



**Komatsu 930E Haul Trucks Final Drives : Roche Mining - Wambo Mine**

**Roche Mining**

Wambo Mine has purchased 11 Komatsu 930E Haul Trucks into its fleet, as part of the maintenance program set down by Komatsu the finaldrives have to be filtered every 500Hours.

The unit is designed to kidney loop the oil for 4 hours a side, a timer set at 4 hours buzzes to tell the operator the unit needs to change to the other finaldrive, as well an inbuilt heater on the inlet manifold keeps the oil at 50C while filtering. The oil circulates at 20LPM through a special adaptor plate design to suck from the bottom of the planetary and return as far back into the finaldrive as possible.

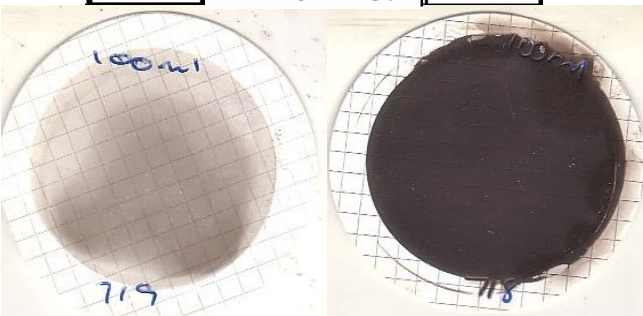


The report below on the LH Finaldrive indicates the oil returning to the finaldrive has seen reduction;

- ISO from 23/22 to 17/13 95.9%
- Iron 296ppm to 19ppm 93%
- Copper 25ppm to 3 ppm 88%
- Silicon 25ppm to 12 ppm 50%
- PQ 90Fe 679ppm to 2 ppm 99.7%.



Particle Analysis		
46669	particle count in 1ml	56448
21/15	ISO-4406 6um \ 14um	23/22
18	PQ90 Fe - mg \ ltr	679



The oil samples drawn from the finaldrive before and three hours after filtering. The 0.8 micron filter patches show clearly the improvements made in the oil quality.

At three hours the particle count in the finaldrive is 21/15, higher than what the filter cart was returning, we are now looking at removing all the oil from the Finaldrive into a tank on the filter cart assuring all the oil is removed and passes through the filters.

Oil + Test		OKAY			
Wambo - Roche Mining					
830E Komatsu 830E Haul Truck	8-Mar-06	10-Mar-06	10-Mar-06	10-Mar-06	
LH WHEEL MOTOR	274,718	274,932	274,933	274,935	
MOBIL SHC 680	0hrs	0hrs	0hrs	0hrs	
	-	1	2	4	
	No	No	No	No	
	ppm	ppm	ppm	ppm	
<b>Wear Metals</b>					
lead	3	1	0	2	
iron	296	23	10	19	
aluminium	3	1	0	1	
copper	25	4	3	3	
chromium	3	0	0	0	
tin	0	0	0	1	
nickel	2	0	0	0	
silver	0	0	0	0	
titanium	0	0	0	0	
	ppm	ppm	ppm	ppm	
<b>Contaminants</b>					
silicon	25	13	8	12	
sodium	4	0	0	0	
vanadium	0	0	0	1	
	ppm	ppm	ppm	ppm	
<b>Oil Additives</b>					
magnesium	1	0.9	0.5	1	
zinc	38	12	7	11	
molybdenum	0.1	0	0	0	
calcium	37	16	10	17	
phosphorous	178	143	145	145	
boron	4	0.3	0.1	0.2	
barium	19	5	13	5	
	ppm	ppm	ppm	ppm	
<b>Physical Tests</b>					
TBN	0	0	0	0	
TAN	0.00	0.00	0.00	0.00	
fuel dilution %	0	0	0	0	
water %	< 0.1	< 0.1	< 0.1	< 0.1	
viscosity index	155	142	156	162	
visc @ 100oC - Cst	61.86	54.25	59.30	62.10	
visc @ 40oC - Cst	706	663	662	666	
	ppm	ppm	ppm	ppm	
<b>FTIR Analysis</b>					
soot - abs	0	0	0	0	
glycol%	0	0	0	0	
water ppm	0	0	0	0	
oxidation - abs	0	0	0	0	
nitration - abs	0	0	0	0	
sulphation - abs	0	0	0	0	
	ppm	ppm	ppm	ppm	
<b>Particle Analysis</b>					
particle count in 1ml	56448	42154	8889	2293	
ISO-4406 6um \ 14um	23/22	21/15	18/15	17/13	
PQ90 Fe - mg \ ltr	679	15	1	2	