



**FILTER
TECHNOLOGY**

cleaner fluids mean better business

CASE STUDY



Quarrying

Case No : 7 - 6 - 12

Hydraulic Oil Filtration : Willow Tree Gravel

Willow Tree Gravels

Willow Tree Gravels operate a blue metal quarry near Tamworth New South Wales. Willow Tree Gravel had experienced hydraulic motor and pump failures, which was attributed to contamination. As power was available it was decided to fit a FMO4 on a kidney loop system, the pump ran at 4 litres a minute on a 400 litre capacity system using 68 grade hydraulic oil.

Sample 25650 shows oil at 20/17. After installing the system the after sample was 19/16 a reduction of 56% in particulate contamination. Sample 30534 was taken after 1,000 hours and shows that the ISO is at 15/11 a 97% reduction in particulate contamination. Based on a life extension chart this should increase component life by 4 times.



Lubetech Pty Ltd

Oil Analysis Report

PO Box 264, Salisbury, Queensland 4017, Australia
Phone: +61 7 3274 5297 Fax: +61 7 3274 5232

Client	Filter Technology Australia Pty Ltd / New South Wales	Site	Willow Tree
Contact	Phillip Maheine	Unit ID/Name	OAO157EG / Willow Tree Gravel
Address		Manufacture/Model	Screening Plant
Telephone	(02) 4932 9998	Origin	Hydraulic Oil
Fax	(02) 4932 9997	Fuel/Oil Type	ISO 88

Diagnosis:
Oil and wear condition appear satisfactory.



	30534	25649	25650			Indicative Levels
	01/11/2001	12/03/2001	11/03/2001			
	10000					
	2000	1000				
	NO	NO	NO			
	Nil					
Condition Tests	Fuel Dilution (%)					
	WT Solids (%)					
	Volume Water (%)	ND	ND	ND		0.05
	Water PPM					
	Viscosity @ 40C (cST)	71	71	70		>10%
	TAN (mg/KOH/g)	0.82	0.46	0.46		
Wear Metals	TBN (mg/KOH/g)					
	ApH					
	PQ90 Index					
	Aluminum (Al)	<1	<1	<1		15
	Silicon (Si)	3	<1	<1		20
	Tin (Sn)	<1	<1	<1		20
	Iron (Fe)	<1	6	6		25
	Lead (Pb)	3	<1	<1		15
	Copper (Cu)	1	2	2		25
	Chromium (Cr)	<1	<1	<1		15
Sodium (Na)	1	1	1		80	
Zinc (Zn)						
Others						
Cleanliness	ISO4406	15/11	19/16	20/17		18/15
	Gravi-Metric					
	>2 micron	437	9157	20890		
	>5 micron	161	3384	7721		
	>15 micron	17	361	824		
Contamination	Low	Moderate	Elevated			
DR	Total Count					60
	Severity Index					46
	Size Ratio					1.1
	% Large Particles					30