

Site: SV Beatrix
 Attention To: JEFF STANDER
 Machine: 8371 Marine Diesel Engine
 Sample Location: Perkins 4.154
 Oil Type: SAE 40



4 Walter Street \ PO Box 490
 Singleton NSW 2330
 Phone: (02) 6571-1444
 Facsimile : (02) 6571-4433
 MONITOR

Sample Date				29-May-10	30-May-10	26-Aug-10
Analysis Report No.	-	-	-	557,397	557,398	575,935
Service Meter Reading	-	-	-	1241hrs	1250hrs	1345hrs
Top Up	-	-	-	-	-	-
Oil Hrs	-	-	-	150	9	150
Oil Changed?				No	Yes	No

Wear Metals	Limit	ppm	ppm	ppm	ppm	ppm	ppm
lead	10				1	0	7
iron	80				47	5	33
aluminium	30				6	1	4
copper	35				6	1	5
chromium	10				2	0	2
tin	10				0	0	0
nickel	10				0	0	0
silver					0	0	0
titanium					0	0	0

Contaminants	Limit	ppm	ppm	ppm	ppm	ppm	ppm
silicon	15				5	7	8
sodium	25				5	1	5
vanadium					1	1	1

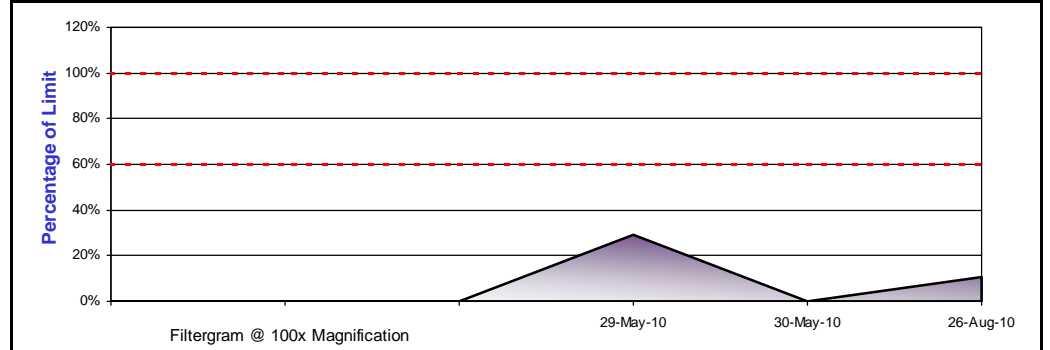
Oil Additives	Limit	ppm	ppm	ppm	ppm	ppm	ppm
magnesium					1038	1029	817
zinc					1207	1320	1123
molybdenum					30	25	21
calcium					437	337	502
phosphorous					1563	1550	1467
boron					68	78	54
barium					0	0	0

Physical Tests	Limit						
TBN					8.50	9.00	7.80
TAN	6.67				3.81	2.27	3.92
fuel dilution %	2				0	0	0
water %	0.1				< 0.1	< 0.1	< 0.1
viscosity index					104	105	93
visc @ 100oC - Cst	15	-	-	-	16.17	15.70	15.97
visc @ 40oC - Cst	150				162	153	175

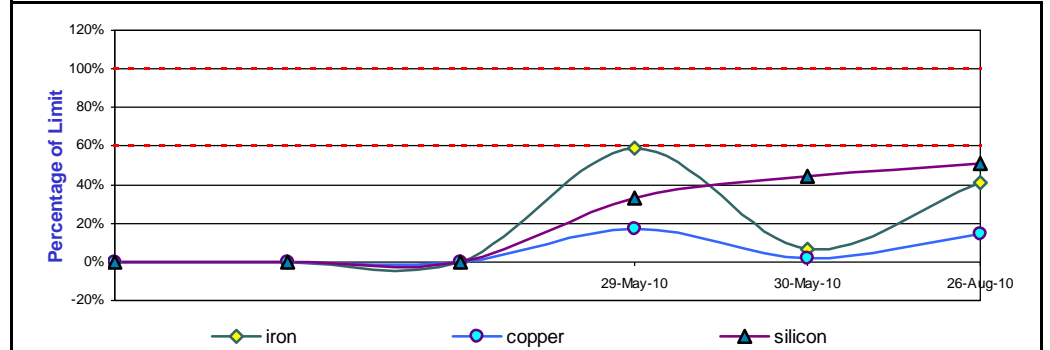
FTIR Analysis	Limit						
soot - abs	70				34	2	34
glycol%					0	0	0
water ppm					0	0	0
oxidation - abs	30				5.00	4.00	11.00
nitration - abs	30				3.00	0	3.00
sulphation - abs	30				7.00	3.00	0

Particle Analysis							
particle count in 1ml					0	0	0
ISO-4406 6um \ 14um	-/-	-/-	-/-	-/-	-/-	-/-	-/-
PQ90 Fe - mg \ ltr	38				11	0	4

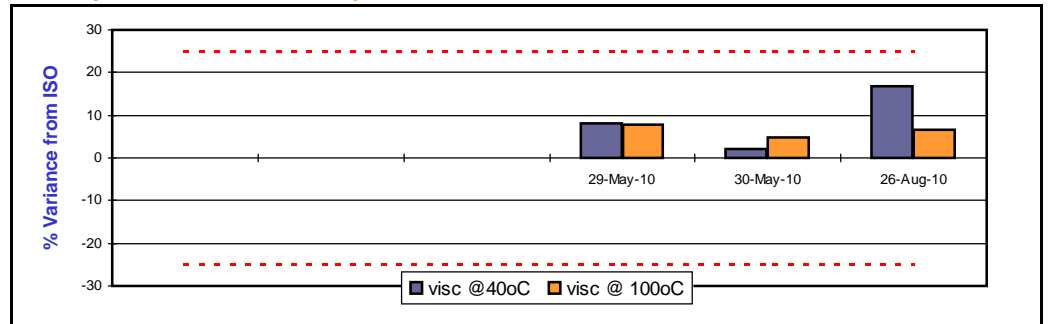
PQ - Ferrous Wear Debris (Fe mg \ ltr)



Major Small Particle Element Trends



Viscosity Condition From New Oil Specification



Comments & Recommendation

Lead elevated, primary sources of lead are from bearings, thrust washers and solder. Acid number slightly elevated. Change oil as a preventative measure.

NOTE: This machine \ oil condition report should be used in conjunction with normal maintenance practises. All care will be taken in processing and analysing samples but no express or implied guarantee is offered in regard to the continuing operation or condit