

RAHUEL CARSON
DeepPIV on VENUS A Deployment # 52 Checklist
v 5.0.0 22 August 16
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Dive Objective: midwater testing, sponge filtration rates
4 mislin bottle samples, 1+2 spade, 5+4 same animal (vehicle is near)
1 sampler/pulper did not work, 2 sample in 1+ logo
PIV of 6 individuals → false diag.

Deployment Date: 03.01.17
Recovery Date: 03-01-17
Person performing topside checklist: KATIANI

Pre-deployment alignment:

- ✓ 1. Verify that DeepPIV laptop and peripherals are connected (Ethernet, usb, mouse, monitor, AJA/Shogun recorder)
- ✓ 2. Power up DeepPIV
- ✓ 3. Open Silex USB Controller and connect
- ✓ 4. Open Sony Remote Camera Controller and modify camera settings
- ✓ 5. Verify laser and camera alignment
 - a. Place protective shroud around DeepPIV instrumentation
 - b. Remove protective covers on laser and camera housings
 - c. Check that housing markings on laser and camera housing are aligned
 - d. Power up the laser
 - i. Rotate the dial to 2 V in Laser dialog tab
 - ii. Record output of ADC: _____
 - iii. Measure laser power: _____
 - e. Using digital level, compare laser sheet alignment with camera housing glass port
 - i. Record digital level reading on laser sheet: _____
 - ii. Record digital level reading on camera housing: _____
 - f. Power down the laser
 - g. Replace protective covers on laser and camera housings
 - h. Remove protective shroud from DeepPIV instrumentation
 - i. Close Remote Camera Controller software, disconnect Silex USB connection
- ✓ 6. Power down DeepPIV

Calibration
completed on
02-28-17

Pre-deployment:

- ✓ 1. Verify that DeepPIV laptop and peripherals are connected (Ethernet, USB, mouse, monitor, AJA/Shogun recorder)
- ✓ 2. Power up DeepPIV
- ✓ 3. Run pre-dive test program and verify correct operation of the following systems:
 - ✓ a. DeepPIV camera (ISO, shutter speed, f-stop, record)
 - i. Open Silex USB Controller and connect
 - ii. Open Sony Remote Camera Controller
 - ✓ b. DeepPIV laser

- i. Power up the laser, rotate the dial to 2 V
 - ii. Record output ADC: 2015
 - iii. Measure laser power: N/A
- ✓ AJA/Shogun HD recorder (record, stop, playback)
- d. Dye injector/vortex generator (disconnect tubing if dye injector being used, move piston, reset piston, set different increments)
 - i. Note COM port on ROV: _____
 - ii. Note COM port on Serial-to-USB converter (either 1/2): _____
 - iii. Open ELMO Controller software
 - iv. Direct connect to motor
 - v. Set baud rate to 19200 **BLEW FUSE**
 - vi. Set COM port (either 3/4): _____
 - vii. Connect
 - viii. Use Velocity Mode, hit stop to prevent dye leakage
 - ix. Set speed to 100 rpm and hit go, stop; reverse direction, go, stop
- e. Translational stage
 - i. Ensure that Ethernet cable is connected
 - ii. Open ELMO Controller software
 - iii. Direct connect to motor
 - iv. Set baud rate to 19200
 - v. Set COM port (either 1/2): _____
 - vi. Connect
 - vii. Use Velocity Mode, hit stop to prevent screw from turning
 - viii. Set speed to 500 RPM and hit go, stop; reverse direction, go, stop
- f. Sizing lasers
- ✓ 4. Sync all components (including Science and DeepPIV camera) with ship's NTP and record video on both cameras
- ✓ 5. Check that all cable connectors and dummies are installed and tight
- ✓ 6. Check that all dye/vortex generator tubing is installed and tight
- ✓ 7. Open all dye valves and connectors
- ✓ 8. Remove protective covers on laser and camera housings

Deployment:

1. Deploy ROV, noting exact time and position of launch.
 - a. ROV launch time: 18:50 PDT
 - b. Latitude: 36° 47' 8.526 deg
 - c. Longitude: 121° 51.2933 deg
2. Record time it takes for ROV to submerge: _____
3. Dive plan: refer to _____
4. Start AJA/Shogun recorder when event of interest occurs; stop when finished

Recovery:

1. Record the time that ROV is on deck: 3:00 p PDT
2. Power down DeepPIV
3. Close all dye injector/vortex generator valves
4. Rinse instrument housings and attachments with fresh water
5. Replace protective covers for laser and camera housings