



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
DETROIT W4-3
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 15W40 (--- QTS)

RECOMMENDATION

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		JR0221369	---	---
Sample Date		Client Info		21 Jun 2024	---	---
Machine Age	mls	Client Info		78420	---	---
Oil Age	mls	Client Info		0	---	---
Filter Age	mls	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				ABNORMAL	---	---

WEAR

The copper level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	32	---	---
Chromium	ppm	ASTM D5185m	>20	2	---	---
Nickel	ppm	ASTM D5185m	>2	0	---	---
Titanium	ppm	ASTM D5185m	>2	<1	---	---
Silver	ppm	ASTM D5185m	>2	<1	---	---
Aluminum	ppm	ASTM D5185m	>30	2	---	---
Lead	ppm	ASTM D5185m	>30	5	---	---
Copper	ppm	ASTM D5185m	>30	▲ 38	---	---
Tin	ppm	ASTM D5185m	>15	5	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

Test for glycol is negative. There is no indication of any contamination in the oil.

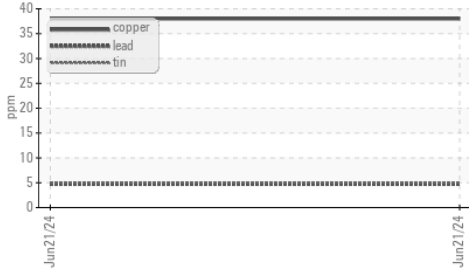
Silicon	ppm	ASTM D5185m	>30	7	---	---
Potassium	ppm	ASTM D5185m	>20	8	---	---
Fuel		WC Method	>3.0	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol	%	*ASTM D2982		0.0	---	---
Soot %	%	*ASTM D7844	>3	0.3	---	---
Nitration	Abs/cm	*ASTM D7624	>20	5.7	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.6	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---

FLUID CONDITION

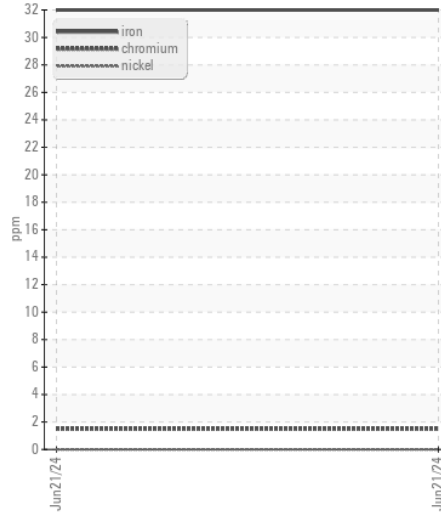
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		12	---	---
Boron	ppm	ASTM D5185m	316	23	---	---
Barium	ppm	ASTM D5185m	0.0	0	---	---
Molybdenum	ppm	ASTM D5185m	1.2	84	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m	24	212	---	---
Calcium	ppm	ASTM D5185m	2292	2109	---	---
Phosphorus	ppm	ASTM D5185m	1064	1064	---	---
Zinc	ppm	ASTM D5185m	1160	1174	---	---
Sulfur	ppm	ASTM D5185m	4996	3015	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.6	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.5	---	---
Visc @ 100°C	cSt	ASTM D445	15.7	13.8	---	---

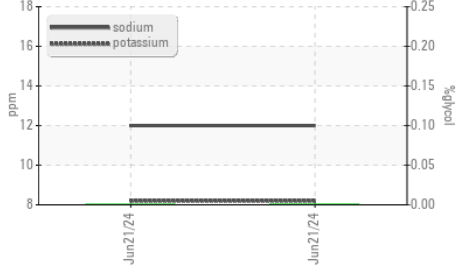
▲ Non-ferrous Metals



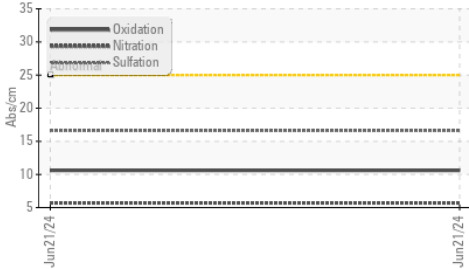
Ferrous Alloys



Glycol Contamination



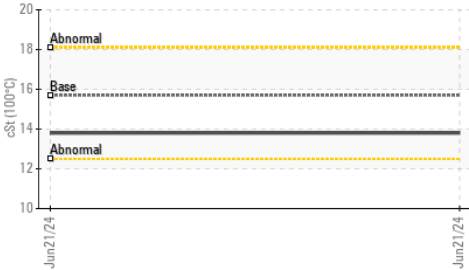
FT-IR (Direct Trend)



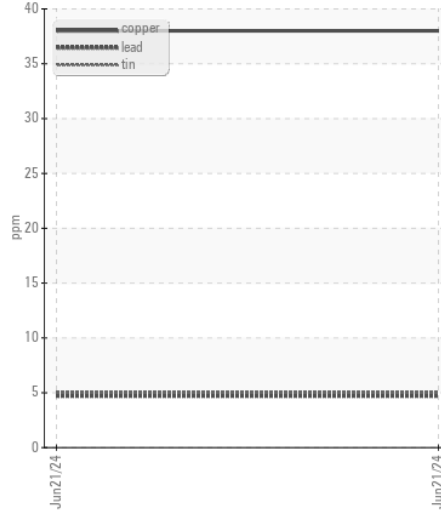
Base Number



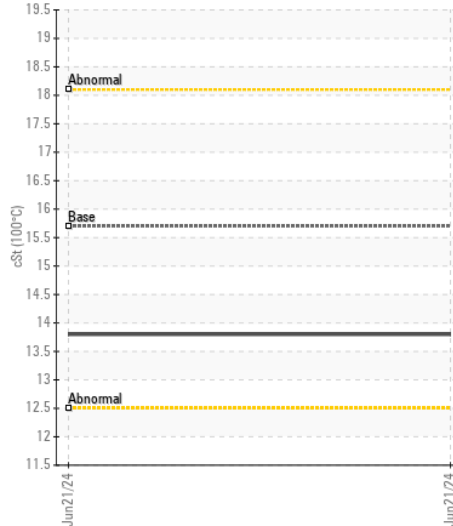
Viscosity @ 100°C



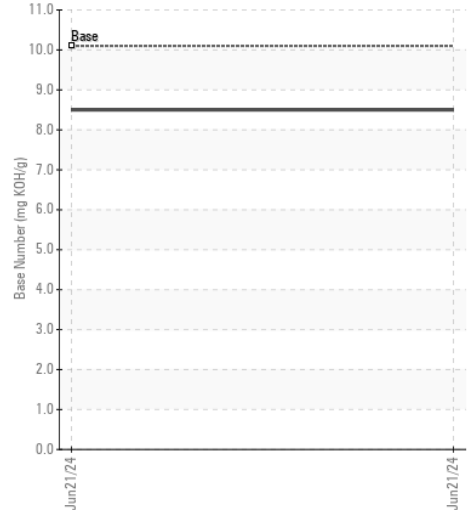
▲ Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : JR0221369

Lab Number : 06229960

Unique Number : 11113453

Test Package : CONST (Additional Tests: GLYCOL, TBN)

Received : 08 Jul 2024

Tested : 11 Jul 2024

Diagnosed : 11 Jul 2024 - Jonathan Hester

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)

SHAWNEE VFD

2210 VALOR DR

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T:

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