MicroLAB Standard Service Schedule

Instrument		**Serial Number**	
Date		**Operator**	
Deployments To Date		**Samples To Date (approx.)**	

It is recommended that you keep service records in a log book and carefully recording the service history of your instrument. This service schedule is provided to assist you. Following the steps below will ensure the reliability of your equipment during deployments.

The tables below are in the following format:

Task	**Part**	**Frequency**	Initial when done
Brief description of task (see manual for more detail if necessary).			

Images of the relevant parts can be seen either in the manual or on our website in the Spares Catalog on our Resources page.

Valve Assembly

Alignment	**Rotary Valve (GEN-P005)**	**Every deployment**	Initial when done
Check accurate alignment at valve port 1. If not aligned re-calibrate valve alignment.			

Nozzle torque	**Valve Nozzle**	**Every deployment**	Initial when done
Loosen ½ turn and re-torque valve nozzles using the nozzle adapter (GEN-P002) and recommended torque driver (GEN-P015)			

Rotary shaft and o-rings	**Rotary Shaft**	**8000 samples / 6 deployments**	Initial when done
Remove shaft and check for wear. Remove o-rings, clean groove and replace.			

Rotary bush and o-rings	**Rotary Bush (MCL-P010)**	**8000 samples / 6 deployments**	Initial when done
Remove bush and check for wear. Use recommended tool (GEN-P025). Remove o-rings, clean groove and replace.			

Syringe Assembly

Item	Part	Interval	Done
Syringe coupling tightness	**Syringe Coupling (MCL-P009)**	**Every deployment**	Initial when done
Check screws for tightness			

Syringe plunger wear	Syringe/Plunger (MCL-P008)	Visual check / as needed	Initial when done
Disassemble syringe assembly and clean. Replace plunge o-ring. Check for wear on plunger and barrel and replace as needed. Replace valve o-ring.			

Plunger travel	Lead Screw (MCL-P011)	Every deployment	Initial when done
Check for 1200 steps travel from fully inserted to engagement of clutch when retracted fully			

Linear shaft tightness	Linear Shaft (MCL-P006)	Every deployment	Initial when done
Check linear shaft / lead screw is tight			

Retaining bar clearance	Retaining Bar	4000 samples / 3 deployments	Initial when done
Check screws are tight. Check for 1 mm clearance between top of retaining bar and bottom of syringe motor when plunger is fully inserted			

Linear shaft wear	Linear Shaft (MCL-P006)	4000 samples / 3 deployments	Initial when done
Remove linear shaft and check for wear. Shaft should feel smooth. Any ridges or patches that can be felt indicated a shaft replacement is needed.			

Seal housing wear	Seal Housing (MCL-P007)	4000 samples / 3 deployments	Initial when done
Remove carefully using special tool (GEN-S004) and check for wear in barrel. Replace if vertical scratches are visible			

Variseal wear	Variseal (GEN-S002)	4000 samples / 3 deployments	Initial when done
Check for deformation and/or damage to the Variseal lip. Replace if necessary or at service interval. See note*			

Lead screw corrosion	**Lead Screw (MCL-P011)**	**4000 samples / 3 deployments**	Initial when done
Check for any sign of corrosion on top end. Replace lead screw and seal housing and/or Variseal if corrosion is visible. Lightly grease lead screw with black graphic grease provided.			

*The Variseal (only) or the Seal Housing may be replaced. The Seal Housing contains a fitted Variseal. A special tool (GEN-S003) is required to insert the Variseal. Changing the Seal Housing is recommended.

Detectors

Blanks	**DET-Mxxx**	**Every deployment**	Initial when done
Inject a filtered blank into the flow cell and measure the blank reading. Compare with previous/original readings. Clean flow-cell as required to achieve readings coherent with previous blank measurements.			

Cleaning with a good quality laboratory detergent is recommended. e.g. dilute DECON / CONTRAD solutions.

General

O-rings / seal integrity	**O-rings (MCL-P002)**	**Every time pressure case is opened**	Initial when done
Clean* and carefully check main pressure case o-rings and sealing surfaces for absolute cleanliness. Check sealing surfaces for scratches. Lightly grease and replace clean o-rings**			

Real-time clock	**ESM electronics**	**Every deployment**	Initial when done
Check setting of the real-time clock. Correct as necessary			

Coin-cell	**ESM electronics**	**Every deployment**	Initial when done
Check that the real-time clock setting is retained through a power-off for 30 seconds. Replace coin-cell every 2 years.			

Screws & fixings	**Various**	**Every deployment**	Initial when done
Check all screws and fixings for tightness and corrosion. Tighten & replace as necessary.			

*When cleaning o-ring surfaces take care to wipe in the direction of the o-ring and not across the o-ring surface. Remove dirt and especially grit very carefully. Most light scratches can be easily polished-out. Contact the manufacturer for assistance if you are unsure.

**O-ring grease should be applied lightly. Excessive grease may cause the seal to malfunction.