



**FILTER
TECHNOLOGY**

cleaner fluids mean better business

CASE STUDY

Transport

Case No : 3 - 6 - 3

Kenworth 650 Engine Fuel and Oil Filters : K Hewitt Transport, Coal Haulage

K Hewitt Transport

K Hewitt runs a Kenworth 650 powered by a Cummins N14 hauling coal from Forbrook Open Cut to the Howick Coal Prep Plant. The all up weight of the vehicle when loaded is 80 tonnes, giving him a 50 tonne payload.

Normal oil changes were done at 20,000km. Sample 26197 was taken when there was 4,000km on the oil, this was done to help trend the oil. Sample 27454 was taken after the truck had done 20,000km and soot levels were unacceptable at 6.1%.

Filter Technology Australia fitted an FMO3 on oil and an FMF2 on fuel. Sample 27551 was taken after 26,000km. It shows soot levels at 3.9% had started to come down. Sample 29106, after a further 20,000km, shows the soot level at 2.1%, a reduction of 65%. All other levels were acceptable.

The oil drain period on the vehicle has been set at 60,000km an increase of 300%. Fuel records were also compared and showed an increase in fuel economy of 5%. The driver noticed he was 1/2 a gear better pulling out of the open cut.



Lubetech Pty Ltd

Oil Analysis Report

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Client	Filter Technology Australia Pty Ltd / New South Wales			Site	Singleton
Contact	Phillip Maheline	Unit ID/Name	OAO161EG / K. Hewitt		
Address		Manufacture/Model	Cummins / N14		
Telephone	(02) 4932 9998	Origin	Engine Oil		
Fax	(02) 4932 9997	Fuel/Oil Type	Valvoline		

Diagnosis:

Oil and wear condition appear satisfactory.



	29106	27551	27454	26197				Indicative Levels
Sample Number	29106	27551	27454	26197				
Date	05/09/2001	28/06/2001	15/06/2001	07/04/2001				
Total Hours/Km	455000		379893	600000				
Hours/Km on Oil	20000	26000	20000	4000				
Oil Changed	NO	NO	NO	NO				
Oil Added			4.5L					
Condition Tests								
Fuel Dilution (%)	<0.5	<0.5	<0.5	<0.5				>4%
WT Solids (%)	2.1	3.9	6.1	2.8				>4%
Volume Water (%)	ND	ND	ND	ND				0.10
Water PPM								
Viscosity @ 40C (cST)	100	90	89	104				>10%
TAN (mg/KOH/g)	5.0							
TBN (mg/KOH/g)	7.0	3.5	3.5	6.0				
ApH								
POSO Index	-4	-6	+2	-2				
Wear Metals								
Aluminum (Al)	<1	<1	<1	<1				20
Silicon (Si)	<1	5	5	<1				15
Tin (Sn)	<1	<1	<1	<1				20
Iron (Fe)	8	16	18	9				100
Lead (Pb)	8	7	10	1				40
Copper (Cu)	6	5	5	3				45
Chromium (Cr)	6	<1	<1	<1				15
Sodium (Na)	3	2	1	<1				30
Zinc (Zn)								
Others								
Cleanliness								
ISO4406	17/14							19/16
Gravi-Metric								
>2 micron	3130							
>5 micron	1167							
>15 micron	123							
Contamination	Moderate							