AZFP Certificate of Recalibration Version : 6.0

4/14/2020	Operator:	Jay Milligan	Unit Serial Number:	59009

Changes to original calibration indicated in yellow. All sphere checks performed with new calibration values.

Sonar Channel #1:

Frequency:	67.5KHz	Transducer Part#:	ASL2Freq	Transducer Serial#:	102

		Original	Remeasured		Original	Remeasured		Original	Remeasured
OCV:	Voltage on reference:	9.73V	9.7V	Reference TVR:	143.2dB	143.2dB	Transducer Voltage:	0.17V	0.15V
TVR:	Voltage on transducer:	350V	455V	Reference OCV:	-213.1dB	-213.1dB	Reference Voltage:	0.7V	1.43V

System Gain and Linearity:

Voltage on Reference	A/D Counts(N)	
	Original	Remeasured
*	65000	65000
-10dB	58870	58880
-20dB	52710	52760
-30dB	46700	46700
-40dB	Not Measured	40470

Recalibration Values			Units
	Original	Remeasured	
TVR	159.1	163.0	dB
VTX	123.7	160.9	Vrms
BP	0.0428	0.0428	Sr
Echo Level	149.6	149.2	dB
Slope	0.023	0.023	V/dB

Sphere Check Performed with new calibration values		Units
Water Temp	10.4	degC
Range	310	cm
Measured	-54.3	dB
Expected	-53.8	dB
Error	-0.5	dB

*This voltage is adjusted to bring N between 65000 and 65500 counts

All measurements with 1.0 meter separation in 20 degC fresh water unless otherwise noted.

Recalibration Details

Sonar recalibration:

The sonar system is recalibrated using a reference hydrophone and a reference source transducer in our fresh water laboratory test tank. All measurements are at 20degC and 1.0 meters distance. The AZFP does not use a TVG system so all system gain measurements are valid from 0 meters to full range.

Sonar Sphere Check:

The sonar sphere check is done in ASL's outdoor fresh water calibration tank. A precision tungsten-carbide sphere with known target strengths (at each frequency) is placed at 4.0m from the transducer. The values measured by the unit under test are compared to the known values of the sphere.

Pressure Sensor Check:

If a pressure sensor is installed in the unit under test, the pressure sensor is connected to the Reference Pressure Unit and a pressure reading is taken near 1BAR pressure and then another near the maximum pressure of the pressure sensor. The values from the Reference Pressure Unit are compared to the values reported on the unit under test.

ASL Environmental Sciences Inc.
#1-6703 Rajpur Place, Victoria, BC, Canada V8M 1Z5
Phone:+1-250-656-0177
Fax: +1-250-656-2162
Email: asl@aslenv.com
Web: www.aslenv.com