface joints (O₂) if ECS can be configured to support.

2ND

5-3-68

- 1) 2312 resumed into OCP @ SEQ 45 with SUB DR # 4 A92220A in SCAT 066 TAIL SOLD & DR # 13 A92220 OCP 1518 SOLD, which verified 3.8 ppm hydrocarbon.
- 2) SEQ 45-014 noticed that some "CLOD" had opened CB3 & 4 on Pnl 276. ~~Part~~ OCP 4225 has priority but they didn't bother to inform anyone else of their opening CB3 & 4 so we lost our instrumentation. MAKE SENSE? NO! That's parallel testing. Anyway TV 13835 closed them and on we went.
Completed seq 45-

W. J. Martin


5/4/8 3RD SHIFT.

DURING SEQ 46 SOME "OTHER" CLOD TURNED HIS RR TRANSPONDER OFF AFTER WE RECORDED B BUS AMPS. OUR LOAD DECREASED 1 AMP. WHEN THE HEATERS CAME ON WE COULD ONLY SHOW A 3 AMP INCREASE OVER RECORDED START LOAD. RECYCLED AND EVERYTHING WAS OK. H₂ TANK 1 RAW OK WITH NO PROBLEMS. EXCEPT CRYO AMP 1 BREAKEN NOT OPENED. TV 13841 AND PE-2 ON SCAT 066 NOT DECREASED IN OCP WHEN DEPRESSURIZING TV 13842.

5-4-8 1st

08:21 HOLD FOR DR 14 (A 92809), T.V. 13848
 WRITE, & FOR SMT TO GET AN ELBOW TO
 CONNECT HF-2 P.O.D. DISPOSITIONED DR 14, ARGUED
 WITH CLAYTON, LOST THAT ARGUMENT, WROTE
 TEST VARIANCE & WAITED FOR SMT TO
 RETURN FROM BREAK. HE GOT BACK &
 GUESS WHAT. THEN DISCOVERED THAT
 THE STACK FLOOR PLATE CUT-OUT ON LEVEL 3
 FOR HF-1 IS NOT DEEP ENOUGH TO LET ~~THE~~ THE
 P.O.D. FIT. NEED AN ELBOW CONNECTION.
 HMMMM — NOW D/680 STOCKROOM IS ON
 BREAK. WAIT FOR THEM TO RETURN TO
 GET THE PART.

RESUMED TEST @ 48-002 @ 09:57.

12:40 OCP 4225 OPENED CB-3 & ESTIMATED IT
 WOULD BE OPEN FOR A "COUPLE OF HOURS".

GOT CONTROL OF CB-3 & 4 FOR 49-060.

~~PLATE~~ GAVE O.K. TO OCP4225 TO PLACE CB3
 CLOSED & CB4 OPEN @ SEQ/STEP 49-081. FOR
 THEIR SEQ. 07.

QUESTION: T.V. 13650. Q.C. HAS COPY
 OF VARIANCE WITH NO STAMPS. WAS THIS
 PERFORMED IN SEQ. 06 OR NOT? THIS
 MIGHT BECOME A SLIGHT PROBLEM.

! CANNOT FIND ANY RECORD OF PERFORMING TV.
 MAY HAVE DISCONNECTED ~~BAT~~ CONNECTORS
 WITH BAT BUS POWER ON!! (REF TV REASON)

2nd Shift 5-5-68

- ① Worked all shift trying to work out of DR#15 but to no avail. We connected a special ground wire from the 9/c ground point directly and got slightly lower ~~the~~ voltages. Wrote ~~an~~ an interim conclusion which states that it will be necessary to make the measurements as close to the resistors as possible, namely TB 60.
- ② T. Barrera wrote a T.V. which changes the procedure for Seq. 50. A similar T.V. will be required for the H₂ tanks. Ref. (T.V. 13854)
- ③ Wrote T.V. 13855 to SAFE system for powering down. The second part of T.V. will restore system for further testing.

E.D.M.

3RD SHIFT 5-6-8

- POWERED UP PER TV 13855 THEN CONTINUED IN DR#15. READ OUT VOLTAGES SEQ 49-081 USING FLUKE METER INSTEAD OF SIMPSON. ALSO ^{REM READ 36 VDC} RAISED BAT BUS VOLTAGE TO UPPER LIMIT. ALL READINGS EXCEPT J6-HZ WERE WITHIN TOL. J6-HZ WAS 0.055 VDC LOW ON FLUKE. CONTINUED INTO OCP AT SEQ 53. CAT I AGAINST SEQ 53 DOWNGRADED BECAUSE A14-286 S/N 001 USED IN PLACE OF S/N 002 CAT I.
- J6-HZ MAY NOT BE A PROBLEM BECAUSE DURING LAUNCH BATS WILL HAVE 36.7 VDC OR MORE. ENG DISPOSITION NEEDED.

0716 HRS CTC PUT US IN HOLD BECAUSE ECS WAS USING BUS POWER AND WE COULD NOT P/D BUS B

Plus shields were requested at beginning of shift

28 JUN 68

1st 5-6-8

- 1) COMPLETED 1518 SEQ. 54 @ 16131.
- 2) SEQ. 50, 51 PROCEDURE HASSLED OVER, MESSAGED, WRUNG OUT, DRIED, & TURNED AROUND. JIM WROTE T.V. TO ELIMINATE BLAST SHIELDS & SUBSTITUTE USE OF EVACUATING LEVELS 3 & 4 TO SAFE PROTECTIVE RADIUS. THE T.V. GOT UP TO CONTROL ROOM ABOUT 18:30 FOR CEE & NASA SIGNATURES. SOME SIGNATURE THAT LOOKED LIKE H. D. DICK APPEARED FOR SAFETY ENGR. CEE & JOHN BURBRIDGE WONDERED WHO THIS GUY WAS & CEE WENT OFF TO FIND OUT WHO THE HELL HE WAS. THAT IS WHERE THE STATUS QUO STANDS NOW (19:15). IF ALL THE T.V.'S GET SIGNATURES, WE HAVE NO CHOICE BUT TO RUN AS THEY STATE. THE SAFETY VARIANCE NO. IS 13883. NOTE THAT ON THE LAST PAGE THERE IS A PROVISION FOR O.K. TO PROCEED FROM SAFETY.

DON'T LET ANYONE TALK YOU INTO DELETING IT.

2nd Shift 5-6-68

1. Waited until 11:00 p.m. to get started again on the OCP because N.T.D. was sitting on the T.Vars. Got started into T.V. 13854 before shift change.

E.D.M.

3rd Shift 5-7-68 - (D)

RV1 & RV2 IN SCAT 066 HAD THE WRONG CRACKING PRESSURE. RV1 & RV2 WERE REMOVED BY GSE AND TAKEN TO DEPT 098 RESET, RETURNED & REINSTALLED IN SCAT 066. LEAK CHECK NOW IN PROGRESS (Seq 50-015)
17:10

DR 16 WAS INITIATED WHEN WE LOST ALL EVENT LIGHTS. RAN TROUBLE SHOOTING & DISCOVERED LV 16 (PINS 5 & 6) READ LESS THAN 1.2 INDICATING SHORT IN SOLENOID HOWEVER BILL BABIS SAYS IT MAY BE WIRING. PROBLEM TURNED OVER TO GSE FOR T/S.

1st 5-7-8

- 1) COMPLETED G35 LV16 functional chk, gas blowdown on valve box, & hydrocarbon (Hoke bottle) sample @ 15:26 ON DR 16.

When 986Q forms (nos. noted @ 16.43 & 16.46 on DR) come back O.K. go back into the OCP, recycling step 50-015 to reverify regulators & then proceed.

2nd Shift 5-7-68

- (1) Wrote T.V. 13875 to secure the HV-EPS and HR Q.D.'s to the umbilical disconnect A14-019
- (2) Collected 2 DR's on the pressure switch sequences of O₂ tanks because of the limits in the OCP, namely 935 p.s.i.a.

E.D.M.

3RD SHIFT 5/8/8

RELIEVED 2ND SHIFT AT SEQ 50-044
INSTRUCTED SMT TO FIRE UP MASS SPEC
BEFORE THIS COULD BE ACCOMPLISHED
CTC/CIC/TPE ORDERED US TO DUMP
OUR PRESS AND STOP LEAK CHECK BECAUSE
WE WERE HOLDING UP OCP 5056. WOULD YOU
BELIEVE THEY COULD NOT GET INTO THE
SCAT CRIB. (PROBABLY NEEDED A VOISMAN!)
TV 13860 PERFORMED POWER/PRESS DOWN.
REVERSE ORDER WILL PUT US BACK AT
50-044.

1st Shift

- 1) The decision was made by the powers that be to forget sequences 50 and 51 in OCP-P-1518 and go ahead and install the FC simulators. We will try to run 50 and 51 with simulators or fuel cells installed and at some later date - unspecified.
- 2) The TPS to install FC simulators has been hashed over and modified to reflect § 103 and the wishes of NASA. Hopefully it will be pretty clean. The TPS is in the hands of service engineering and is being processed.
- 3) I was not able to find our DR log today. Does anybody know where it might be?

J.N.M.

2nd Shift

- ① This has been a very bad night to get any work done because of a technician shortage. We worked 2 T.Vars to get into configuration and the first 2 steps of the T.P.S. (I got technicians at 7:00 p.m. and at 9:00 p.m. after lunch.)
- ② I had to write a T.Var to remove the bleed valve from OV-EPS Q.D.
- ③ I also had to write a Mod. sheet allowing the use of Sheet 5, Fig. 1-1 instead of the Facility drawing (614-984116)

E.D.M.

5-9-8 3RD SHIFT.

TPS V37-GEN-002

COMPLETED STEP 2 P VALVE BOX CONFIG AT 0330 HRS. LACK OF PERSONNEL AND ALSO LACK OF COM NET. CTC PUT US ON CHANNEL 15 WITH OCP 8018. QUITE CONFUSING.

ONE MINOR PROBLEM WITH VALVE BOX CONFIG. DUE TO LACK OF QC AND "TFO"ING STAMPS FROM CONTROL ROOM ~~TO~~ STACK QC WHERE TPS HARD COPY WAS. MINOR PROBLEM WITH STEP 2K INSERT S/B XOOD FOR R042. (REF STEP 2F) NO MOD SHEET GENERATED BECAUSE OF CONFUSION BETWEEN CONTROL RM. & STACK. HAD TO ANNOUNCE OVER NET 0001 BUT INSERT WAS X001 OR ELSE DELAY UNTIL MOD SHEET WAS GENERATED. I ELECTED TO "FIB" A LITTLE.

DR LOG WAS MISSING LAST NIGHT.

CHECKED CONTROL RM AND QC READY RM.
NOT THERE.

(OVER)

REMOVED F/L TOOL NR 3 F/L POS. (PAGE 5 STEP 4) ^{IN WORK}

NEED TAIR BOOK (1) FOR SIMULATORS
PRIOR TO INSTL. LAST WEEK IT WAS IN TRAILER 177
IN POSSESSION OF LYNN NORRIS OR DUNNAN.
(1 BOOK FOR ALL SIMS UNDER V37-450001 INSTL.)
GEO.

1st shift 5-9-68

- 1) I asked you where the DR log was
- 2) Installed Simulator in position #2.
In the process inspection investigated the removed "christmas tree" and squawked it for contamination and bad flares.
We are attempting to get the one from S/C 106 (I doubt if we will).
The lines in the spacecraft and the Sim. interface parts are capped. Purge pressure is still up.
- 3) Simulator TAIR book was in the inspection cubby hole on the stack on level V just North of S/C 103.

2nd shift 5/10/68

- 1) We have 12 DR's on the distribution manifolds for contamination and bad flares
- 2) They removed the manifold from S/C 107 and are inspecting the tubing. At this time I do not know the status of it.
- 3) They are MR routing the tubes with the bad flares and cleaning the tubes which were taken out of S/C 103.

E. J. M.

3RD SHIFT 5/10/68

THE XMAS ASSY WAS OBTAINED FROM S/C 107 SHOP INSTALLED FOR FIT CHECK THEN WILL SEND TO BME FOR PRESS CHECK. (WAS NOT ACCOMPLISHED ON 107 YET.) 4 LINES SHORT - AND MOCK UP BENT 3 OF THEM TO FIT. THE 4TH (V37-454049-31) STILL SHORT. SUBMITTED TO MR ON DR A 78390. ITEM 28 FOR FABRICATION OF SHIM. (SEE SKETCH) ALSO THE XMAS TREE HAS A BAD BRAZE UNION. REF DR #27. THE CONTAMINATION NOTED ABOVE (EXCESSIVE THREAD LUBE) DOES NOT PERTAIN ANY LONGER AS 107 HAS OUR CINE ASSYS BUT NOT CLEAR YET.

GEO.

1st shift

5-10-68

- 1) Mechanically nothing occurred on this shift but administratively everything happened. We picked up new squawks on the new manifold assy. (Xmas tree) for contamination. Everybody and his brother got in the act by 1500 hrs. The final resolution was obtained by having Bob Ivy of PSL investigate the squawked lines and pass his "fox vobiscum". As of 1500 hrs technicians were being rounded up to proceed with the installation of the manifold. The mock up on this assy looks quite bad to me.

- 2) A squawk was picked up on a spacecraft 90° elbow which connects to the OV-EPS line of the manifold. The flare interface is bugged.
- 3) A stain or material buildup on the FC deck near FC 2 is being studied also.
- 4) Proceed with the simulator installation.

Should put the
Xmas tree in place 1st per
the TPS.

2nd Shift

- 1) DR # 30, on the OV-EPS line elbow has been dispositioned and bought off by NAR Q.C. but not by N.A.S.A. yet.
- 2) The shim for V37-454026 block assy is NOW in the process of being made and fitted. The interdepartmental wrangling over it went on until after lunch. Joan Williams of M&T.S. finally agreed to issue an E.O. to make the shim a permanent fix.
- 3) I tried to get the No 3 simulator into place but I lost them at lunch time because two (2) 662 techs got layoff notices at that time.

Huber, I spent 90% of my time threatening, cajoling and begging to get support to do the work but to no avail. I was on the stack all evening until 11:45, then I threw in the towel when stack supervisor told me he didn't have any help for me. We should use an approved lube on those steel threads.

E.P.M.

3rd Shift 5-11-68 (2)

V37-GEN TPS 002 MUST HAVE MOD SHEET BECAUSE STEP SIX INSTALLS XMAS TREE IN BEFORE F/C 3 IS INSTALLED. STEP 6 SHOULD BE INSERTED IN STEP 13A

THE SHIM FOR LINE THAT WAS TOO SHORT ON THE XMAS TREE WAS MADE & BROUGHT UP TO THE STACK TO BE INSTALLED.

XMAS TREE ASSY WAS TAKEN TO THE PME AREA ON DR # 23. AND CONTINUATION SHEETS WERE

WRITTEN TO PROOF PRESS CHECK & LEAK CHECK
ASSY. (WRITTEN BY TOM BARRERA)

SERVICE ENG WILL PACKAGE & SENT IT OUT TO
TEST CELLS FOR PROOF PRESS & LEAK CHECK.
(MICKEY SMITH) — MACKINTOSH (SUPERVISOR)
IS FINDING OUT WHICH TEST CELL IS IMMEND
AVAILABLE TO DO THE TEST ASAP.

1st shift

5-11-68

1) To 3rd shift - Please resist getting
turned around from the path that is
set up on 1st shift. That "xmas" tree,
for example, was not to be proofed prior
to running OCP 1510 which only uses
low pressures. (All Hell broke loose)

Also FC Sim in Pos. 3 is not to be
put in place prior to attaching the "xmas"
tree manifold assy. to FC Sim #2. It
makes it too difficult to get to the interface
ports on FC Sim #2.

2) "Xmas Tree" installed again and TPS
should be at the point of installing Sim. in
Pos 3 about the start of 2nd shift.

3) Shim mentioned in previous night shift notes
is not needed for the simulator installation.
(The "xmas tree" comes out again prior to
live FC installation)

4) Stain on deck near FC Pos #2 near beam 4
has been cleaned off.

Ref 3rd shift note
5-11-68

To 3rd shift Sunday night (5-13-68) 31
Please read all log notes since 5-9-68

1st

cont.

5. Mounting screws (to deck) for the xmas
tree support structure are NAS1633C34
and washers LP153-0002-2203

6. Wrote mod sheet to include electrical power
safing prior to installing Sim in Pos. 3.

2nd Shift

1) The T.P.S is completed thru step 19. I wrote
a Mod 3 to power down the "R" starts and the
valve boxes electrically. It also powers up
again to resume testing on Monday.

2) I had trouble getting cooperation from the techs
on this shift. At 7:50 we had not swung
#3 into position yet so I verbally requested
them not to install it until I could be present
right after lunch. When I returned at 8:47
I found that had put in in during lunch.
I also recommended that they use an approved
thread lube from Spec. MAO 110-008, but they
went right ahead and torqued the fittings up
dry. If any one of those fittings seize and
gall somebody is going to hang and it won't
be me. This is on record now!

3 Where did you get the specs for the bolts?

E.D.M.

P.S. We didn't use the mod sheet 3 to power
down, they removed the R starts by some
other method.

5-13-68 3rd SHIFT (JB)

S/C 103 WILL NOT BE POWERED UP ON THIS SHIFT.
 TPS 002 STATUS IS AT STEP 19, AWAITING POWER-UP.
 SIMULATOR #2 WAS INSTALLED WITHOUT QC
 OK TO INSTALL SO THE PAPER WORK WAS
 DIFFICULT TO SELL. THE SAME THING HAS
 HAPPENED AGAIN WITH SIM #3. IT IS INSTALLED
 WITHOUT QC OK TO INSTALL.

1st shift

5/13-68

Powered down all day

If power up achieved, resume Simulator
 installation and leak check TPS.
 Mod sheet 3 has been processed
 which re-inserts the proper R-STARTS
 for the valve boxes.

2ND

V37-GEN-002 - Got started about 11:30pm
 proceeded to ~~50~~ STEP 36 & got held up for
 elm cleanup - yuh

3rd SHIFT 5-14-68 (JB)

COMPLETED TPS 002 THRU STEP 60.
 NEXT STEP IS INSTALLATION OF FC #1.
 QC WILL NOT GIVE OK TO INSTALL AS
 THERE IS SEVERAL SQKS AGAINST FC #1
 SUCH AS BADLY BENT LINES AND SOME
 C/A MUST BE WRITTEN. FC BOOKS ARE
 NOT AVAILABLE AT THIS TIME D615
 AND IS IN WORK TO GET THEM FROM A
 LOCKED ROOM. NO ACTION FROM THE
 CONTROL ROOM & TPS 002 IS NOT ON TAPE
 AT THIS TIME FOR STEP 61.

THE ONLY PROBLEM IN TPS 002 WAS THE PRESS
 ON N2/O2 BOX DID NOT COME DOWN BELOW
 5 PSIG AS STATED IN THE TPS. READING WAS 7 PSIG.

2nd Shift Cont: 5/14/68.

- ① @ 07:30 received OK. to install FC #1
 and proceeding in that direction.
- ② About the above note in blue ink.
 N2/O2 Box reads < 5 psig - a TPS MOD
 NOT MADE OUT FOR MIS NOMENCLATURE of
 T.C.-2.
- ③ Presently performing step #62 - I would
 suggest that some some of the blue coated
 men on 1st find sim Tin Book,

1st shift

5-14-68

1. STC copy of OCP-P-1510A-103 is in a blue binder and located behind J. Martin's desk (Desk well).
2. A TVAR to correct a part of para. 9.9 is available and needs Engineering signature (TVAR in log).
3. Ran T.P.S. V37-Gen-002 through step 124. The vacuum pump wouldn't run in step 125 because the vacuum pump had the exhaust plugged from OCP 1518. We reconnected the exhaust hose to the vacuum. It is necessary to run step 125 B Open motor valve/verify open.

3rd shift 3-15-68.

- 1) Picked up in step # 139 - put into hold for shift change -
- 2) Instructed on R037 0000 - ~~no~~ ^{no} executed verify ACR. tells me Computer verified R-start - CTC - he now placing the T.P.S into a provisional OH4 hold so that ACR can evaluate the R037 problem ACR to Reload program - 01:21 - brack into T.P.S.

app 200
01:03 hrs

Completed T.P.S 002 - 02:10 hrs., now preparing to get into OCP-1510 - sp103....

03:20 hrs.

Right Now the hang up on starting OCP-1510 is people there seems to be a lack of QC types.

03:45 hrs

Will need mod sheet to T.P.S 002 - STEP 135 so THAT TC-3 (run to be 2) is closed to read 7.5 PSI - STEP 145 is purely open - (mod 5 made out <10PSIA)

03:45

Completed review of Δ item TRL & GSE ΔTKL. No commitment to 1518 - TRL - signed by myself & Jack Be...

05:15

preparing for station call & to pick up open items on Pre test -

07:40

9.9 A, B, COMPLETE ITEM C - NOT ACCOM. AS: ECS OCP 5056 PRESENTLY FIT CHECKING CSM UMB. (0) -

9.10 COMPLETED - & SOLD

9.11 COMPLETED & SOLD

9.12 IN WORK 4/1/68

9.13 } Has to be worked.

9.14 }

All other items of Pre test: except for the above mentioned have been completed & sold. ACAD

1st shift

5-15-68

1) DR 1 referring to trapped pressure on level 6 has been sold.

2 All effort requiring communication with stack personnel is stopped during lunch. TGS and outside contractor working on communication system problem. Fire watch will be maintained via telephone.

3. TVAR 19138 written to correct OCP Pre test complet with this ^{next} TVAR incorporation
4. Hold for NTP signature on TVAR ^{Pre Post} which completes # Started OCP 1510 1328 (Section II)

12:40

1st shift continued

5. TVAR 19141 written to correct FC cond Exh temp readout limits in the OCP.

6. Completed sequence 04 of section II

2ND

1) OCP 1510 - Completed SEQ 08

3RD Shift: 5-16-68:

Seq 09-008: FC #1 heater current zone 3 had a reading of .0 amperes off. Trouble shooting revealed that possibly R-9 in the A14-052 or threshold input cable on module GC 5011C is set to high which would inhibit the excitation of sig. conditions at these low test values.

Interim conclusion written, continued with test.

Seq 11-003: PT4 CO₂ Pump Pressure off - 18 PSIC, also found that G35P62 reading low 19 PSIC - T/S started

DR #2
A 92840

DR #3
A 92839

1st shift

5-16-68

1) Worked DR #2 and 3 during AM. From about 11:00 hrs to present (1223) the ACE machine has been inoperative.

2) for DR 3, a new pressure switch G35853 is being installed.

3) Status as of 1300 hrs:

ACE hold

R START configuration has been noted on scratch sheet and placed in the log. The H₂ valve box was safed by closing manual valves supplying gas to box.

This was done per Item 2.33

The O₂ valve box is still pressurized so that TER can perform a blow down.

4) Repaired pressure switch in N₂ valve box and took millipore sample at GN₂ Fill QD flexline. Sample Report # M106182.

If sample is good proceed with checkout of auto-depressurization per DR Item 3. If good should be able to go back into sequence 11. (Note: it was not good)

5. DR Item 2 was worked on until ACE hold. We measured proper resistance across the resistor for zone 3 of Sim in Pos. #1. We were about to turn on the A14-052 for a voltage reading at the FC connector when the ACE quit. Connector is disconnected

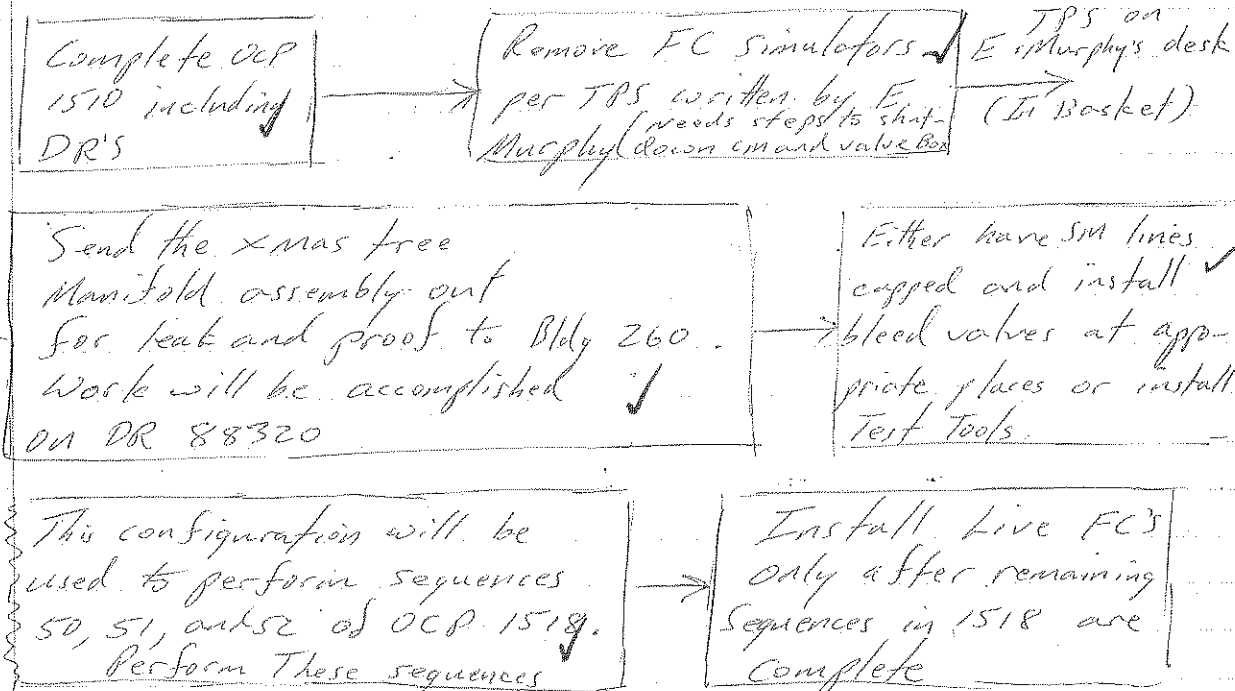
Continued

Cont.

1st

5-16-68

6.) The block outline for our intended future operations is as follows:



TPS on E. Murphy's desk (In Basket)

Either have SM lines capped and install bleed valves at appropriate places or install Test Tools.

7.) The Live FC Containers might be opened and FC's inspected during the night shifts

J.N.M.

2ND 5-16-68

1. Spent the shift playing the WAITING GAME: HOLD FOR ACE, S/C POWER DOWN, LACK OF PERSONNEL, & MASTER ALARMS (DR4). Can't find out what caused DR#4 problem.

2. Upon further analysis of DR#3, It appears that there is a combination of problems.

- 1. OCP STEP 11-012 S/B 11000
- 2. ~~RT 635PT4 does not agree with 635PT3,~~
- 3. RO45 D Does not have control of 635PT3.

- 3. Didn't get to look into DR#2
- 4. NOTE: STEP 3.29 of DR 3 A92839 has not been performed.
- 5. DR#4 is Really a loser. FCI C&W light stays on continuously. All readings on the CRT for FCI are in limits. It looks like there may be an open wire in the input to the C&W, didn't get to check into the either.

6. We have 6 OCP's going on at the same time. I sorta doubt if any M/A or anything I read on the CRT is valid. Pnl 276 CB3 & 4 are "on" & "off" so after often that no one knows what is actually being displayed. It's on HELLOVA way to win a war.

WALLY

3-17-68 3RD shift:

1) Attempted to go further with DR#3, BUT BEING IMPACTED BY OCP 4128, AS THEY HAVE CB3 & 4 OPEN - I WROTE STEPS ON DR#3 TO RECONDUCE & RE-RUN RAPID DEPRESS AGAIN AS 2ND SHIFTERS HAVE RECORDED ~ 45 PSI ON PT4 - I WOULD MENTIM TRYING TO SECURE VOLT WORK TO LOOK AT 114-052 HEATER CURRENT MEAS -

2) Ran out DR-2, powered up 114-052, and using TRIPLETT multimeter, measured voltage indicators @ 159, A,B,C,D, which agreed with CRT voltage ind. for FC #1 zone 1,2,3. then verifying the integrity of S/C harness & GSE.

③ It should also be noted that when 4128, allowed the Intermittent Power Control CB's 3, & 4 to be closed we received a master alarm -

This could have possibly happened at on second shift as the only OCP - manning during lunch was 4128 who was also the only OCP pulling & pushing on CB's 3 & 4.

③ @ approx - 07:00 hrs. CB 3 & 4 were pulled by 4128 - & all their f/c lights illuminated. CW - with everything in tolerance - this is third incident - Ref DR 4 -

Summary:

DR #3 - We ran again, and the results turned out to be negative. in as much we lost pressure after P53. functioned. & NV-1 was positioned open & the check when 38 psia was indicated on P62 - it then took 2-3 minutes to completely see pressure go to zero.

DR-2 - We ran voltage check on 3/c harness & we satisfied that we do not have a problem as we have a confirmation on harness in as much we have good voltage check -

DR 4 - See DR 4 & Note # 3 -

1st shift

5-17-68

- 1) Completed OCP-P-1510A-103
- 2) Tank form and level 6 is shutdown.
- 3) DR on valve box cleared up and depressurization cycle a.k.
- 4) The plot is to remove simulators and send Xmas tree out for proof and leak testing. (Ref log entry 1st shift 5-16-68)

2ND

DR #2 IN-WORK OFF ON MOST OF THE NIGHT. FOUND THAT FCI ZONE C (or 3) ^{POWER} IS GETTING THRU TO F/C HEATER. READ APPROX 50 mA ON A14-052 Meter. FOUND THAT THERE WAS ZERO OUTPUT IN THE 240 & 484. INITIATED A SUB-DR TO C/O THE 484 SIG COND. SUB DR # A92840-A ITEM — BOOK —

3RD SHIFT 5-18-68

SUB DR # 14 A92840 A WAS INITIATED IN ACE / GEN BOOK (DR # 2)

①

PROBLEM OF CEW DR # 4 IS BEING INVESTIGATED BY C/W PERSONNEL.

②

③

DR #2 - Sub-DR disclosed that a module ANC 130 in slot #3 on C14-484, which is for measurement GC5011C, was found to be improperly seated, causing two pins not to mate - The module was reseated, sub-dr closed out, & on DR #2 rechecked and verified F/c #1 Heater current zone 3 reading DR #2 solved off - Done

3RD Shift 3-18-68 QW

- (4) DR#4 CFW - is only dr that remains open - if we must T/S - I might be wrong but I suggest we take the A34 315 & A14-084 to SIC FIC interfaces, and run some of the initial checks which were performed during OCP-1115 - if SIC harness checks out O.K., we could perhaps identify the problem to the simulator.

As long as the SIC is good I feel we do not have to qualify nor justify the FIC simulator - therefore we can go ahead and remove the simulator & install the flight hardware - if the simulators have to be verified couldn't the DR be transferred to their respective TIPS Books & a T/S run at later date.

NOTE →

Also why can't we ^{just} go ahead and remove the simulator, with DR-4 open - I feel this is the way to go - QW

- 5) if we run this C/O as stated above:
- deactivate - CB3 & 4 Pnl. 276
 - Connect GSE to 501W6 - P2 W2515 P1 A14-084/52
 - Connect GSE to P52, P55 per step 14-073 OCP-1115
 - Run Steps 14-061 thru 1ST Half 085 of OCP-1115 - Seq 016 Steps 19-23, 45-99 & 1ST half of step 101.

OCP 1115

OCP-1510 Status:

- 6) All SEQ comp. thru SEQ-11-56
- | | |
|---------|--|
| SEQ. 12 | INSTRUMENTATION DEACTIVATION - NOT PERFORMED |
| SEQ. 13 | AC PWR DEACTIVATION (GSE) - NOT PERFORMED |
| SEQ. 14 | DC PWR DEACTIVATION (GSE) - NOT PERFORMED |
| SEQ. 15 | SECURING AFTER TEST - NOT PERFORMED - |
- (NOTE: 2ND WROTE T.V. TO DELETE SEQ. 15 -)
(NOT SIGNED YET.)

Days CFW part # ME 430-0006
S/C 103 USES # - 0004
S/C 101 USES # - 0003

1st Shift

5-18-68

1) Tried to solve DR#4 but with no real success. During the afternoon the FIC G/W lights cycled and went to a 101 configuration at about 1338 hrs. We are going to strip off G/W data for this time interval. At the time that these lights cycled we were shutdown and not configuring a thing. This was also the status for three other OCP's running at that time.

Again at approx. 1500 hrs. the lights cycled again. Again we were not doing a thing.

Data is being stripped for 5-16-68 around 1950 to 2100 hrs and for 5-17-68 around 1030 to 1200 and 1400 to 1600 hrs. This is in addition to the data on the ~~after~~ cycling of the G/W lights at 1338 hrs. today.

The master caution event light measurement number is CS0150.

2) Simulator removal in work as of approx 1500 hrs. (TIPS-37-GEN 003) Worked T.P.S. thru Step # 8.

2nd Simulator removal TPS completed -
Mod sheet #1 added step 48 may have created a problem. While technician was torquing P/W V31-454025, bottom tube, may have been damaged. It is so expect a D.R. to be written, since happened at end of shift.

C/w lite blinked off & on after simulator removed.

2ND 5-19-68

DR#36 A 71257 FC3^{OR} H₂ IN V37 454031-041
LINE DAMAGED, IN WORK ON FAIR 103 F013

DR#37 A 71255 FC3 H₂ IN V37 454031-031
LINE DAMAGE ELBOW BEING REPLACED

DR#39 A88851 H₂ VENT. TEE GOING TO X MAS TREE BEING REPLACED

Don might check on this when you get in. It is going quite well. *with John 5/19/68*

3rd SHIFT 5-20-68 *AD*

INVESTIGATED ABOVE PROBLEMS. ELBOW HAS BEEN REPLACED AND IS READY TO BRAZE. A PURGE ON THE LINES TO BE REPAIRED MUST HAVE AN INERT GAS PURGE APPROX 3 PSI. THERE IS TWO WAYS TO DO THIS ① PURGE THRU THE SYSTEM WHICH INVOLVES A RATHER LENGTHLY PROCEDURE OR ② BREAK A "B" NOT TO SUPPLY THE PURGE.

PURGING THRU THE SYSTEM IS THE BEST WAY BECAUSE THE HARD LINES HAVE BEEN PROOF CHECKED THATS IF A

SMALL ENOUGH PURGE CAN BE SUPPLIED THRU THE CHECK VALVE.

THE A14-315 FC SENSOR SIMULATOR IS NOW LOCATED ON THE GROUND FLOOR OF 2C WHICH IS NEEDED FOR DR#4

THERE IS G116 TO THE SIXTH LEVEL OF STACK 2C FOR OCP 0126 S/C 103

1st

5-20-68

Shift

1) Note: Do not run a separate proof test on the new elbows and the tee fitting that were brazed into the FC line system Saturday and today.

These lines will see the pressure we use to proof the shelf interface joints during sequences 50 and 51 in OCP-P-1518.

2) X RAYS OF THE NEW BRAZE JOINTS ARE ACCEPTABLE. OBSERVATION OF WELDERS TECHNIQUE MAKES IT MANDATORY THAT WE BLOW DOWN BRAZE JOINTS AND VERIFY HYDROCARBON COUNT. THIS CAN BE ACCOMPLISHED ON SAME DRS THAT WERE USED TODAY. (OPEN 100 PSI LVIA MANUALLY) 1st SHIFT SHOP HAS STARTED TO GET HOME BOTTLES. MAY BE WE CAN USE BECKMAN SAMPLER.

3) T.V. has been ^{WRITTEN} to replace the original T.V. which installed the bleed valves on the EPS vent Q.D.'s. The valves are on my desk, the technician will have to procure 2 AN to pipe UNIONS and 2 "O" rings.

2) A. T.V. has been written to enlarge the pressure tolerance for seq. 50. One will have to be written for seq. 51. →

See note on next pg.

1st Confirmed

A TVAR should be added to show that the O₂ tank relief valve is not leaking when we are up to pressure during Sequence 50 of 1518.

2ND

DR 36, 37, & 39 are having millipore samples analyzed. IF they pass, shut down per DR 36, & DR 37.

3RD Shift 5-21-68.

① Original millipore samples, were not read by QC as they refused - the reason being that they were transmitted to D659 - without the benefit of protective contamination control.

② Samples retained, with positive results all three samples passed analysis.

③ 2nd wrote T.V. to perform R/V leak check, after performing high pressure L/C.

④ Stack people have bleed valves & adapters and built up, ready to install in system -

⑤ TV 19285 - Pressure Tol. R/O SEQ 50 - signal yellow
Q.C. copy in log.

TV 06688 - Installation of H₂ bleed valve & depress signal yellow & Q.C. copy in log

TV 06687 - Installation of O₂ bleed valve & depress signal yellow
Q.C. copy in log.

TV 13181 - O₂ Relief Valve leak check signal yellow
sheets 292
Q.C. copy in log

③ DR's remain to be final acceptance, by log -
Note: Proof Pressure steps in DR's 36, 37, 39. These are called out in DR's to be deferral to OCP-1518 -

④ Reconfiguration of GSE & ship & int OCP next step -

DOWN

SO WHAT?

1st shift

5-21-68

1) Wrote conclusions on DR's 36, 37, and 39 and removed special step for special proof testing. Joints will see high pressure testing during OCP-1518-103 seq. 50 and 51.

2) TVAR'S were written to configure our test set up to get back into OCP-1518. Ref. TVAR # 19287. New pages were put into the OCP copy (Test Team copy) showing location of new TVAR'S. (Plus TVAR'S written earlier)

3) Initiated configuring operations on OCP-1518 on channel 9 at approx 1415 hrs.

3RD Shift 5-22-68:

① After telecon Between 3RD, 2ND & 1ST shift supervisor the decision not to perform proof pressure test on replaced lines, was changed & 3RD shift was directed to Reform TV's written on 2ND Shift.

② DR 19 - In work - verifying 980 Relief setting on SCAT-066 - RV-1 & RV-2 - RV3-RV4, all relieved within their proper relief envelopes -
Q.C. I.D. each valve - (over)

- ③ T.V. 19386: has been signed by safety,
NAR & NASA —

Approximate time for proof pressure test is
estimated sometime around 05:30 to 06:00 hrs.
required relief valves for system protection against
overpressurization are being checked and verified
for proper relief settings —

1st shift

5-22-68

- 1) OCP-P-1518 is on again with sequences
50 and 51 running without proof testing portions.
The proof testing will be handled on a
TPS.

* 2) Bad news - On previous 3rd shift EPS
personnel disconnected #25 and #29. ↓
This, of course, invalidates much of the
end-to-end checkout performed in OCP-1518.

* 3) TPS to proof test new elbow fittings now
available in J. Martin's desk. Put in work
after completion of pressure portions of
OCP-P-1518.

2ND

- 1) OCP 1518 was in-work off & on
between DRs & TVARS. Proceeded to seq 50-039

2) SAFETY ON SCAT-066 was the major
constraint. The high pressure lines
were found to be finger tight. Did much
re-torquing & re-tying lines. Fought with
QC (stack) to get SCAT-066 back in
gear.

ally

3)

3RD Shift 5:23-68.

- ① Picked up test in TV 1318. Between seq. 50-39 & 50-40.
① performed RV check-out - after 960 psia attained on O₂ tanks #2
Results good 123 sec/15 min = 492 sec/hr.
- ② DL #20 - received in step 50-041: Pk. on SCAT
recorded pressure of 835 psia, CM Pnt 2 indicated
875 psia & CRT indicated 889 psia - at time of
SC 00923, SC 00933 event lights tripped on -
Requesting strip out of data to satisfy req - which
should give more accurate pressure indication.
Data request has been submitted for data strip-out.
- ③ Started the leak check using mass spec - @ 05:20
all O₂ leak checks per seq. 50-046 good.
- ④ Completed up thru seq 50-060 - , step manual open
as lines have to be torqued & needs NASA
mandatory inspection stamp. Reconfiguration has
been verified by T. Buchack -
- ⑤ Completed Seq 50 — 09:25 hr.
- ⑥ Into Seq 5- —

WAW

First Shift 5-23-68

① Paper on most important product hereafter referred to as POMIP

② Run 1518 Seq. 51 000 through 51-0044

3. TPS to proof elbow joints is in the hands of Service Engineering (1630 hrs) It will be V37-GEN-005

4. If you get into OCP-P-1201-A1-103 during the night write a TVAR to set FC and Instrumentation breakers to off before installing FC's. ^(Panel 226 and Panel 276 CB 3 and 4) Suggest step just before going back to FAIR ticket for FC's 2 and 3 and again before installing FC3.

2ND 5-23-68

- 1) Can't seem to locate the DR LOG.
- 2) Had mass spec. problems - Resolved at 1840
- 3) Finally located V37-454202 drawing which gives the line nos. could not identify the lines because of accessibility problem so drawing was void.
- 4) Bad night - took 2 hours to get a wrench.
- 5) Wrote a mod to TPS V37-GEN-005. to leak check after proof check on braze joints.
- 6) Les Bendess said he would get TEL in shape so Bisco says. WNY

7.

3RD Shift 5-24-68

① Completed up to step 51-058, at present time Rayco seals are not available to close out OF-1 OF-2 HF-1 HF-2. awaiting verification of availability of seals. Note there are no seals available.

In meantime moved into TPS-005 - Proof Pressure check & C-He leak check. Then will return OCP. Seq. 52.

Note Mod #1 also incorporated into TPS.

② FC3 O2 INLET (V37-454031-131) L/C @ 745+0-10 PSIG. LEAK CHECK O.K. ~~after proof pressure.~~ after proof pressure. FC3 H2 INLET (V37-454031-141) L/C @ 245+10-0 PSIG. after proof pressure with satisfactory results.

③ Complete (TPS 005 - satisfactory) - returning to seq 51-058, SMT looking for Rayco Seal - ~~ALM~~

First Shift 5-24-68

① Mod sheet to Mod #1, V37-GEN #005 step 1-c to be deleted. (POMIP)

② Back to OCP 1518 Seq. 51-058 then proceed to Seq. 52

08:20 ③ Held waiting for SMT to locate RAYCO RAYCO Seals.

4. TVAR written to incorporate seal part numbers. RAYCO & equivalents.

11:00 4 Found Two (2) - 3 seals installed on the O2 lines

Days Cont. 5-24-68

1500

5. Continue with OCP, double bag H₂ line and write DR in #37 box book. OCP

6. Seal Pant Numbers

STRATOS 65-312-01

RAYCO ~~11322~~ 11324 (+the Dia.)Beach 13532-4070 -1 or -3
(937 in) (100 in)

1530 (7) Would you believe that seals we do not have. DR #23 HF-1 & HF-2 were double bagged not closed with closure caps.

1549 (8) Seq. 52 started

2ND 5-24-68Bill FARR CALLED. HIS BOY IS "OK"
& HE'S GONE FOR WEEKEND. WON'T BE IN TO WORK- Completed Seq 52-021 except for Rayco seals. Other work sequence 52 complete of OCP 1518
Completed OCP-15183RD Shift 5-25-68-

① Performing Pre-test OCP 1201.

② It appears that the cleanliness of the "Christmas Tree" is becoming an issue as nobody can seem to verify if it is in a clean level I state, so for the only thing in evidence is seals over the interfaces with no Q.C. stamp - as per Engineering.

③ Questioned the validity of F/C #2 ~~is~~ ^{being} installation was made it appears that they did not perform the bonding job on the bottom of F/C. Requested stick to perform required resistance check - if negative I informed the stick that they will remove F/C #2. as per conversation with B. Huber & G. Dornis Fri morn. Step # 11 on Jan ticket has not been stamped off - as far as resistance check.

④ Checked in Cleanliness Prob. on Christmas Tree. all interfaces plugged & sealed & stamped. Q.C. verifier exist clean - therefore on Cleanliness no problem.

⑤ Note: result of resistance ch. indicates that ^{perform} step 11 ^{Bonding that} as far as the bonding has been completed, it appears 1ST shop will be able to further enlighten ATD Engineering as far as how was it completed or not and if it was why wasn't the step brought off. (over)

NMM

⑥ Δ TRL Has been signed 06:20 hrs. 5-25-68 - also awaiting completion of Sect I - which should be complete early 1st shift.

⑦ T.V. for conn seep. & status of Pre test made up in OCP copy accompanying LOC - J.N.M.

1st shift

5-25-68

1) Wrote TRARS to substitute a pressure control panel in place of the helium bottle flash up called out in OCP-1201. Also had to adjust for actual location of Hel ('Tee in') to the GN₂ system.

2) Panel (above) has been connected into the system and hydrocarbon sample taken and passed.

3) OCP had mislabeled the water Glycol panel flex lines. (Also its GSE number)

J.N.M.

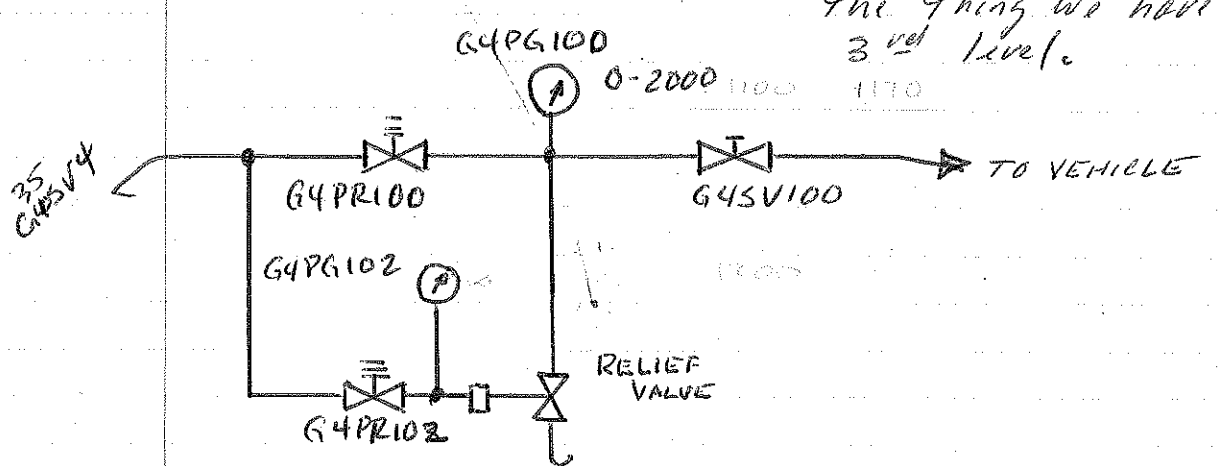
2ND 5-25-68

1) Completed Section I OCP1201 @ 2335.

2) GOT to SEQ 04-009 & found that 9.2 thru 9.8 had not been stamped in Q.C. Improved copy

2ND G14-845101-11

This is the status of the thing we have on 3rd level.



3RD Shift 5-26-68

① OCP-1201-A-1 into hold @ 12:30 pm. at sequence 04-009. Sect. II of OCP was started prior to 23:32. Completion of Sect I - Pre test - Q.C. performing verif of sect. I....

② 03:15 hrs back in OCP-1201 @ seq. 04-009. Note: Δ TRL Dated 5-22-67 - reflects Sgk #44 CAT I TO FC1 installation & perf. of seq 07 - (Cat II to OCP.)

05:50 ③ @ ~ 03:20 - unexplained clw ~~_____~~ - put into hold by CTC. back into test - at 03:30 - @ 03:55 placed into hold (all OCP's) by CTC. as s/c experienced loss of s/c Bus B & AC pwr. -

Note was about to receive DR#1 on seq 04-011 as event light indications are wrong -

FC 5391	S/B OFF	ACT. ON
FC 6019	S/B OFF	ACT. ON
FC 5984	S/B OFF	ACT. ON
FC 5916	S/B OFF	ACT. ON
FC 5992	S/B OFF	ACT. ON
FC 5392	S/B OFF	ACT. ON
FC 6020	S/B ON	ACT. OFF
FC 5985	S/B ON	ACT. OFF

FC 5917 S/B ON ACT. OFF
FC 5993 S/B ON ACT. OFF
Cannot secure permission to T/S to anything as everything in hold.

OVER

- (4) T= 07:32 - Evaluating DR # 32 (unexpected Bus Pur. loss)
 Still awaiting O.K. to continue with OCP -
 DR#1 incorrect configuration event lights -

1st shift

5-26-68

- 1) During AM found that in running valve box configuration during paragraph 9 of the OCP the technician had configured all valves in both valve boxes opposite to that which was called out. This was set right before lunch.
- 2) Bus failure again about 1240 hrs and OCP 1201 in hold with other OCP's as a result.

2nd Shift

Seq 04-024 to 04-026 deleted earlier by note on seq 04-019 seq is required to perform seq 04-030, hydrocarbon analyzer test.

Sold DR 36 & 37 completely along with
 TFS V37-GEN-005

3rd Shift 5-27-68:

- ① 03:30 great amount of confusion has been generated on stack, about the validity of Beckman Analysis Machine - and nothing has been accomplished since 2nd / 3rd shift turnover -
 - ① decided to request DR #3, using Hoke sample bottles because of previous confusion on DR. Recycled and took samples of
 V37-454049-59 LINE FC1 H₂ SUPPLY Ref sig 04-20
 V37-454049-53 LINE FC1 O₂ SUPPLY Ref sig 04-21
 to positively qualify ~~above~~ above line.
 - ② The Beckman down, and after seeing Hoke sample ref. note #1 suggested that using T.V.'s perform 04032, 033, 034, 035 using Hoke bottles.
 - ③ DR #38 was signed as a requirement of overpress 70±2 psig the water cooled line. then had checking @ 60±2 psig - Eng. Sup. W.T. Dem changed the DR. as a 3rd shift NASA MR wouldn't sign off MR. Note. 1st shift will talk to Eng. in AM.
 - ④ As per DR #40 - sold off, but it seems DR #39 is still not resolved. expect 1st shift to decide what on that one.
 RDN

1st Shift

27 May 68

1.) Completed Hoke samples per sequence 04.
All passed

2.) After considerable blood sweat and tears it looks like we will have to proof pressure the H₂ vent line Tee at the xmas tree interface.

Suggest capping HV-EPS QD at Fly-away and pressurizing through the FCI H₂ Vent interface, using the low pressure half of the SCAT-066. This decision ^{to proof} was only reached at approx. 1600 hrs.

The facility He valve feeding the SCAT is 635SV4.

3.) If you retain TVARS 14371 and 04461 to look for voltage in the FC interface electrical connectors, please add the following: The mating (sm side) connector to J3 on the Fuel Cells, pins D and A will have a small voltage (less than 5 VDC). This is from the GSE instrumentation power source (the 484). This voltage has no power capabilities.

Actually J. Miller said today he did not know why we wanted to do this checking in the first place. I thought he was the one who wanted it. So maybe he can kill the TVARS (less the Bus Cont. (B's)) and you can forget about making the checks.

3rd Shift 5-28-68.

01:50 ① 137-GEN-TPS006 P/P & L/C of H₂ Vent Ref. DR39 PERFORMED ON SECOND SHIFT. NOW REMAINING TEST SET-UP AND CLEARING PAPER ON STACK WAITING TO RETURN TO OCP-1201 - TO PERFORM SEQ 05 & T.V.

02:15 ② Paper clean (TPS) - in a hold until 02:45 for Shop support. Note DR39 sold NAR & NASA !!

03:25 Out of people hold to begin seq. 05- with T.V.'s.

05:04 ③ The TV's 14371 & 04461 - were generated out of a management agreement with the auto shop - & B. Huber - to sweep the connectors so that the shop would not ~~miss~~ gap a hot connector.

05:55 ④ Completed TV 14371 - Connector Sweep for FCI Electrical Harness Connector P62, P63, P64, P65. FIC III Electrical Harness Connector P66, P67, P68, P69. and into the FAIR Ticket. for FIC # Installation

⑤ NOTE: CB 3 & 4 INSTR. CONT. PWR. PNL. 226 - ARE OPEN PER

TV 13420 AGAINST OCP 4224-

INSTRUCTED CTC OF

NEED TO KEEP CB's 3 & 4

OPEN UNTIL FIC 2 & 3

ARE ELECTRICALLY MATED.

DAW

Wait TV 19436
TO 1201 TO
Power TO still CB 3 & 4

1ST SHIFT

F/C # 2 CONNECTED. HAD PROBLEM WITH SHORT WIRE RUN TO LOWER CONNECTOR THEY TOOK UP AS MUCH SLACK AS POSSIBLE AND GOT OK TO INSTALL F/C #3.

COMPLETED F/C #3 AT 1255 HRS.

STARTED SEQ 06 LEAK CHECK

LOW TANK FARM PRESS STOPPED US FROM CONTINUING.

T VAR GENERATED TO CONFIG "K" BOTTLE AND STACK HAD "K" BOTTLE UP TO 2ND LEVEL WHEN TANK FARM INFORMED CTC THAT NEW SUPPLY OF HE ARRIVED.

TANK FARM RECONFIGURED READY TO SUPPORT AT 1545. SHOP CLEAN UP TO 2ND SHIFT.

TURNUED OVER TO 2ND SHIFT AT START OF SEQ 06-002

5-28-68 2ND ① LOTS OF LUCK, TONIGHT, WE WERE SHUT DOWN FOR 3 HOURS FOR LACK OF MASS SPEC.

② MANY DRS WERE INITIATED BUT SOLD

③ PRESUNTLY AT SEQ 06-039. DRG A 91144 Low leaks at FC 2 & 3 (F2) on both. well

3RD Shift 5-29-68-

- ① DR #6 & SUB DR 340 & 350. Shop removed & replaced w/w. change on F2 V37-454047-61 & F3 V37-454049-57 @ 02:20 hrs reinserted Ro 41100 executed & verified but noticed that G36 PT3 - Reading zero PSIG - He Purge Pressure, instead G35 PT3 reading 970 ok.

looked into the problem and found that the the Tank farm He supply Z47PG-1 was reading zero psig. The He supply was completely depleted - Had TFT, change He supply and then adjust Z40 PR9 TO 300 (+0 -20) PSIG as indicated on Z47PG-1. (DR #7)

- ② Had to dump pressure @ 04:00 started leak check of two DR lines w/ note #1 - but it appeared that G35RV2 has been relieving, after leak check RV & reset if necessary, perhaps this was the original problem as far as the leaks were concerned.

- ③ 05:10 - Awaiting GSE Engineers to arrive to stack to check G35RV2 relief setting. Also talked to TFT and within 1 hr we have consumed 2600 lbs of He. & Z47PG1 indicating ZERO PSIG. GSE Engineers state that

2600 lbs
2 Bottles
within 1 hr.

- ④ Holding @ 05:30 as GSE T15 RV2 Relief @ 984 (PT3 indication) P6100 → 1016 lbs.

(over)

System Status:

Presently at seq. 06-039, incurred leaks @ FZ-59 & FZ-61 on FC-2 & FC-3 O₂ interfaces -
 DR-6 OCP-1201
 Sub- DR 34 & 35 (Removed & Replaced VOI-shan & retorged line)

Repressurized O₂ & H₂ valve Box and noticed that G36 PT3 - H₂ Purge Pressure depleted - initiated DR#7 and discovered that H₂ facility He Batteries empty R/R Helium Supply - During this period was informed that G35RV2 was releasing and flooding Sect IV, to the point that couldn't make leak check.

O₂ Sys. status: G35 P#3 - 955 PSIA
 PG 100 - (He Sup) 1018.

Requested DR#88 (against VLV. BOX - Reset R/V.) also at same time informed of depletion of H₂ Helium supply - initiated DR#8 - Loss of H₂ He supply - found that need IV. to OCP - to close ~~both bleed~~ valve, thus allowing H₂ box to vent to close.

NOTE - LV9 BOTH O₂ & H₂ ARE CLOSED.

1st shift

5-29-68

- 1) Repaired leaking "Tee" fitting to G35RV2 and reset RV2. Ran millipore blowdown on the OP line and passed the millipore reading.
- 2) Ran into leaks on FC1 interface plugs. Removed plugs installed VOI-shans and retorgued. No leaks now.
- 3) FZ on FC3 is leaking severely looks like a flair problem. Trying to institute R and R procedures on the line as of 1600 hrs.

2nd

Wed 5/29/68

- 1) LEAK CHECKED F/C 2 & F/C 3 LINES F₁ & F₂.
- 2) ALL LINES ON F/C 3 OK. DETECTED LEAK ON F/C 2 LINE F₂. REFERENCE DR # 605.
- 3) REMOVED V31-454049-61 F₂ LINE TO CHECK FOR ANY ANOMOLIES.
- 4) PERFORM SEQ 06-039 WHEN SELLING DR #6.
- 5) REF ITEM #3. LINE FOUND TO CONTAIN A DEFECT ON FLAIR AT THE F/C CONNECTION END. LINE WILL BE PRR'D FOR REPAIR. ON SUB DR A91144C.
- 6) POWER DOWN ON DR #6. POWER UP BY DR #6 ALSO

3RD Shift 5-31-68-

① Power up valve boxes per DR #6 - to bring us back into test configuration.

② It appears that during our day off connectors P60, P61 were ~~damaged~~ reworked per DR # 36 against V37-Book.

DR # 36. V37-GEN-Book: actually a DR was written stating that wire harness was wired wrong (routing) MTS. answered the DR. "make like print", to Reroute harness it appeared shop pulled pins & crimped. P60-P61. Need to have continuity run on

NOTE: →

Connectors:

Also Shop tells me that the rest of connector harnesses to the air are the same way.

③ Also DR # 37 & DR # 10 - wiped off and sold.

03:50 ④ Prepared to go into test performed step 6.14 of DR # 6 (power up). - could not start but check on Mass spec. needs to be catch.

05:45

⑤ 05:45 hrs.: Everything in "GO" Condition - started to pressurize up per DR # 6 step # 6.15 and on G14-845101-11 panel PR100 relieving through Relief port @ 25 psic. TER. will issue R/R Reg as no replacement unit is available or come up with some other fix. Requested DR # 11 so a sub-DR can be written on stock. (# 90 A-91597-A against A14-014).

3RD Shift 5-31-68:

06:50

Final Status:

① DR # 11 & Sub-DR 91597-A # 90 against A14-014 in work by "TER" - trying to locate a replacement regulator for malfunctioned G4PR100.

② Performed step 6.14 DR # 6. 6.15 Ref Sub # 11 & DR DE also closed G35SV4 on step 16 - vented reg. PR100

③ SUB DR # 34 sold
" # 35 sold
V37-GEN-ELE. # 36 ~~Set~~ OPEN (P60 & P61 Continuity ck)
Sub DR # 37 Sold - DR # 10 OPEN
" # 38 Sold DR # 4 OPEN
SUB DR # 90 (A14-014) - OPEN - DR # 11 OPEN

GEORGE D. - Please forgive me for waking you @ 05:00 hrs. as I found myself asking a stupid question and "especially stupid" @ 05:00 - as I really wasn't thinking -

GD

1st shift

5-~~30~~³¹-68must be done
before
of FC1

1) Since pins were removed from 3/4 connectors P61 and P60 we had to come up with a retest plan. Continuation sheet against V37-EP5-36 provides test for proper pin configuration.

2) High pressure panel had given up ghost or nights. Repairs could not be accomplished. T-VAR 19450 cuts the high pressure panel - 11 out of the loops and substitutes the SCAT-066.

3) After re-entering the OCP found leak at SM interface on the -61 line.

4) General Info - 2TV-1 having trouble with O₂ tank, Qty sig. cond. Verified O.K. on test at Downey.

2:00

5-31-68

1. **NOTE**: N₂ Sample ports on FC1, 2, 3 ~~are~~ have the Stainless Steel caps installed ~~by~~ but they are neither torqued or safety wired. I couldn't find the requirement in the spec of how to handle these caps. Presently, they are only finger tight.

2. FC1 is installed ~~but~~ and torqued. Can't proceed due to inability to pull CB 3 & 4 in order to perform elect checks.

3. TV 04461 & DR 36 are both in work.

3rd Shift 6-1-68

00:30 ① Constrained from proceeding further as 4224 utilizing CB 3 & 4 - cannot open same in order to work on connectors nor mate same.

02:10 ② Cleared to function CB 3 & 4, Performing DR 36 after DR 36 - perform DR 19453 (open CB 3 & 4) do connector sweep (DR 04461) & then perform seq 07 - FK #1 Link Check.

02:40 ③ At step 36.15 & 36.16 could not verify 28 Volt DC indication
P61 J + P61 D (-)
P61 K (+) P61 R (+)
P61 B (+)
P61 C (N)
P61 E & G

Result DR # 39 - against V37-Gen.
Looks things over verified wire to pin on connector correct - decided to have summit meeting with instrumentation types - Gen the plot is to demate P281 - and check fuse modules - J. Benum also feels this the way to go.
OCP 1201 into hold for DR 36 & 39. @ sequence 06-070.

After talking to JSE & CIC, explaining that I suspected that fuses F7, F8, F9 on the S28A12 current limiter were blown they agreed to T/S - which was accomplished on DR # 36 - S28A12 was removed after P281 was demated, S28A12 WAS T/S with results showing that F7, F8, F9 were indeed blown. There are plenty of spares available in the S28A12 and they are going to remove P281 for fix.

Note: TS accomplished on DR 34.

(Over)

Probable Cause: When they went to repair DR36 - and deenergized connector P61 - CB4 was closed (energized) and whoever was reworking the dr. must have shorted the pins, which caused the F7, F8, F9 fuses to blow - as the fuses are only 1/4 amp. Note Rewiring will take P281 will take EO. or MR. Enginng already waiting to

Test Configuration:
 Seq 06-070, Continuity check DR36 - open CB 3 & 4 per TV 19453 - sweep conn. TV. 04461. Connect Electrical Connectors on F/C 1 - Go to Seq 07 - perform TV 19453 Energize CB3 & 4 - do leak check -
 (NHW) →

June 1st FIRST SHIFT

- ① MR ACTION ON NEW FUSES CONTACT IS HARRY CONNERS: EXT 3867
- ② ISE IS INVESTIGATING REVERIFICATION REQUIREMENTS OF P281. PLAN OF ACTION: READ AMBIENT CRT VALUES AND RECORD ON PR 36, CLOSE CB 4 AND RECORD NEW CRT READINGS
- 3. NASA DR 1 AGAINST 1201 WAS WRITTEN SEE C/A FOR HISTORY ON DR 36, 39 & 40
- 4. Completed electrical checks on F/C1 connectors and mated connectors to FC. Proceeded into Sequence 07.

J.N.M.

2ND 6-1-68

- 1) AL WILLIAMS GOT MARRIED
- 2) DROVE ONWARD THRU PILLS OF TVARS to SEQ 07-056
- 3)

3RD Shift 6-2-68

- ① Completed OCP 1201-A-1, new vacuum Pump no problem, OCP Comp Temp Seq. 07-029 08:07 hr
- ② Submitted OCP Change Request R011205 for Seq 08-20 lin 01730 -
- ③ TVAR's Being written Against OCP-1090 to disconnect all interfaces to F/C Cryo. Sep. Hardware in order to install Sector IV panel. for OCP 7018 -

1st shift 6-2-68

- ① TVAR 14678 WRITTEN AGAINST 1090 TO ACCOMAPATE 3rd shift item 3.
- ② DR STATUS ON OCP 1201
- DR 6. LEAKS ON F/C 2 & 3 SOLD CO. RC NASA WAITING FOR NASA SYSTEMS ENG.
- DR 7. HE SUPPLY AT TANK FARM DEPLETED SOLD CO. NASA SYSTEMS ENG. REQUIRED.
- DR 11 614-845101-11 REG. FAILURE OPEN
- DR 12 OCP TOLERANCES SOLD CO. NEED NASA SYSTEMS ENG.
- NASA DR 1 & 2 OPEN; CO. RC IS INTENDING TO FIGHT THERE PRESENTS.

3rd SHIFT 6-3-68 (2B)

① WORKED TPS 196 (GSE). MOVED VACUUM PUMP TO S/C 103. THERE MAY BE SOME DIFFICULTY SELLING THAT TPS AS IT WAS NOT SIGNED BY GSE.

② WORKED ON PRE-TEST 1518 S/C 104 STILL QUITE A WAYS TO GO. NEED TVAR TO INTERCHANGE QD 0042 & 0048. SCAT 066 IS NOT AT STATION 2B AND DOES NOT HAVE THE NEW GAUGES INSTALLED. E.E. CDX SAID HE WOULD HAVE THIS DONE.

1st shift

6-3-68

1) Sold three DR's against OCP-1201-103 to J. Miller.

2) Cryo switch (pres) problems as recorded in OCP-1518-103 are still cycling. It is apparent that our measuring techniques just weren't accurate enough and J. Miller does not want to crank in ACE Tolerances to the spec. actuation points.

2nd

1- Pre-Test 1090; started into at a snail's pace.

2- Pre Test 1518 S/C 104; ditto as above.

3rd Shift 6-4-68

① S/C 103. Quantity Indicator on Panel #2 has been replaced, it was discovered on 3rd that the problem on the bad indications were caused by wrong wiring to the indicator, the original installation was not even wired per print - Instrumentation people have the full story and have also written a TPS to perform a continuity check to comply with fair sheet installation of replacement indicator
RBTW

1ST SHIFT 6-15-68

① COMPILED DR'S ON OCP 1510 FOR THE TPE REPORT GIVEN TO THE CTC

② PRE TEST BRIEFING FOR OCP 1090 HELD @ 1300

③ OCP 1090 STATION CALL 1500

④ PLACED CALLS TO ELIZ COOK BOTH Office & Home No Ans.

ART JONES WAS CALLED AND WOULD LIKE TO BE CALLED PRIOR TO THE W/G FILL.

HOME PHONE (213) 431-2971
AFTER 1800 - (213) FR 5-5151

4 CONT.
TOM BARRERA ~~EA~~ WAS CALLED AND NOTIFIED OF THE START OF OCP 1090 HE WILL COME IN @ 1600

(5) IT HAS BEEN BROUGHT TO OUR ATTENTION THAT OCP 10030 HAS BEEN PREPT. FOR 0131 & THE RETEST T.P.S., AND SOME OF THE CONNECTORS THAT ARE MANDATORY OPEN FOR OCP 1090 ARE MATED AND THE MANDATORY MATED ARE OPEN. WHEN THIS VARIANCE IS RESOLVED THE STATION CALL WILL BE ANNOUNCED.

(6) STATION CALL NOW SET FOR 1800

2nd Shift 6/15/68 J. Rhoades

(1) Open items in pretest @ shift change

still open
9.7A

(8.1) 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, ~~9.7~~, 9.8b, 9.8c, 9.10, 9.11, 9.12, 9.13, 9.14, 9.15

All closed except 8.1 @ end/shift

(2) TVAR 13975 written to delete operation of 214-113 valves (unit not on stand). HE-323 used in lieu of

SOLD (3) Oil found in H₂ vent line from H₂ Valve Box (H₂ Facility Vent - Run #50)

SOLD (4) DR #92 in Sit-01A Book - now Cat I to seq 04
DMP

(4) 8.1 & 9.7A open @ end/shift

3rd Shift 6-16-68 (7B)
DR #92 IN Sit-01A BOOK. FC LINE 936 #42 ON OIL LEAK HAS BEEN CLEARED.

(2) RD SUPPORTING IS BEING WORKED NOW. R.D'S ARE BEING SUPPORTED USING AVIS STRAP.

(3) HOLES ARE BEING DRILLED IN THE FLOOR TO INSTALL THE ALUMINUM PROTECTIVE BOXES WHICH WILL PROTECT THE R.D'S.

(4) FOUND A KINKED FLEX HOSE 936 FH14 GOING TO EXPOD 6 (VENT). THIS HOSE HAS BEEN REMOVED AND REPLACED.

(5) OCP 1090 SECTION II WILL NOT BEGIN THIS SHIFT OR ANY OTHER SHIFT UNTIL INTEGRATED TEST IS OVER ACCORDING TO CTC JOE SUTTLES

(6) PARA 9.7 Section I HAS NOT BEEN VERIFIED AS TO WHETHER OCP 1510 & 1518 COMPLETION HAS ANY EFFECT ON OCP 1090

1st SHIFT 6-16-68

1. DR 1 TO OCP 1090 (OCP 1510 & 1518 COMPLETION) C/A WRITTEN SIGNED BY STC, CTC & NTP.

SOLD

2. OK TO PROCEED IN SECTION II OCP 1090 @ 1455

3. CALL TO STATION AT 1458

4. HOLD @ SEQ 04 AT 15:10

1ST SHIFT 6-16-68

5. TVARS, 13980, & 13979 written to connect the pretest.
6. THERE IS A CAT 1 CONSTRAINT TO SER 05 -13 J. Miller NASA HAD A NOTE ON THE ~~SIG~~ OCP SIGNATURE PAGE WHICH NEEDS RESOLVED.
7. ELIS LOOK WOULD ALSO LIKE TO SEE ~~THE~~ RV 3 ON THE JK290-145 CHECKED FOR RELIEF PRESSURE !!!!!
8. STARTED SER 04 @ 15:41
9. DR 2 WRITTEN - FCZ REACS TB REMAINED GRAY AFTER SW WAS CYCLED.
10. TVAR SHOULD BE WRITTEN TO ACTUATE 1 OR 2 N2 FIL VALUES AT ONCE. SER ARE NOTED ON OCP SIGNATURE PAGE,

2ND 6-16-68

1. REF DR #2 IT APPEARS THAT THE PROBLEM IS IN THE INDICATOR CIRCUIT UPSTREAM OF P902 PIN 37. IT LOOKS LIKE THE NEXT STEP WILL BE TO PULL PANEL 226 AND CHECK PIN F AT J2/P382 WHICH COMES DIRECTLY FROM FCZ BUS CONT CB, REF (C2/TZ) MUCH LATER -- FOUND PROBLEM TO BE IN GSE CABLE W2557 ON C34-397 UNIT PIN 37 J2 to PIN 37 P1 reads infinity s/b continuity. TO CONTINUE BACK INTO TEST CABLE W2557 MUST BE REINSTALLED FROM C34-397 TO P902 Yahn

3rd Shift 6-17-68 (JD)

- ① COMPLETED DR Item # 2 thru Step 31 installation of Panel 226
- ② Cable W2557 WAS TAKEN OUT FOR REPAIR AND WILL BE RETURNED AS SOON AS POSS. IN THE MEANTIME THE CABLE WILL BE PULLED FROM J2 & INSTALLED ON 2C
- ③ ESTIMATED TIME FOR POWER UP OCP 1090 IS ABOUT 18 HRS.

2nd 6/17/68

- 1) TV 13604 to, revise back up valve location completed.

3rd Shift 6-18-68

Walt, picked up drawing but it doesn't look like what you were looking for, tried to find electrical Draw # for unit but had no luck.

CABLE W2557 HAS BEEN REPAIRED, INSTALLED & DRS 10, 11 & 12 HAVE BEEN SOLD

6-18 1ST SHIFT

IN CASE ART JONES IS NEEDED THIS EVENING HE WILL BE AT 682-1393
C/O MR W.J. FLEEMAN.

TEST SET UP FOR 1090 IS NOT QUITE CORRECT. THE RELIEF VALVE ON THE W/G CANNISTER IS SET FOR 60 PSI. THIS VALVE IS USED TO PROTECT THE BELLOW. WE NEED A RELIEF VALVE INSTALLED AT OUTLET OF MV S/O VALVE AND SET AT 35 PSI PER OLP FIG 1-2. THIS VALVE S/B IDENTIFIED RV 2 AND ALSO MV S/B IDENTIFIED. THE TEST SET UP SHOULD ALSO BE MOVED TO ANOTHER SPOT AND NOT TIED TO THE VAC PUMP AS IT PRESENTLY IS.

THESE CHANGES ARE IN WORK BUT PROBABLY WONT BE COMPLETED BY END OF SHIFT.

THE SAMPLE REPORT FOR 383 GREASE GUN IS IN THE TAIR BOOK IN THE GISE LEADMAN'S ROOM BLDG 290. GUN IS SERVICED AND OK TO USE. SAMPLE REPORT FOR W/G CANNISTER S/N 007 (INSTALLED) IS IN POSSESSION OF CHUCK WITT (TETRA GRP). S/N 011 (SPARE) CANNISTER HAS COPY OF SAMPLE REPORT WITH IT.

2. OLP 1510 DR # 4 IS SOLD BUT DR 6 WAS WRITTEN "EO TO COVER TVAR 02665 IS REQUIRED".

3. Retest TPS Oil needs an added step or two to tie in the Battery Busses to the Main Busses in the CM. This will give us the power to our cryo switches. The AC power is available from the CM anyway.
4. The Reactant Valve and Flow meter retest TPS is complete
5. The Cryo tank heaters, etc TPS (015) is complete.

2ND

ATTENDED SAFETY CLASS - SORRY ABOUT THAT

PLS GET COPY OF ELECT Sch on C34-397 or AT LEAST THE NO. I'M TOLD THAT KRAML OR TER KNOWS ABOUT THIS KLUGE

NOTE! GREASE GUN IS IN BME AREA WITH NO PAPER WORK. THE "STORY" IS THAT IT WAS SENT THERE FOR SAFE KEEPING (6/19 0830 HRS)

6-19-68

1st shift

1. Modified Retest TPS-011 to tie Bat Busses to Main Busses in CM. Also added steps to improve Set up of C34-397.
(Return to normal steps not yet added)

2. G. Reynolds will be getting drawings for the C34-397? At present nobody knows the drawing numbers for this unit. Some information can be found in the GSE Functional Integrated Schematics.

2ND 6-19-68

1. NO ACTIVITY TONIGHT ON SC103.

2. DR 4 & 5 ON 1510 } Sold NASA
DR 25 ON 1518 }

3RD 6-19-68:

Big Isolation checks being performed, it appears they have a problem with the in 2557 cables. but it isn't positively identified as of yet.

[Signature]

6-20-68

1st

1. Dwg. Numbers for C34-397
Schematic Basic N34-980000
" -101 N34-980019

2. Panel (console Assembly) N34-85040
Dwgs. are now in the files.

2. MCR 8066 which boosts current capability from the Meyers Panel to the FC N₂ Fill Valves has been worked. This per J. Christie.
Work accomplished per E.O. 691965 and TPS-C14-651-#40.

3RD 6-21-68

① Vehicle 103 powered up, 1090 has been assigned to channel #11- to go back into test.

NOTICE:

PLEASE CALL ART JONES (PEW)
SO THAT HE MAY BE HERE FOR
PIC W/G SERVICING. CALL AT
LEAST 1 HOUR PRIOR TO SERVICING.
OFFIC. PHONE - X1024, 1025, 1505, 1506
HOME PHONE - (213) 431-2971

[Signature]

6-21-68

1st

1. Note: Regarding % 103 Retest TPS's 011 and 015. It is very desirable that the Panel 2 Retest (TPS-011) be accomplished first to verify control and readout functions on Panel 2 before using these functions in TPS-015. However, if the world is going to come apart because we want to run them in this sequence we could run 015 first and hope for the best.

2. One of the three ~~to~~ graduated cylinders is dirty & needs to be sent out for cleaning - to Level 1. Do this 2nd shift. Jerry Birch (ext. 6343) in the B/290 basement will take care of it. Call him there. JJ

2ND ⁶⁻²¹⁻⁶⁸ Read above note at the end of 2ND shift. Sorry about that but didn't know it hadn't been taken care of.

Got into Compressibility check but had problems melting GSE TARE of .006. Went home to mama

3RD Shift 6-22-68:

- 1) Got A14-343 down to 0.006 inches, & ran several trials (Repeatability). Art Jones & F/C Gryo Engineering present. I feel it was about as good as it was going to be.
- 2) Notice: Performed Compressibility (after discussing it over with 1ST & 3RD shift supervision). ~~It was a success~~ !!!

Loop #1 Compressibility Data Sheet Regarding 1.261120.0 V deflection. A14-343 hooked up to system. Loop #1 ready for sample extraction, Shop securing Beakers & Bottles from TEK equipment Ready Room - ALAN →

Note: Beakers in box are clean level II, I think they should be level I.

Need T.VAR to change A14-343-101 callout in section 4.3 to A14-343 note DK in OCP.

1st Shift

1. In event that % 104 powers up and OCP-P-1518-104 can be resumed the plan is to resume it. This means if two operations are going on with % 103 i.e. panel retest and OCP-P-1090-103, the panel retest should give way.

1st Shift 6-22-68

1. Take water glycol samples very carefully, bag two bottles and seal. Take the samples for each loop to the office area but DO NOT send them to the lab. This is Huber's explicit instructions. We will give them to R. Ivy E.D.M. personally on Monday.

3. Note: E. Coofe will provide an EO showing that our S/C w/c samples do not have to be read to level II. When we get this E.O. (tonight) please write TVAR to correct the level reading requirement. Ref. Seq. 08-027

2ND 6-22-68

1. The samples for loops 1, 2, & 3 are in Huber's office per "explicit instructions" pg 81. NOTE: THE BOTTLES & PAPERWORK SHOULD PROBABLY BE CHANGED TO REFLECT E.O. 664075 & TVAR 13984.

2. ADDED SEVERAL NEW DR'S TO THE COLLECTION BUT THEY WERE MERELY REPEATS OF PREVIOUS SEQ DR'S.

3. TOM BARRERA ADDED MUCH VALUABLE ASSISTANCE DURING THE SHIFT. DOING EXTENSIVE RESEARCH ON S/C 104 F/C SIMULATORS. in addition to keeping OCP 1090 going. HA!

4. SHOULD PROBABLY SEND THE BEAKERS OUT TO BE CLEANED FOR NEXT TEST.

5. THREE Q.D.'s ON SK2D 176 ARE VERY BAD. IE: THEY STICK AND ARE QUITE DIFFICULT TO DEMATE. NOTE WE LOST SEVERAL DROPS OF W/C FROM LOOP I DURING DEMATE. BUT NOTHING BAD HAPPENED BUT IT COULD HAVE.

6: WITH RESPECT TO SEQ 11, ETC ON OCP 1090. PERHAPS THE FIRST SHIFT SHOULD GIVE DIRECTION TO WHETHER WE SHOULD SECURE THE CR40 QD'S ETC PRIOR TO WORKING ALL RETEST TPS'S OR WILL ANY OF THE TPS'S REQUIRE REMOVAL OF QD CAPS & THOS REQUIRE NEW PLACO SEALS.

The Dynamic Walfah 6-22-68

START VOICE CHECKS TAPES.

7. DR'S 7 & 8 ARE IDENTICAL DR'S BOTH REFERENCING A14-343 PRESSURE BEING GREATER THAN 12 PSIG CALLED OUT IN OCP.

3RD Shift 6-23-68:

- 1) Relieved 2ND shift with seq. 10 completed, holding 1090 about performing descent & shutdown sequence due to retest TPS #15-
- 2) Scheduled Retest Panel #2 TPS #011- and performed steps #1 & 2 and holding as Sequence Retest TPS 10 is running and we are not compatible for following reasons:
 - a) As soon as we deadzone spm we would knock 1036 Retest TPS #10 out of saddle-
- 3) Did not perform TPS #15- because I feel its not desirable to run TPS 15 until TPS 11 is completed as I dont think it is a good idea to expose system to electrical power without having electrical confidence of Panel #2.
(over)

also sequencers again remains running and if they go into abort modes & CSM operation they would kick us out of saddle when electrical power is cut off.

- 4) TPS #23. has not been put into work for reasons stated above -

Note: ~~#~~ Started stack people working ~~to~~ steps #1, 2, 3 & 4 of TPS #15 so that when we do resume testing we can go.

- 5) Am looking over the data for compressibility loop F/c loop #2. it looks like we might have to reperform that as the 2nd & 3rd readings on sp were not within the 0.002 tolerance which would allow us to proceed to taking the CSE TANK fig of 0.006 and subtracting it & multiplying by 39.41 conversion factor to determine the total or net compression for loop #2.

WAW

6-23-68

1st

1. Refest TPS -011 in work. Power switch-over and C34-397 worked according to theory.

H₂ Tank 2 ϕ C breaker was popped during step 6 by a defective VTVM or pilot error in using it. The guilty VTVM was set aside and a null meter obtained. The null meter is working properly.

2nd 6-23-68

- ① TPS 11 complete less DR #20 & 21
 - ② TPS 15 RAN THRU STEP 18 - PICKED UP DR #22 AT STEP 17 NO B.P. FOUND C34-397 TO BE OPENED OR DEADFACED AT LEAST PARTIALLY
 - ③ C34-397 NEVER PUSH "LAMP TEST" ~~AND~~ THIS DEADENES THE C34-397 REF DR #21
 - ④ LOOK INTO Hydrocarbon Analysis of LN₂ & Kluge before hooking up to spc.
- WAW

3rd Shift 6-24-68:

- ① I.L. signed by J. Durm, deletes LN₂ Hydrocarbon analysis on the LN₂. The dewar has been stung by AC....
- ② Held @ step #19 - No Concerns as Bus "B" loading quite heavy & not stable & will be this way all shift. decided to perform TPS23 to save some part of Refest effort.

Completed TPS 23. as discussed with J. Martin
 Need Mod #1 to delete close out steps -
 Now in configuration to continue TPS 15 @ step #19 -
 DAW →

1st.

6-24-68

1. S/c w/g Samples from FC loops Taken
 QA Lab Bldg 4 for physical and
 Chem. analysis.
 GSE Samples still missing, will
 try again tomorrow.
2. Wrote Mod 1 to TPS OCP-Refest-023.
 The C34-651 J Box pins as called out
 in original TPS should have the .9 volts.
 (DR 15 - low voltage on one dropping
 resistor is in my desk)
3. We should have a window on end
 shift for running TPS -015 as we
 can control Bus B while loading
 LN₂ at that time and watching for
 a change in Bus B current.

J.N.M.

2ND 6-24-68

- ① COMPLETED TPS 23 LESS DR# 23 which
 needs J. Miller's concurrence on conclusion.
- ② REF TPS 15. SHUT DOWN FOR SEVERAL
 REASON'S, WHICH ARE: ACE WON'T WORK,
 PG 1 LN 24R WON'T READ OUT (REF DR 24)
- ③ JUST TO SAVE ARGUMENT, SINCE WE
 ARE HOLDING, SENT SAMPLES OF LN₂ TO BLDG 18
 FOR HYDROCARBON ANALYSIS & BLDG 6 FOR
 MILLIPORE SAMPLE COUNT. THE RESULTS

2ND 6-24-68 (CONT).

ARE GOOD ON HYDROCARBON (REF REPORT NO.
 M107497 < 0.5 PPM, MILLIPORE IS IN
 BLDG 6 NOT YET COUNTED
 4) MUST START VOICE TAPE

5) SHOULD PICK UP CONTAMINATION REPORT
 AT BEGINNING OF 3RD SHIFT, THEN THERE
 WILL BE NO QUESTIONS ON STEP 32 OF TPS.

6) PROGRESSED RAPIDLY TO STEP 20. HOW
 ABOUT THAT??

GOOD NIGHT

WALT PANN 6-24-68

OH, WHAT IS THE POSSIBILITY OF
 RUNNING PORTIONS OF THESE CHECKS
 ON THE C34-397 IF WERE STILL SHUT
 DOWN? I THINK THE-397 IS AN
 EXCELLENT PLACE TO CHECK HOLDING
 VOLTAGE (REF TPS 23) - WALLY
 W

3RD Shift 6-25-68

At 04:19 HRS INTO TPS-015 AND STEP #19:
 OCP-TPS WAS IN STEP 32, PERFORMING SEQ 46-013 OF
 OCP-1518 WHEN ALL PUR WAS LOST VEHICLE & GSE ACE.
 R-START CONFIG: R036 1111, R040 1100, R042 0010
 R044 1010 -

STEP #10 - WRITTEN TO REMOVE PUR FROM CRYO QUANTITY
 AMP. CIR 2 - ON EMERGENCY PUR TPS. TIME 05:47

THERE SEEMS TO BE SOME RUMOR FROM HEADSHED, THAT WE
 EXPERIENCED A CITY WIDE PUR FAILURE, WHICH CAUSED LOSS OF
 PUR - DIRECTION FROM DOLLEY'S OFFICE, DO NOT PUR UP UNTIL
 FURTHER NOTICE,
 DR # 25 HAS BEEN RECORDED.

1st

6-25-68

1. Completed O₂ portion of OCP Refest
TPS-015

Picked up DR on O₂ Tank 1
pressurizing during O₂ Tank 2 pressurizing
steps. Pressurization could occur thru
the reactants check valves, the DV-1
QD or possibly the CM O₂ system.

2ND Completed DR 26 (ABOVE) Needs NASA (Miller's OC)
2. TPS 15 Need RACO SEALS FOR STEP 97 SEQ 51-058

3RD Shift:

① Concluding TPS 15 (seq 51-058 OCP1518) step # 97...
@ 04:45 no constraint to power down.

② Did not perform remaining portion of 1090
(closeout) as CB#3 has been opened to allow
signal conditioned rework on SM... Instrumentation
DR#. We would need CB#3 energized to allow
us to set up shipping pressure —

③ The only DR now open is DR # 26 - needs
NASA stamp after J. Miller signs off.

06:50

Completed TPS #15, with the exception of step
97 (performance of seq. 51-058 Raco Seals for Closeout)
I hear some on order and expected in house on 6-26-68
1ST shift —

Have fun with 1090 closeout, C/B 3 might be
energized as instrumentation rework is being
concluded. Rate G/N system still running

ACW

1st shift

① A T-VAR needs to be written for Seq 51-058
OCP 1518 which calls out the P/N for
the Rayco Seals to be installed in the O₂
and H₂ Fill Q.D.'s

OF-1, OF-2 P/N 13532-4070-3
HF-1, HF-2 P/N 13532-4070-1

This T-VAR will sell step # 97 of T.P.S. 015,
DR # 23 and a new stack DR - ?

These Rayco seals have been installed in the
Q.D.'s but have not been stamped off.

E.D.M.

2. Before we commit ourselves to shutting
down OCP-P-1090 we should verify there
are no glitches on OCP-Refest TPS-015.
Namely the resistance reading taken through
the H₂ Tank 2 heaters. It does have the
appearance of readings taken through diodes.

3. Samples from FC loops on 103 were
O.K. both chemically and particulatewise.
The latter per EOI 664075.

- 2nd
- 1) Sold DR #s 23 - "RAYCO SEALS INSTALLED"
 - 2) Sold DR # 26 - "TV 02666 to INCLUDE RAYCO SEAL NOS."
 - 3) Sold DR # 26 - "GEN RETEST O2 TK 1 BLEEDING INTO O2 TK 2"
 - 4) DR 8 "Cryo TK Qty O2 - 2" S/B } SNOW ABOUT TIME
 - 5) DR 24 NEED NASA ENG. CONC.
 - 6) DR 6-7-8 for 1090 S/B WORKED.

3RD SHIFT

OCP DR STATUS:

OCP 1518

DR # 8 wrote TV 14681, DR Skillojen as CEE unavailable to sign TVAR → (note TV. 14681 enclosed with DR 1090)

DR # 15 (Jim Maul) ??

DR # 24 - Needs Miller Sig.

DR 23, 26 & 26 (TPS 15) completely sold.

1090 - 6, 7, 8 open.

→ DR # 8 Sold to Company - *[Signature]*

1st Shift

6-27-68

1. Re. DR # 8 1518 - We have J. Miller half convinced that everything is kosher but he wants Design Eng. on the TVAR that D. Newman wrote on 3rd deleting the O2 TK 2 Qty Meter readings on the OCP. E. Cooke has been unavailable on this shift to look at the TVAR.

2. DR'S 6, 7 and 8 on 1090 have been closed to the point where there is no solution to why the readout discrepancy. The gauge on the A14-343 is very accurate according to TPS A14-343-004. Probably the only way out will be to widen the tolerances in the OCP and get engineering to sign the TVAR.

Instrumentation claims that their system would not account for the discrepancy.

2nd

1) Completed retest of O2 TANK 2 & 1 QUANTITY meters on Panel 2 DR # 8 A92215. Need J. Miller to sign it off. *[Signature]* 6-27-68

1st

6-28-68

1. Wrote conclusions on DR's 6, 7 and 8 against OCP-P-1090.

Discussed the conclusions on these DR's with J. Miller and he agrees with the reasons for the gauge readings on the #14-343. Sign off should not be difficult.

2. OCP-P-1518 only has a few loose ends to tie up before it can be signed off. e.g. TBS-004.

1st

7-3-68

- 1) TVARS written and signed to enable finishing the remaining sequences of OCP-P-1090-103.

The TVARS are in the front of the Test Team copy of the OCP which is on my desk.

TVAR Nos 22889, 22890, 22891

J.N.M.

1st

7-5-68

1. OCP-P-1090-103 is in hold on channel 13 awaiting 5% power up and availability of instrumentation power i.e. CB 3 and 4 must be set to closed on panel 276.

Voice tape is in a hold and must be turned on by TGS.

The first thing that is picked up when going back into 1090 is sequence 011 step -010 which verifies FC GN₂ blanket pressure is between 16 and 20 psia.

Note log entry 7-3-68.

2nd Shift

7-5-68

1. NASA test director said "Did not give O.K. to test OCP 1090". After completing sequence 011. Therefore QC copy of 1090 not NASA accepted & also TVAR 15760 and TV 15762 ~~and~~ not signed by NASA (test director TVAR's already performed. (NASA DC*1))

2. On Valve Box - G36 PR5 - missing a locking nut - Did not call TER as yet. Also loose "B" nut on O₂ valve box. Location?

3. Rayco seals not installed as yet on HP, HV-1 and HV-2.

J.N.M.

for P. Masumoto

2nd Received Three Rayco Seals
from CIC. Gave to Ray Wilburn
Supv on stack for installation.

Seals were being installed
at end of shift. Please
check for QC buy off
& Torquing per T.O.

1st Shift

7-8-68

If time and situation permits on 2nd
Shift see if you can come up with any
proof that the Rayco seals are in and
the dust caps torqued. There are no
stamps in the impound copy of the OCP.

2nd TV brought by second QC
for Seq. 12-008.

1st Shift

7-17-68

1. Answered questions today at CARR meeting
regarding S/C 103, FC and Cryo OCP's.
NASA representatives appeared to be
satisfied by the answers and apparently
will buy the OCP's.
2. A meeting is scheduled for 7-18-68
between NTR and NASA management
regarding the question of acceptable
contamination levels in EPS w/g loops.

J.N.M.

8-4-68 07:11 =

SIM 103 H₂ TANK HAS BEEN
DAMAGED - IT SEEMS A BENDER
ACCIDENTLY BACKED INTO H₂ TK, LEAVING
AN APPROXIMATE 10" x 11" DIA. DING WITH
~~RESULTING~~ A 2" x 2 1/2 inch concave impurity

8-5-8

LEAK CHECK OF NEW TANK IN WORK
THE FEED LINE PASSED AT 245 PSIA.
HAVING TROUBLE BUBBLE MACHINE
TRYING TO CHECK RD'S.
THE DR IS ON THE STACK AND ALSO
A COPY OF PROCESS SPEC

2ND 8-⁷6-68 0400

1) Completed DR 235 H₂ TANK 2 Replacement
Got signatures except for Jim Miller on
all pages & conclusion.

Excellent Herr Doctor! *W. H. Fah*

(DR V37 GEN A 11941Z #235)