

LABORATORY NOTEBOOK

DNV COLUMBUS, INC.

3130
Exhibit No. _____
Worldwide Court Reporters, Inc.



TITLE _____

From Page No. _____

Tuesday February 22nd, 2011

0720 - Daily planned activities and safety meeting conducted

- Challenger, Jacobs, Jan video, USES, and DNV personnel in attendance

0800 - Begin final rigging to perform ROV function test

0930 - ST-locks - Lock shuttle valve shifted through 70Y.
- Shuttle valve put into position to "block" ROV port. With this port blocked, the shuttle valve must be shifted by ROV pressure/flow

1000 - Take TWG members and level 2 observer through Temporary Enclosure to explain ROV setup.
- Larry Strait from DNV lead walk-through
- Brandon Rollins from DNV also was available for questions on walk-through

1050 - Flow rate of 1-gallon per minute set and confirmed using needle valve

- 1 gpm will be used for first ROV function test
- 3,000 psig will be supplied

- 280-gallons in HPU reservoir before ^{see oz/bal} starting test
- During first test, Accumulators will not be used

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Recorded by: <i>Quin C. Potts</i>	Date 02/22/11	Verified by:	Date
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From Page No. 1

- 1056 - Begin ROV testing using 1 gpm.
- start time on video monitor camera was 10:56:38
 - Test temporarily interrupted to fix a leak in manifold fitting at HPU
 - Stopped at 11:31:00 on video monitor time stamp
 - Pumping for 34:22 at this point.
 - Reservoir level ~~at~~ at this point is 259-gallons, which is equivalent ^{see 02/22/11} to 21-gallons input.
 - BSR open drum has 10.75-inches of fluid at stopping point, which is equivalent to 19.5-gallons.
 - Port side connecting rod confirmed extended at stopping point. No STBD connecting rod is not extended. ^{B# 0212211}
- 1344 - Restart ROV test using 1 gpm.
- restarted at 13:44:00 on video monitor time stamp
 - At approximately 13:54:15 ram was fully extended
 - Fluid was noted out of the shear ram close Hot stab
- 1400 - Re-stab and attempt to build pressure on Rams.
- At approximately 300-psi, hot stab forced out of Shear Ram close
- 1430 - Change Hot Stab and try again.
- 250 gallons in HPU reservoir prior to starting.
 - 13 9/16-inches in BSR open drum prior to starting.
 - No fluid could be heard from hose. No pressure built in system

To Page No. 3

Recorded by:

mha c. full

Date

02/22/11

Verified by:

Date



1500 - Hot stab removal and flow confirmed through hose into drum.

- At first only a small amount of flow out of new hot stab.
- Needle valve adjusted to a flow rate of 1.3 gpm

1510 - Restarted test of low to build pressure

- ST Lock shuttle valves shifted and pressure increased on shuttle gauges.
- + Movement of shuttle gauges occurred at approximately 300 psig. Indication was pressure dropping, and then increasing.
- Pressure increased to approximately 2700 psig at which point the piece of hard tubing connected to middle pipe ram sequence valve disconnected.
 - this hose disconnected previously during ram retraction and removal, during work done previously

1545 - The results of the test were reviewed and it was decided the test was invalid. Test will be repeated.

- In addition, the flow meter is not properly registering flow after the flow meter has any resistance to constant flow.
- Flow meter will be bypassed and flow rate will be set by adjusting flow prior to test.

1630 - Flow rate tests indicated that the flow rate is much more consistent when using the accumulator bottles

Recorded by:

Orlando C. Pollock

Date

02/22/11

Verified by:

Date

From Page No. _____

Wednesday, February 23rd, 2011

0720 - Daily planned activities meeting conducted

0730 - Began rigging to perform ROV function testing

- Pressure gauges on ST Locks - Lock port and STBD moved to above Blind shear Ram. This eliminates all hydraulic communication from the ST Lock circuits

- Flow meter removed from system

0800 - Flow rate out of Aof Stab connection adjusted to 1 gal/min

0940 - safety meeting held inside temporary enclosure to discuss function testing

- Challenger, Jacobs, USES, JARA video and DNV personnel attended meeting

To Page No. 5

Recorded by:

Bob C. Kollie

Date

02/23/11

Verified by:

Date



TITLE _____

From Page No. 4

0950 - Shift BSA shuttle valve to block out ROV port pr using 66Y
- 600-psig used to shift shuttle valve

1000 - Retract BSRs by supplying hydraulic pressure through 65Y
- Both Rams confirmed retracted through video

1017 - Shift shuttle valve 70Y to block ROV ST Lock.
- This puts shuttle valve in a position that requires it to be shifted by ROV function tubing.
- 600-psig used to shift shuttle valve

1030 - Shift shuttle valves that are shared with H.P. Shear Panel and ROV. Two shuttle valves on system; ST Locks and Blind Spar Ram 6000
- 600-psig used to shift shuttle valve

1053 - HPU Reservoir level without Accumulators checked
is 23 22.75-inches
Dec 02/23/11

1104 - Read HPU reservoir after charging Accumulators
was 9 1/8-inches

1106 - ^{11:06:20} ^{Book 02/23/11}
1106:52 is start time for ROV test

To Page No. 6

Recorded by:

Emch c folk

Date

02/23/11

Verified by:

Date

From Page No. 5

- 1106 - Fluid was noted out of BSR open side dump drain approximately 20-seconds after starting test
- 1144 - Port side ram extended first. STBD ram started to extend at this time.
- 1219 - Rams fully extended
- 12:19:20
- 1219 - Pressure on ST lock gauges noticed shortly after
- 1220 - ^{BSR extn}
~~3:000~~ Approximately 2,900-psi. Locked into system to check for leaks.
- No leaks after 15 minutes.
- 1223 - HPU reservoir level with accumulators charged is 5 5/8-inches
- 1417 - Final HPU reservoir after function and bleeding Accumulator pressure is ~~3,000-psi~~ 20.0-inches
^{BSR 02/23/11}
- 1430 - During removal of Hot Stack from Keel, there was noticeable head pressure. Fluid was led through drain valve on HPU manifold.
- 2 gallons collected.
- 1500 - Move/shut shuttle valve 66 Y by supplying hydraulic through end HPU
- 600-psi pressure.

To Page No. 7

Recorded by:

Buck Calk

Date

02/23/11

Verified by:

Date



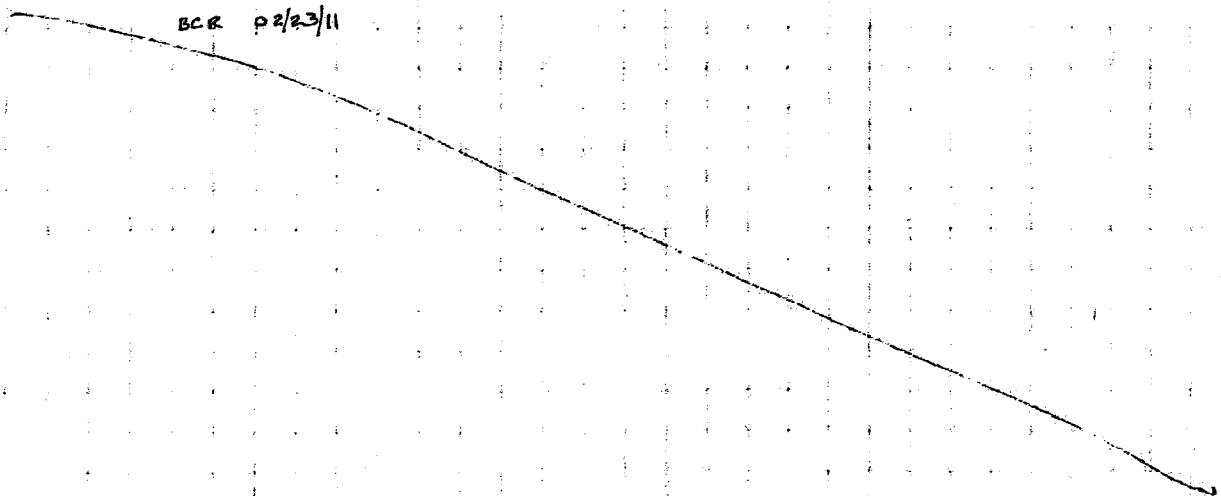
From Page No. 6a

1530 - Retract Blind Shear Rams using Red HPU
 - 600 psi pressure
 - Rams fully retracted

1630 - Fluid level in BSR close drum drain is 14.25-inches,
 which is equivalent to 25.8-gallons

Notes on test performed on 02/23/11

- Approximate time to close was 72.5 minutes
- Fluid input to system was 25.7 gallons
- Fluid collected in BSR close drain drum was 25.8-gallons
- An additional 2-gallons of fluid in connected hydraulic lines was drained through manifold



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Recorded by:

Bruce C. Rolke

Date

02/23/11

Verified by:

Date

From Page No. _____

Thursday February 24th 2011

0720 - Morning Safety and Daily planned activities ~~meet~~ meeting conducted _{acc 02/24/11}

- Challenger, USES, IAM Video, Jacobs, and DNV personnel attended

0805 - Review video to determine maximum ST Lock pressures

- Port side ST Lock gauge was 2,750-psi

- STBD side ST Lock gauge was 2,850-psi

0815 - Begin adjusting flow rate to 2-gallons per minute.

0815
Accumulator Dump Tank has 1.5 inches of flush

~~ST Lock gauge pressure review~~
Video - 12:30

~~28.75~~

2,750-psi

2,850-psi

} Have any pressure in outflow

reservoir level 28.75-inches

0905 - HPA reservoir level with 0-psi on accumulator is 28.75-inches

To Page No. 9

Recorded by:

Mark C. Pollock

Date

02/24/11

Verified by:

Date



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From Page No. 8

0940 - HPU reservoir after charging accumulators is 14 9/16 inches

0943 - Began ROV function test
- start test
- ~~A~~ ~~from~~ ~~BCP~~ ~~02/24/11~~
- Test had to be interrupted. Test will be restarted by draining accumulator bottles to zero and re-charging

0959 - Reservoir level on Red HPU with 0-psig accumulator pressure is 23.75 inches

1033 - Reservoir level on Red HPU with 3,000 psig Accumulator Pressure is 14 9/16 inches

1034 - Start ROV function test
- Test started at 10:34:30

1048 - Rams fully extended
- 10:48:04 - Full extension time as noted by connecting rd fully extended and increase in pressure on ROV.
- Pressure on gauge noted shortly after rams extending
- ST lock on ^{Red} ~~ST~~ side has 21775 - psig on pressure gauge
- ~~Red~~ side ST Lock has 21850 - psig on pressure gauge
- Pressure locked - in and will be held for 15 mins.

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Recorded by:

Date

Verified by:

Date

From Page No. 9

- 1100 - Approximately 150-psi pressure was lost after locking 7A pressure. A small leak just before needle valve was identified. Leak was located in NPT fitting
- 1104 - Final ROV pressure is 2825-psi
- 1115 - BSR open side drain tank fluid level is
 - 13 7/8-inches after extending Rams
 - Equivalent to 25.1 gallons
- 1116 - Red HPU reservoir level after function is 12.75-inches,
 - with pressure still on accumulators
- 1117 - Vent from manifold to drain hot stab and connected hydraulic circuits resulted in 2-gallons of fluid
- 1130 - The leak will be repaired and system will be pressurized again to repeat leak test
- 1345 - Red HPU reservoir level is 25 15/16-inches after relieving pressure on Accumulators
 - A total of 2.81-inches delivered to ROV function
 - Equivalent to 26.5-gallons

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Recorded by:

C. C. Pollock

Date

02/24/11

Verified by:

Date



From Page No. 10

- 1506 - Began pressurizing system after repairing leaks.
 - 3,000-psi put on system using Red HPU.
 - pressure isolated on system and will be held for 15-minutes.

- 1524 - Pressure held on system for 15-minutes
 - No pressure decay during 15-minutes.

- 1535 - Shift Shuttle 66Y using Red HPU.

- 1540 - Prepare to retract rams. Pressure bled from ROV lines and connected hydraulic circuits
 - 2-gallons collected

- 1545 - Red HPU Reservoir level is 25 3/8-inches with 0-psi pressure.

- 1602 - Retract rams using Red HPU.
 - Rams retracted with approximately 200-psi.
 - After rams retracted, pressure was limit to 2,500-psi.

- 1610 - Red HPU level after relieving pressure on Red HPU accumulators is 22 5/8-inches
 - 2 7/8-inches of fluid used during ram retraction
 - Equivalent to 26.9 gallons

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Recorded by:

Bruce C. Lott

Date

02/24/11

Verified by:

Date



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Friday February 25th 2011

0840 - Daily planned activities and safety meeting conducted
- Challenger, Jacobs, Jan Video, and HSES, and DNV personnel attended ^{see 2/25/11}

0850 - Begin ^{adjusting} adjusting flow rate delivered from ROV hot stab using needle valve. Target flow rate is 7.5 gpm.

0950 - HPU Reservoir level with 0-psig on Accumulators is 27.75 inches

1001 - HPU Reservoir level with 3,000 psig on Accumulators is 14 3/8 inches

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1022 - Begin ROV function test at a flow rate of 7.5 gpm
 - Pressure started at 10:22:04 on video monitor

1025 - Arms fully extended and pressure registered on ST Locks
 - Full extension at 10:25:19
 - Port ST Lock gauge is 2,875-psi
 - Starb ST Lock gauge is 2,900-psi

1027 - Pressure isolated on system
 - Pressure decay noted on gauges

1112 - ROV supply gauge stabilized at 2,800-psi
 - No leaks found on system.
 - ROV panels and lines leading to ST locks examined

1112 - Pressure increased to 3,000 psi
 - ROV supply gauge is 3,050-psi

1129 - Fluid level in BSR open drum is 14.75-inches

1134 - Small pressure decay noted after isolating pressure.
 - Only noted on ROV supply
 - ROV supply gauge is 3,000-psi
 - No leaks noted

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- 1147 - Fluid level in reservoir of HPU after relieving pressure to 0-psi_g on Accumulators is 25.25-inches
- 1147 - Approximately 1-gallon of fluid drained from ROV Hot stab hoses and connected circuits.
- Fluid drained through drain valve on manifold
- 1202 - Shift shuttle valve for BSE close to prepare for retracting rams
- 1213 - Video camera confirmed rams extended
- 1215 - Retract BSE rams using Red HPU.
- 600-psi_g to move rams
- Pressure then built to 3,000-psi_g
- 1224 - Both BSE ram connecting rods confirmed retracted
- 1227 - Red HPU reservoir level with 0-psi_g Accumulator pressure is ~~21~~ 21 $\frac{7}{8}$ -inches
Dex 02/25/11
- 1348 - Fluid level in BSE close drum is 65-inches
- Equivalent to 27.1-gallons

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1500 - Hoses and gangas connected to top stack disconnected and original hoses reconnected

- Hoses that were disconnected were temporary hoses for performing function testing

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Monday February 28th 2011

0720 - Daily planned activities and safety meeting conducted
 + Challenger, Jacobs, USES, JAM video, and ANV personnel attended

0745 - Work resumed on connecting hoses to Blue and Yellow rods.

- The following breakout torques were recorded on the 1/4" ^{tubing} ~~hoses~~ connected between solenoid and hydraulic side on 02/28/11.
- The breakout torques were determined using the "Powerbuilt" torque wrench. Information about the wrench can be found on p. 124 of Book 421 issued on Nov. 16th, 2010.

Pad	Tubing ID	Breakout Torque (ft-lbs)	Notes
Blue	103	0	Slightly loose
Blue	121	5	
Yellow	103	5	
Yellow	121	5	

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- 1435 - Begin checking battery voltage on Yellow Pod through pic connector. IBD
- 1440 - IBD shield plug removed.
- 1448 - ^{at 0220H} Pin A 2D reads 8.67V / is 9V for SEM A
 - ^{at 0220H} Pin B 3D reads 8.44V / is 9V for SEM B
 - Pin 4D reads 28.15V / is 27V
 - Pin 1D is ground
- 1455 - Reconnect dummy plug.
- 1507 - Begin checking battery voltage on Blue Pod through pre. connector IBD
- 1508 - Pin 2D reads 8.90V / is 9V for SEM A
 - Pin 3D reads 8.68V / is 9V for SEM B
 - Pin 4D reads 1.10V / is 27V battery
 - Pin 1D is ground
- 1510 - Dummy plug reconnected

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Tuesday March 1st, 2011

0720 - Daily planned activities and safety meeting conducted

1110 - Begin checking battery voltages on yellow pod

1114 - Pin 1D is ground / return

Pin 2D is 8.67 V / SEM A 9V battery

Pin 3D is 8.44 V / SEM B 9V battery

Pin 4D is 28.15 V / 27 V battery

1118 - Load test Pin 1D to 2D with 100 ohm load

- initial reading after connecting is 8.31 V

- After 2 minutes is 8.30 V

1123 - Load test Pin 1D to 3D with 100 ohm load

- initial reading after connecting is 8.10 V

- After 2 minutes is 8.08 V

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1127 - Load test Pin 1A to 4D with 100 ohm load

Dec 03/11/11

- ~~Output~~

- initial reading after connecting was 27.07 V

- After 2 minutes the voltage was 26.89 V

1135 - Load test Pin 1A to 2D with 20 ohm load

- initial reading after connecting was 8.02 V

- reading after 2 minutes was 7.99 V

1137 - Load test Pin 1B to 3D with 20 ohm load

- initial reading after connecting was 7.73 V

- Reading after 2 mins was 7.63 V

1139 - Load test Pin 1A to 4D with 20 ohm load

- initial reading after connecting was 26.04 V

- reading after 2 minutes was 25.42 V

1155 - Begin checking voltages on Blue Pad

- Pin 1A to 2D voltage was 8.96 / SEM A 9V

- Pin 1B to 3D voltage was 8.68 / SEM B 9V

- Pin 1D to 4D voltage was 1.09 / 29 V battery

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1157 - Load test Pin 1D to 2D using 100-ohm

- Voltage after connecting pin was 8.60 V

- Voltage after 2 minutes was 8.58V

1200 - Load test pin 1D to 2D using 20-ohm Load

- Voltage after connecting pin was 8.40 V

- Voltage after 2 minutes was 8.39 V

1205 - Load test Pin 1D to 2D using 20-ohm Load

- Voltage after connecting pin was ~~8.20~~ ^{8.20} 8.25V
BCE 03101111

- Voltage after 2 minutes was 8.24 V

1208 - Load test Pin 1D to 3D using 20-ohm load

- Voltage after connecting pin was 8.11 V

- Voltage after 2 minutes was 8.02 V

1430 - Begin filling Bob with stackguard to use as prep for site preservation
BCE 03101111

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- 1140 - Begin determining size of pin connector port/pin opening
- internal diameter
 - determined using calibrated gauge pins
 - 0.1065-inches is loose with a small amount of spring
 - 0.1070-inches is point where spring (good connection) is first noted
 - 0.1090-inches is point where pin gauge can no longer be connected.
- checked with calibrated gauge pins

- 1530 - Begin replacing Solenoid 103. Replace Solenoid 103 currently installed with solenoid removed on 214000
- Remove Hex Bolts holding in place
 - Upper left and right Hex bolts had a breakout torque of 5-ftlbs
 - Lower left and right hex bolts had a breakout torque at 3 ftlbs
 - Breakout torques determined using powerball torque wrench, see p. 10
 - The same torque was built on hex bolts for installed solenoid.
 - O-rings were replaced.

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Wednesday March 28th 2011:

- 0720 - Daily planned activities and safety Meeting conducted
 - Challenger, USES, Jacobs, Tam Vides, and DNV personnel attended.
- 0745 - Walkdown of Pod AMF/Deadman and Autoshear setup performed to determine setup for video camera and PORU.
- 0800 - Final preparations of test setup for Pod Electronics. Function testing of AMF/Deadman and Autoshear.
- 0830 - Begin dry-runs of PORU software, system not connected to Pods, with assistance from Cameron.
- 1015 - Begin walkthrough of AMF/Autoshear test setup with TWG and alternates
 - Steve Katsay and Brandon Rollins from DNV lead walkthrough.
 - Time allotted for questions.
- 12:30 - Meeting with TWG and alternates conducted to discuss AMF Deadman Function test and protocols.

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1400 - Begin making changes to setup following meeting

- Clevises removed from hydraulic actuators connected to LMRP and stack stringers

- Main supply hydraulic line removed.

- Pressure gauge from main hydraulic supply also removed.

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Thursday ^{Est March 3rd} 2011
 03/03/11

- 0720 - Daily planned activities and safety meeting conducted
 - Challenger, Jacobs, USES, Jam Video, and DNV personnel attended
- 0745 - Begin final preparations for Pods function testing, including connecting RCB cable
- 0815 - Begin walk-through after final setup is completed.
 - TWA, alternates and PII members attended
 - Time for questions allowed.
- 0845 - Begin final preparations, including connecting RCB cable
- 1015 - Begin Dry-Run of protocols.
- 1145 - Complete Dry-Run
- 1318 - Begin live tests of AMP/Deadman and Auto shear pod function testing protocols
- 1324 - Electrical power and communication from two PETUc established to Blue and Yellow Pods

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1330 - Apply Pilot supply pressure, lock-in, and drain pressure from pilot line to test check valve on Accumulator bottles

- Pressured decreased to zero due to leak on Blue Pod Pilot Supply Regulator
- only a small leak

1336 - Repeat test with Blue Pod isolated

- 2,950 - psig Locked-in
- Some pressure decay but no leak identified
- Decision made to continue with testing without repairing leaks

1344 - Perform Auto shear function test through PETH by activating Auto shear Arm, solenoid 121 on Yellow Pod.

- Function fired/activated as indicated by pressure on 4121 Gauge
- 2,950 - psig on gauge

1348 - Perform Auto shear function test through PETH by activating Auto shear Arm, solenoid 121 on Blue Pod

- Function fired/activated, as indicated by pressure on 8121 gauge
- 2,700 psig on pressure gauge. Small leak noted
- Test repeated
- 2,700 psig on pressure gauge

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1354 - Begin Pre-AMF function tests.

- Via PETU activate solenoid 103 through SEM A on Yellow Pod
 - 0-psig pressure on Y103 Gauge
 - Solenoid did not function
- Via PETU activate solenoid 103 through SEM B on ^{Yellow see option} Blue Pod
 - 0-psig pressure on Y103 Gauge
 - Solenoid did not function
- Via PETU activate Solenoid 103 through SEM A on Blue Pod
 - 2,700-psig on B103 gauge
 - Solenoid functioned
- Via PETU activate Solenoid 103 through SEM B on Blue Pod
 - 2,700-psig pressure on B103 gauge
 - Solenoid functioned

1425 - Via the camera PETU, activate LMRP and Stack Stinger Extend functions to confirm actuators will move

- Blue and Yellow Pod stinger actuators moved correctly as confirmed visually
- Stinger actuators retracted

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- the following ^{Box 03/03/11} ~~ref~~ entry was performed at approximately ¹⁴¹⁵ ~~1415~~ _{see 03/03/11}

- Solenoid 103 will be functioned without hydraulic fluid.
 - electronically only, Yellow Pod.
- Pressure bled from system
- 103 functioned multiple times on both SEMA #A
- No evidence that solenoid function (hearing/sound)

1434 - Decision made to disconnect plug from solenoid 103 on Yellow Pod and reconnect to confirm a good connection.

1455 - Attempt to activate / function solenoid 103 after reconnecting plug. No fluid used during test.

- SEM B of Yellow Pod.
- functioned multiple times.
- An audible indication of the solenoid functioning was noted one time.

1500 - Attempt to activate solenoid 103 with hydraulic pressure

- Using Yellow Pod - SEM A
- No pressure on gauge 1034
- Pilot pressure bled to see if it would cause shuttle ^{S.1234} ~~valve~~ to shift _{see 03/03/11}
- ~~the~~ solenoid did not shift _{see 03/03/11}

1505 - Attempt to activate Yellow Pod solenoid 103 with SEM B. No hydraulic fluid used.

- No response detected
- De-energize / de-activate. An audible click was heard

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1506 - Attempt to activate Yellow Pod Solenoid 103 with SEM B using PETU. No hydraulic fluid.

- No response noted

- De-energize / De-activate Solenoid.

- No response

1507 Attempt to activate Yellow Pod Solenoid 103 with SEM A using PETU. No hydraulic fluid

- No response detected

- De-energize / De-activate Solenoid

- No response detected

1509 - Attempt to activate Yellow Pod Solenoid 103 with SEM A using PETU

- First activated with no hydraulic fluid and left "activated"

- No response detected

- Second, hydraulic fluid delivered to pod, and therefore solenoid.

- No pressure on 4103 Gauge

1512 - ~~Done~~ ^{successful} decision was made to replace the original Solenoid 103 with the replacement solenoid 103

- Measurement and photographs taken of replacement and original solenoid 103 connector pins

original solenoid pin measurements:

Three copper pins: 0.108-inches, 0.107-inches, 0.108-inches

Center pin: 0.1288-inches

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The replacement pins measurements:

The copper pins: 0.109-inches, 0.107-inches, 0.108-inches

The center pin: 0.108-inches

1536 - Solenoid 103 will be replaced

1536 - Attempt to Activate replaced solenoid 103 with SEM A using PETU. No hydraulic fluid used

- Confirmed solenoid Activated with Audible indication
- De-activate Solenoid 103, Audible indication of solenoid functioning

1538 - Attempt to Activate replaced Solenoid 103 with SEM B using PETU. No hydraulic Fluid used

- Confirmed solenoid Activated with audible indication
- De-activate Solenoid 103, Audible indication of solenoid functioning

1541 - Supply pilot pressure to pods

1542 - Hydraulic pressure through SEM A using PETU to activate solenoid 103

- 3,000 psig on gauge 4103

1543 - Hydraulic Pressure through SEM B using PETU to activate Solenoid 103

- 3,000 - psig on gauge 4103

1555 - Energize then De-energize LMRP and stack Stinger Seals

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1558 - 1,000 psig hydraulic pressure supplied to AMF/Deadman connection 2A and locked in
 - 1,099 psig confirmed on ACTU

1602 - Activation/Arming AMF card on Blue and Yellow Pods

				SEM	
				A	B
Current	Yellow	Pod channel value (analog)	913	916	
Current	Blue	Pod channel value (analog)	917	915	
Deactivate	AMF Deadman	(900±60)			
	Yellow Pod	analog channel value	914	915	
	Blue Pod	analog channel value	918	915	
Activate	AMF Deadman	(0-30)			
	Yellow Pod	analog channel value	18	16	
	Blue Pod	analog channel value	14	16	

16:11:40 - Blue Pod de-energized
 - AMF did not activate

16:12:50
~~16:12:50~~ - AMF/Deadman pressure ~~OK~~ bleed to zero
 - AMF did not activate

16:14:00
~~16:14:00~~ - Yellow Pod de-energized
 From time = 0 seconds
 PCU screen/laptop goes off = 5~~0~~ secs.
 LMRP and stack stingers extend = 16 secs.
 LMRP and stack stingers seals energize = 18 secs.
 H.P. Blind shear. Gauge 403 has pressure = 22 secs.
 Solenoid 103 de-activate = 58 secs

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1615 - Pressure on Y103 = 3,000 - psig

1628 - Re-activate / turn power on to Blue Pod.

Time from giving order to power on = 0 seconds

Pressure on H.P. Blind shear B103 gauge = 19 seconds

Solenoid 103 deactivates = 55 seconds

Note Blue Pod did not activate without voltage supplied from PETL.

- 2,700 - psig max pressure on B103

- Stingers confirmed energized

1645 - Re-check AMF/Deadman Voltages through pie connector D

Blue Pod SEM A 9V = 8.90V

Blue Pod SEM B 9V = 8.61V

Blue Pod 27V = 0.71V

Yellow Pod SEM A 9V = 8.61V

Yellow Pod SEM B 9V = 8.56V

Yellow Pod 27V = 27.69V

1700 - Replace / remove Replacement Solenoid 103 with original solenoid 103

- AMF/Deadman test will be repeated with original solenoid on Yellow Pod only

1720 - Supply 7,000 - psig Pod Pilot Supply

1732 - 1,100 - psig put in AMF/Deadman circuit and locked in

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1723 - Yellow Pod POTH on

1724 - Confirmed pressure thru PETH to Deadman and Pilot

1725 - AMF/Deadman enabled on SEM A
- Analog Channel value is 171727 - AMF/Deadman enabled on SEM B
- Analog Channel value is 15

1730 - Pressure bleed to 0-psi on AMF/Deadman

1734 - Yellow Pod turned off through PETH

After 43 seconds, pressure was delivered to Y103

After 50 seconds, pressure off on Y103

- maximum pressure on Y103 is 3,000-psi

- PETH turned back on. Pressure delivered to Y103 again. 3,000-psi

1739 - Repeat AMF Test

1739 - AMF/Deadman pressure of approximately 1,000-psi locked in

1740 - Stack and WRP Stingers seals de-energized

1741 - Stack and WRP Stingers retracted

1742 - Pilot Supply pressure confirmed on PETH

1743 - Conduit Supply pressure confirmed on PETH

1744 - Arm/Activate AMF/Deadman
SEM A = 17 (analog)
SEM B = 15 (analog)

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1745 - Pressure on AMF Bled to zero
 - AMF did not activate

1747 - Yellow Pod De-activated / Power turned off

Time from Pod turned off

LWRP and stick Stingers Extend = 16 seconds
 LWRP and stick Seals Energize = 17 seconds
 Pressure on Y103 = 21 seconds
 Pressure off of Y103 = 51 seconds

1749 - PETM turned on
 - Pressure again on Y103

1807 - Repeat test again. Longer wait time before turning on PETM

1808 - Attempt to activate Solenoid 103 through SEMA using PETM
 - Did not activate
 - 0 psig on gauge

1811 - Attempt to activate solenoid 103 through SEMA using PETM
 - Did not activate
 - 0 psig on gauge

1814 - Approximately 1,000 psig put on AMF Deadman

1815 - LWRP and stick Stinger seals De-energized
 - Stingers also retracted

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1816 - AMF/Deadman Armed through PETU on SEM A & B
 SEM A value = 167 (analog)
 SEM B value = 16 (analog)

1818 - Pressure bled to 0-PSIG on AMF/Deadman

-AMF did not actuate

1820 - Yellow Pod PETU turned off

Time from giving command (0 seconds)

PETU off = 5 seconds

LARP and Stack Stingers Extend = 16 seconds

LARP and Stack Stingers Energize = 19 seconds

Pressure on Y103 = 21 seconds

Pressure on Y103 off = 31 seconds

- 3,000 PSIG max pressure

1826 - PETU turned on

- Pressure on Y103 3,000 PSIG

1828 - Attempt to directly operate Y103 through SEM A and B
 using PETU

- did not actuate

- 0-PSIG on Y103

1905 - Recheck Yellow pod Battery voltage

SEM A = 8.53 V

SEM B = 8.12 V

27 V = 27.18 V

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1990 - Check ANF/Dadman Analog values on Blue and Yellow Pods

Blue Pod SEM A = 15

Blue Pod SEM B = 915

Yellow Pod SEM's greater than 900

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Friday March 1st 2011

0820 - Daily planned activities and safety meeting conducted
 - Challenger, Jacobs, USES, Sam video, and JMW personnel attended

0855 - PETU & Laptop connected to Yellow Pod
 - PETU serial # 11780713-01
 - The PETU has an A/B mode, Both SEMs connected/controlled simultaneously

0856 - Pilot supply pressure delivered
 - 2,961-psi according to PETU/Laptop
 - 3,000-psi on Pilot Supply Gauge

0856 - Solenoid 103 activated with mode A/B selected.
 - Solenoid 103 activated, 3,000-psi on gauge
 - Solenoid de-energized

0858 - Switch to Single SEM Mode, SEM A, and activate Solenoid 103.
 - Solenoid 103 activated, 3,000-psi on gauge
 - Solenoid de-energized

0900 - Switch to SEM B and activate solenoid 103
 - Solenoid 103 activated, 3,000-psi on gauge
 - Solenoid de-energized

0906 - Decision was made to switch to other Laptop and PETU
 - PETU Serial # 4286-0004

0911 - Pod Pilot supply pressure delivered to pod
 - Laptop and PETU indicated 2,976-psi to pod
 WCA 03/01/11

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- 0912 - Solenoid 103 activated with SEM A selected
 - Solenoid activated, 3000-psi on gauge Y103
 - Solenoid de-energized
- 0913 - solenoid 103 activated with SEM B selected
 - Solenoid did not activate, 0-psi on gauge Y103
- 0914 - solenoid 103 attempted to be activated two more times with SEM B
 - 0-psi on both gauges both repeat tests
- 0915 - Activate solenoid 103 with SEM A selected
 - solenoid did not activate, 0-psi on gauge Y103
- 0926 - Switch back to PETU with dual A/B switch
 - Serial # as given at 0855 entry
- 0927 - Pilot supply pressure given and confirmed
- 0928 - Activate solenoid 103 with SEM A selected
 - solenoid activated, 3,000-psi on gauge Y103
- 0929 - Activate solenoid 103 with SEM B selected
 - solenoid activated, 3,000-psi on gauge Y103
- 0937 - Measure voltage on Pin 1 and 2, which is for SEM A of Solenoid 103 on SEM P1 connector
 - 9V when no function/solenoid activated
 - when Laptop/PETA given activation command for Solenoid 103
 - Activation is steady at approximately 15V with some fluctuation
 - Voltage peaks to 25.63V for brief periods of time
 - Voltage continues to cycle between steady and peak value
 - Laptop/PETA serial # as given at 0855 entry

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0942 - Measure Voltage on Pin 3 and 4, which is for SEM B.

- With Solenoid 103 de-activated, the voltage is 13.26 V

- With solenoid 103 is given activation command using the Laptop/Peru the voltage cycles between a steady state value and a peak

- Steady state voltage is approximately 17.5 V with some fluctuation

- Peak voltage is 25.69 Volts

- All voltage measurements made with a Fluke and an approximate 4-foot jumper cable that was connected to connectors on the SEM

0947 - Laptop and Peru switched for the one referenced in 0906 entry

0947 - Measure voltage on Pin 1 and 2, which is for SEM A.

- With Solenoid 103 de-activated, the voltage is 9.32 volts

- When solenoid 103 is given activation command using the laptop/peru the voltage cycles between a steady state value and a peak.

- Steady state voltage is approximately 15 volts with some fluctuation

- Peak voltage is 25.69 Volts

0948 - Measure voltage on Pin 3 and Pin 4, which is for SEM B

- With Solenoid 103 de-activated, the voltage is 13.22 Volts

- When Solenoid 103 is given activation command using the Laptop/Peru the voltage cycles between a steady state value and a peak

- Steady state voltage is approximately 17.5 Volts with some fluctuation

- Peak voltage is 25.69 Volts

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- Plug from Solenoid 103 re-attached to SEM

1000 - Activate Solenoid 103 with Laptop / POTS re-finished
at 0858. SEM A activated
- Solenoid activated, 3,000 psig on gauge Y103

1002 - Activate Solenoid 103 with SEM B
- Solenoid activates, 3,000 psig on gauge Y103

1003 - Activate Solenoid 103 with SEM A & B activated/selected
- Solenoid activates
- 3,000 psig on gauge Y103

1005 - confirmed that headman is dis armed

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