



OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
739 (S/N KCB61256)
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 15W40 (--- GAL)

DIAGNOSIS

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.

Wear
 The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other metal levels are typical for a new component breaking in.

Contamination
 Elemental level of silicon (Si) above normal indicating ingress of seal material.

Fluid Condition
 The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0878735	---	---
Sample Date	Client Info	12 Jan 2024	---	---
Machine Age	mls Client Info	16921	---	---
Oil Age	mls Client Info	0	---	---
Oil Changed	Client Info	Changed	---	---
Sample Status		ABNORMAL	---	---

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	---	---
Water	WC Method >0.2	NEG	---	---
Glycol	WC Method	NEG	---	---

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	69	---	---
Chromium	ppm ASTM D5185m >20	2	---	---
Nickel	ppm ASTM D5185m >4	0	---	---
Titanium	ppm ASTM D5185m	1	---	---
Silver	ppm ASTM D5185m >3	0	---	---
Aluminum	ppm ASTM D5185m >20	3	---	---
Lead	ppm ASTM D5185m >40	3	---	---
Copper	ppm ASTM D5185m >330	▲ 345	---	---
Tin	ppm ASTM D5185m >15	4	---	---
Vanadium	ppm ASTM D5185m	0	---	---
Cadmium	ppm ASTM D5185m	0	---	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 316	4	---	---
Barium	ppm ASTM D5185m 0.0	0	---	---
Molybdenum	ppm ASTM D5185m 1.2	56	---	---
Manganese	ppm ASTM D5185m	1	---	---
Magnesium	ppm ASTM D5185m 24	868	---	---
Calcium	ppm ASTM D5185m 2292	1081	---	---
Phosphorus	ppm ASTM D5185m 1064	975	---	---
Zinc	ppm ASTM D5185m 1160	1158	---	---
Sulfur	ppm ASTM D5185m 4996	2207	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	▲ 55	---	---
Sodium	ppm ASTM D5185m	7	---	---
Potassium	ppm ASTM D5185m >20	8	---	---

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.8	---	---
Nitration	Abs/cm *ASTM D7624 >20	9.3	---	---
Sulfation	Abs/.1mm *ASTM D7415 >30	20.1	---	---

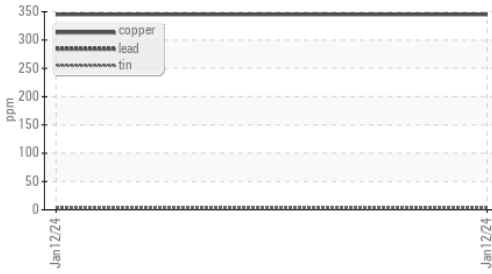
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	17.2	---	---
Base Number (BN)	mg KOH/g ASTM D2896 10.1	6.7	---	---



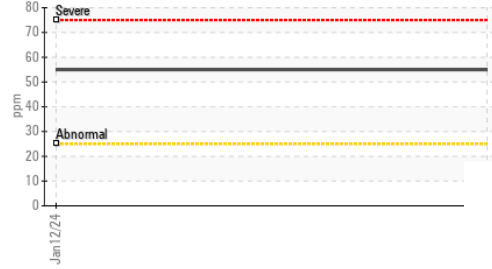
OIL ANALYSIS REPORT

▲ Non-ferrous Metals



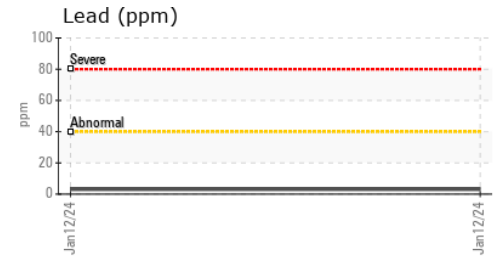
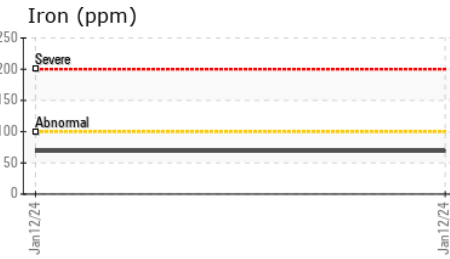
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	---	---
Precipitate	scalar	*Visual	NONE	---	---
Silt	scalar	*Visual	NONE	---	---
Debris	scalar	*Visual	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	---	---
Appearance	scalar	*Visual	NORML	---	---
Odor	scalar	*Visual	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	---	---
Free Water	scalar	*Visual	---	---	---

▲ Silicon (ppm)

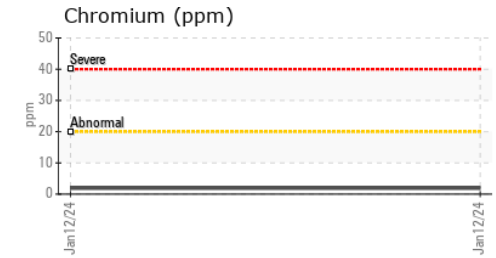
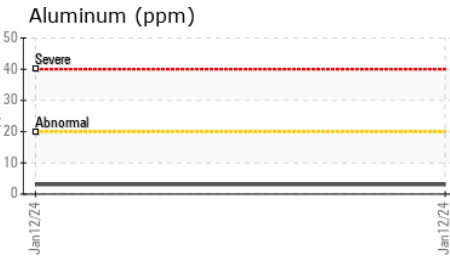
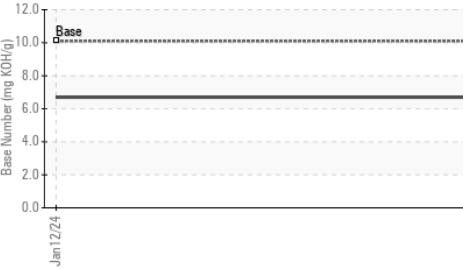


FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	---	---

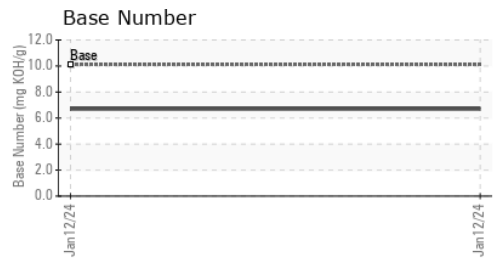
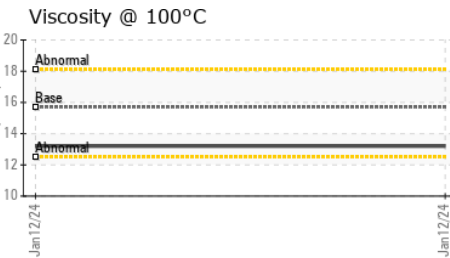
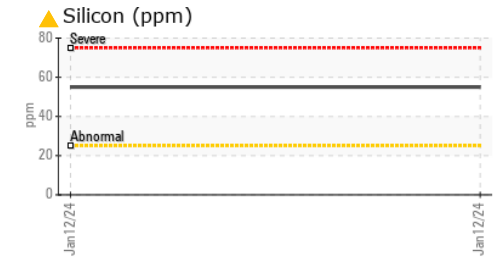
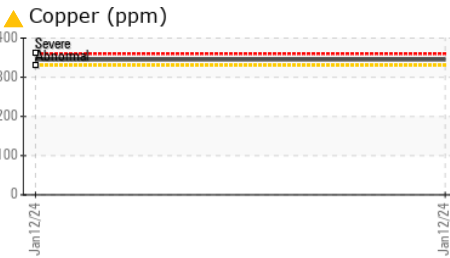
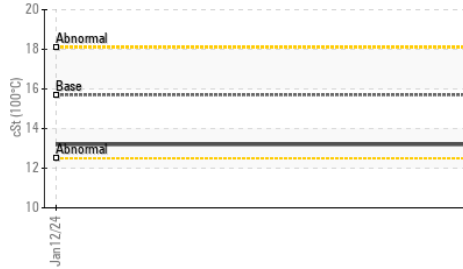
GRAPHS



Base Number



Viscosity @ 100°C



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0878735 **Received** : 17 Jan 2024
Lab Number : 06063369 **Diagnosed** : 19 Jan 2024
Unique Number : 10834751 **Diagnostician** : 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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 F:

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)