

CONDITION		MACHINE DETAILS		COMMENTS & RECOMMENDATIONS	
K WARNING	SV Beatrix				
	Plant ID:	8371 Marine Diesel Engine		204 oil hrs - Viscosity is 20.1% below ISO standard for SAE30 oil. Fuel dilution may occur due incorrect fuel air mix / leaking injectors or lines or a damaged lift pump. Check fuel system.	
	Cmpt:	Perkins 4.154			
	Date:	17 Dec 19	SMR:	4520	
	Has Recommendation Been Actioned?:		Yes ☐ No ☐	SMR:	
				Date:	
				Signed by:	
				Report Number:	1,460,115

Customer:
Attention To:
Plant:
Sample Location:
Oil Type:

SV Beatrix
JEFF STANDER
8371 Marine Diesel Engine
Perkins 4.154
SAE 30

OilS Test

4 Walter Street | PO Box 490
Singleton NSW 2330
Phone: (02) 6571-1444
Facsimile : (02) 6571-4433 **WARNING**

K

Sample Date
Analysis Report No.
Service Meter Reading
Top Up Qty
Oil Hrs
Was Oil Changed?

25-Jan-12	4-Oct-19	18-Nov-19	30-Nov-19	6-Dec-19	17-Dec-19
725,020	1,441,867	1,453,403	1,457,363	1,458,092	1,460,115
0hrs	0hrs	0hrs	4500hrs	4509hrs	4520hrs
-	4478 hrs	4494 hrs	-	-	-
-	157	14	0	11	20
No	No	No	Yes	No	No

Wear Metals

	Limit	ppm	ppm	ppm	ppm	ppm
lead	10	1	1	2	0	1
iron	80	15	24	3	1	2
aluminium	30	2	3	1	1	1
copper	35	2	2	1	0	0
chromium	10	1	1	0	0	0
tin	10	0	0	0	0	0
nickel	10	0	0	0	0	0
silver	0	0	0	0	0	0
titanium	0	0	0	0	0	0

Contaminants

	Limit	ppm	ppm	ppm	ppm	ppm
silicon	15	0	5	8	6	4
sodium	25	28	2	1	1	2
vanadium	0	0	0	0	0	0

Oil Additives

	Limit	ppm	ppm	ppm	ppm	ppm
magnesium		57	4	5	13	11
zinc		1278	445	831	833	624
molybdenum		14	2	0	11	9
calcium		2361	1162	1396	3063	2702
phosphorous		492	420	807	519	480
boron		19	11	0.2	0.6	0.52
barium		0	0.05	0	0.23	0.22

Physical Properties

TBN		9.59	8.57	10.14	11.69	11.69	11.77
TAN	6.67	3.15	3.11	1.99	1.67	1.82	1.91
fuel dilution %	2	-	9	10	-	1	5
water %	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
water ppm		-	-	-	-	-	-
viscosity index		103	135	114	118	122	124
visc @ 100oC - Cst	11	14.40	9.11	10.80	11.70	10.80	10.10
visc @ 40oC - Cst	90	137	59	84	91	80	72

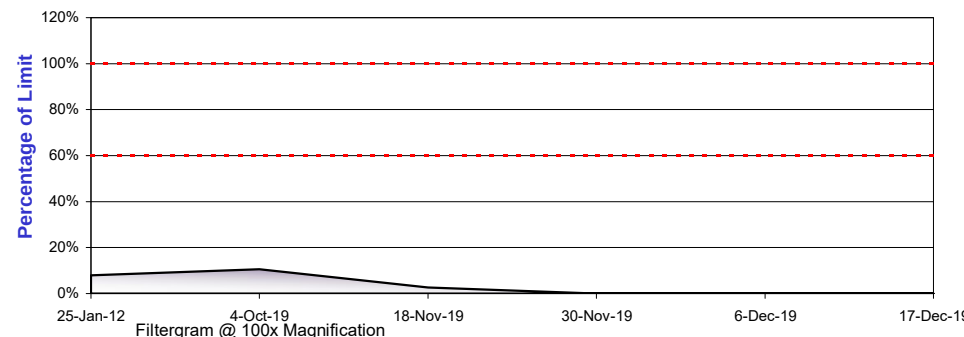
Infra Red

soot - abs	70	32	29.91	4.41	0.76	5.62	9
glycol %		-	-	-	-	-	-
oxidation - abs	30	7.00	1.58	0.68	0.97	0.70	0.36
nitration - abs	30	3.00	2.14	2.42	0.87	1.14	1.37
sulphation - abs	30	-	4.53	3.44	3.25	3.60	2.95

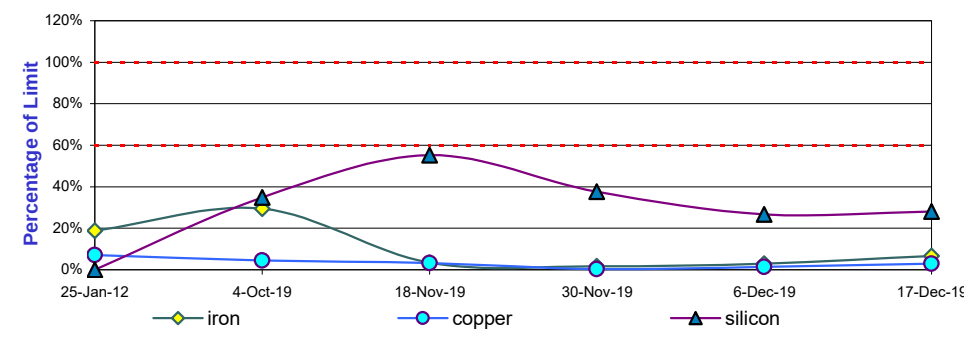
Particle Analysis

particles >14um in 1ml		0	0	0	0	0	0
ISO-4406 4 6 14um	- - -	- - -	- - -	- - -	- - -	- - -	- - -
PQ90 Fe - mg ltr	38	3	4	1	0	0	0

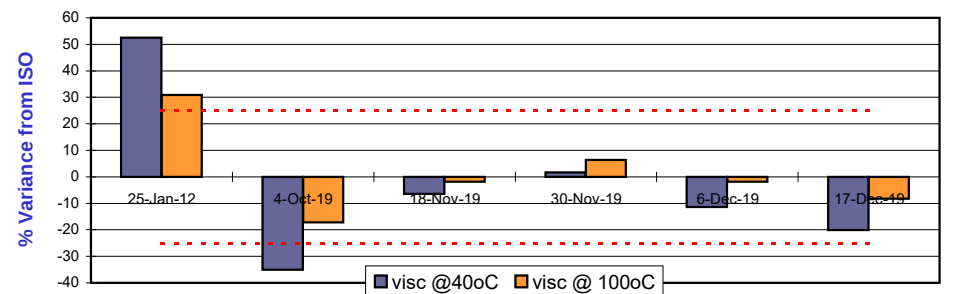
PQ - Ferrous Wear Debris (Fe mg | ltr)



Major Small Particle Element Trends



Viscosity Condition From New Oil Specification



Comments & Recommendation

204 oil hrs - Viscosity is 20.1% below ISO standard for SAE30 oil. Fuel dilution may occur due to incorrect fuel air mix / leaking injectors or lines or a damaged lift pump. Check fuel system.

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 condition of machinery.