



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
KENWORTH T800 3926 (S/N MXS08535)
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0917307	WC0878913	WC0613630
Sample Date		Client Info		24 Jun 2024	12 Mar 2024	23 Jun 2023
Machine Age	mls	Client Info		68067	62020	34836
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

The iron level has decreased, but is still abnormal. Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 153	▲ 318	59
Chromium	ppm	ASTM D5185m	>20	5	13	4
Nickel	ppm	ASTM D5185m	>4	4	5	1
Titanium	ppm	ASTM D5185m		<1	<1	1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	4	5	3
Lead	ppm	ASTM D5185m	>40	1	2	3
Copper	ppm	ASTM D5185m	>330	7	16	▲ 593
Tin	ppm	ASTM D5185m	>15	<1	2	4
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

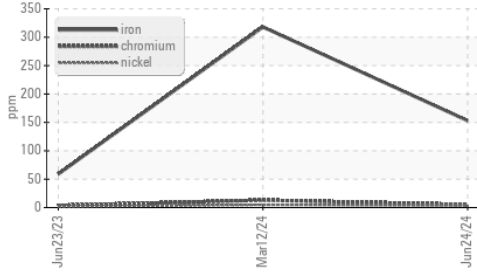
Silicon	ppm	ASTM D5185m	>25	22	▲ 50	▲ 36
Potassium	ppm	ASTM D5185m	>20	4	1	7
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	8.5	8.5	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.3	19.8	20.3
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

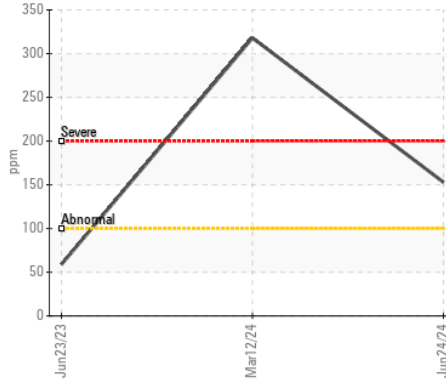
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		5	3	8
Boron	ppm	ASTM D5185m	316	13	2	13
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	26	56	58
Manganese	ppm	ASTM D5185m		3	4	4
Magnesium	ppm	ASTM D5185m	24	321	899	834
Calcium	ppm	ASTM D5185m	2292	2110	994	1288
Phosphorus	ppm	ASTM D5185m	1064	1028	995	1014
Zinc	ppm	ASTM D5185m	1160	1247	1172	1247
Sulfur	ppm	ASTM D5185m	4996	4326	2907	3375
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.1	16.4	17.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.0	9.1	8.3
Visc @ 100°C	cSt	ASTM D445	15.7	13.9	14.1	13.8

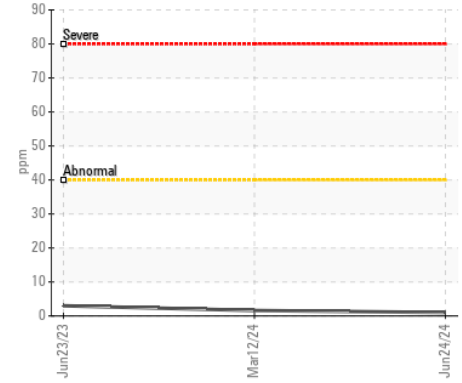
▲ Ferrous Alloys



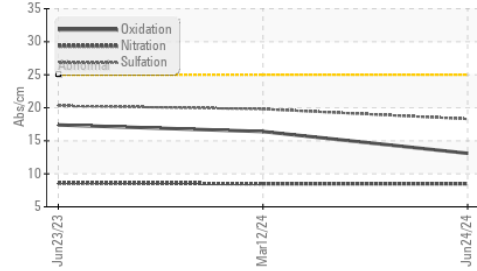
▲ Iron (ppm)



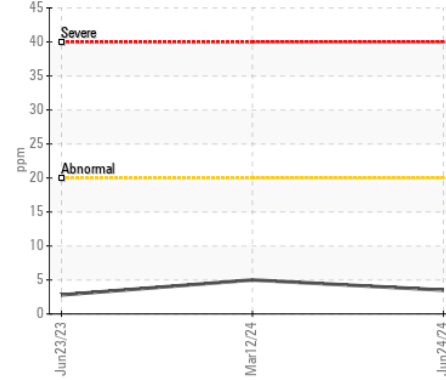
Lead (ppm)



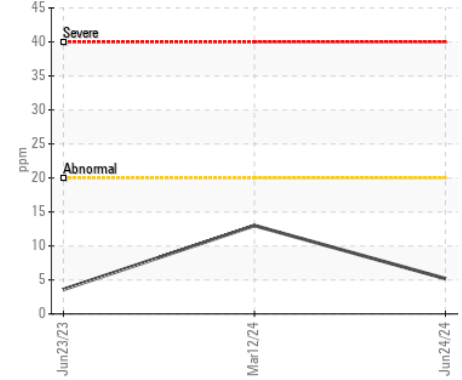
FT-IR (Direct Trend)



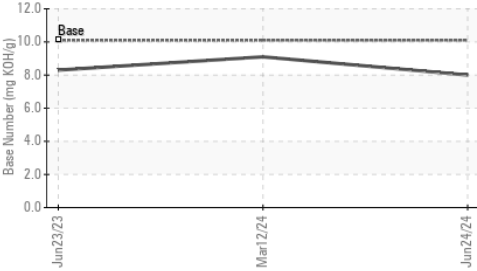
Aluminum (ppm)



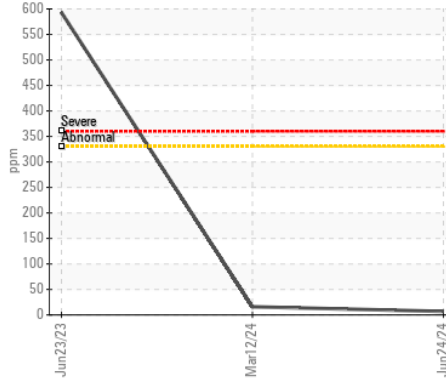
Chromium (ppm)



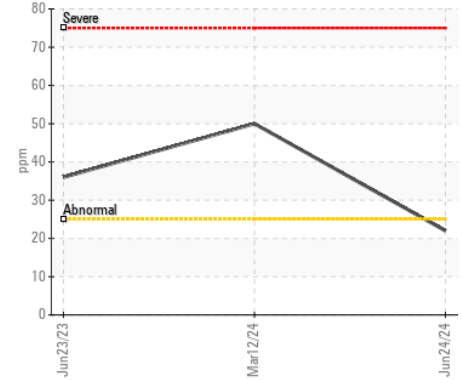
Base Number



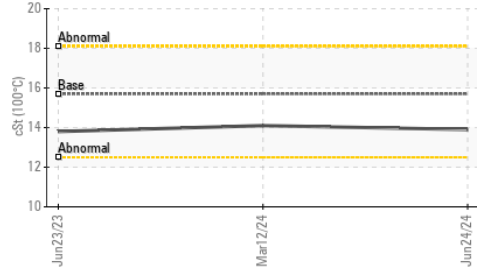
Copper (ppm)



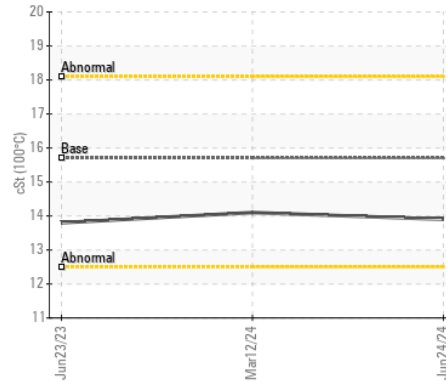
Silicon (ppm)



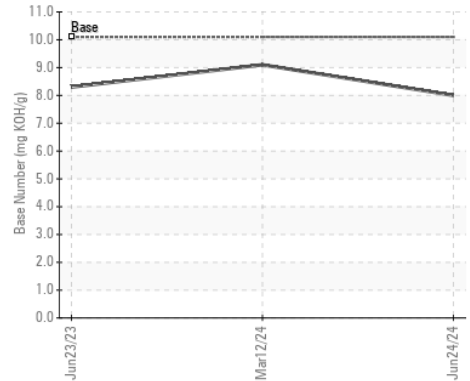
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0917307 **Received** : 27 Jun 2024
Lab Number : 06223047 **Tested** : 28 Jun 2024
Unique Number : 11101244 **Diagnosed** : 30 Jun 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

JOHNSON BREEDERS
 3425 HWY 117N
 ROSE HILL, NC
 US 28458

Contact: GREG JONES
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T: (910)289-6884

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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