



**FILTER
TECHNOLOGY**

cleaner fluids mean better business

CASE STUDY



Industrial

Case No : 9 - 6 - 9

Hydraulics : Integrex CNC Lathe, ACI Mould Manufacturers

ACI Mould Manufacturers Integrex CNC Lathe

ACI asked Filter Technology to assess cleanliness and determine whether an off-line filtration system would assist with oil quality management and in particular, eliminate oil changes and system cleaning.

One FMO2 oil filter was fitted to the 80 litre system. It was decided to resample the oil at 400 hours of operation to evaluate the improvement in oil cleanliness.

As the oil analysis results below indicate, the oil now has 18,240 hour on it without being changed. The oil cleanliness is at ISO 14/12, a 3-grade improvement and contamination particle counts are down 83% on average. Most importantly, after 30 months of operation, ACI's goal of no oil changes was achieved.



Lubetech Pty Ltd

Oil Analysis Report

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<i>Client</i>	Filter Technology Australia Pty Ltd / Leopold	<i>Site</i>	ACI Mould Manuf Co Box Hill
<i>Address</i>	33 Townview Court Leopold, VIC 3224	<i>Unit ID/Name</i>	Lathe #47 / CNC Lathe
<i>Telephone</i>	(03) 5250 1219	<i>Manufacture/Model</i>	Integrex / 40ATC
<i>Fax</i>	(03) 5250 4519	<i>Origin</i>	Feed line/ Bleed (Chuck)
		<i>Fuell/Oil Type</i>	Shell Tellus 32

Diagnosis:

Oil and wear condition appear satisfactory. Improvement in the cleanliness (Particle Count) noted. Continue to monitor.

	38467	34453	30041	26473	22470	22087	21213	Indicative Levels
Sample Number	38467	34453	30041	26473	22470	22087	21213	
Date	05/12/2002	06/06/2002	18/10/2001	22/04/2001	15/09/2000	25/08/2000	06/07/2000	
Total Hours/Km	24288	14472 Ftr hrs	9728 Filt	7104 Filt	840-Filt	408-Filt	6048	
Hours/Km on Oil	24288	20520	15768	12144	7488	7056	6048	
Oil Changed	NO	NO	NO	NO	NO	NO	NO	
Oil Added	Umknown	Nil		Nil			20	
Condition Tests								
Fuel Dilution (%)								
WT Solids (%)								
Volume Water (%)	ND	ND	ND	ND	ND	ND	ND	0.05
Water PPM								
Viscosity @ 40C (cST)	32	31	32	31	33	31	31	>10%
TAN (mg/KOH/g)	0.79	0.62	0.60	0.61	0.70	0.64	0.51	
TBN (mg/KOH/g)								
ApH								
PQ90 Index								
Wear Metals								
Aluminum (Al)	<1	<1	<1	<1	<1	<1	0	15
Silicon (Si)	<1	1	<1	43	2	7	<1	20
Tin (Sn)	<1	1	1	<1	<1	<1	2	20
Iron (Fe)	<1	1	<1	1	2	1	0	25
Lead (Pb)	<1	2	<1	<1	<1	1	2	15
Copper (Cu)	<1	<1	1	2	2	6	3	25
Chromium (Cr)	<1	<1	2	2	0	0	0	15
Sodium (Na)	2	1	<1	<1	<1	<1	1	80
Zinc (Zn)	302	340						
Others								
Cleanliness								
ISO4406	14/12	16/13	15/12	18/15	14/10	14/11	17/14	18/15
Gravi-Metric								
>2 micron	524	885	670	4811	223	369	1642	
>5 micron	193	456	247	1778	82	136	656	
>15 micron	20	55	26	189	8	14	88	
Contamination	Low	Moderate	Low	Moderate	Low		Moderate	