OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
22145
Component
Diesel Engine
Fluid
SHELL ROTELLA T 10W30 (--- QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

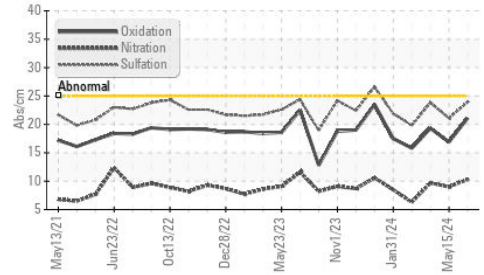
Sodium and/or potassium levels are high.

FLUID CONDITION

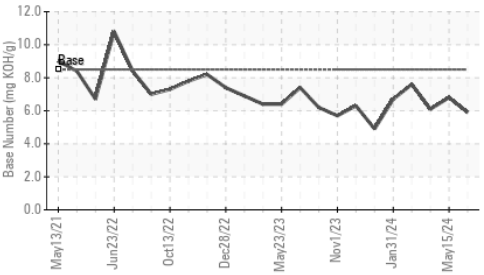
The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0955677**	WC0909735	WC0909712
Sample Date		Client Info		**02 Jul 2024**	15 May 2024	03 Apr 2024
Machine Age	mls	Client Info		**7000**	200469	193535
Oil Age	mls	Client Info		**7000**	6934	9502
Filter Age	mls	Client Info		**7000**	6934	9502
Oil Changed		Client Info		**Changed**	Changed	Changed
Filter Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>100	**17**	12	21
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	2
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m		**0**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	<1	<1
Aluminum	ppm	ASTM D5185m	>20	**3**	2	4
Lead	ppm	ASTM D5185m	>40	**2**	1	<1
Copper	ppm	ASTM D5185m	>330	**0**	<1	1
Tin	ppm	ASTM D5185m	>15	**0**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	<1
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	**5**	4	6
Potassium	ppm	ASTM D5185m	>20	▲ **224**	▲ 200	▲ 260
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol	%	*ASTM D2982		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844	>3	**0.8**	0.5	0.6
Nitration	Abs/cm	*ASTM D7624	>20	**10.3**	9.0	9.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.9**	21.1	23.8
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
Sodium	ppm	ASTM D5185m		▲ **116**	▲ 104	▲ 137
Boron	ppm	ASTM D5185m	269	**39**	53	106
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**47**	47	29
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	20	**220**	332	36
Calcium	ppm	ASTM D5185m	1521	**1848**	1963	2191
Phosphorus	ppm	ASTM D5185m	948	**879**	1018	1040
Zinc	ppm	ASTM D5185m	893	**1063**	1268	1203
Sulfur	ppm	ASTM D5185m		**3431**	4030	3655
Oxidation	Abs/.1mm	*ASTM D7414	>25	**21.1**	16.9	19.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**5.9**	6.8	6.1
Visc @ 100°C	cSt	ASTM D445	11.0	**10.2**	11.0	12.0

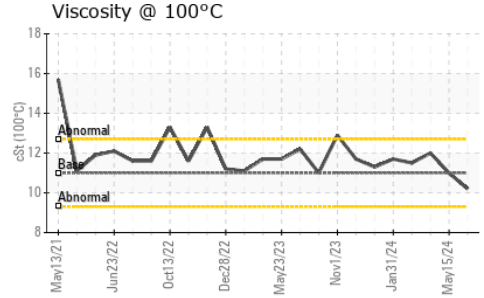
FT-IR (Direct Trend)



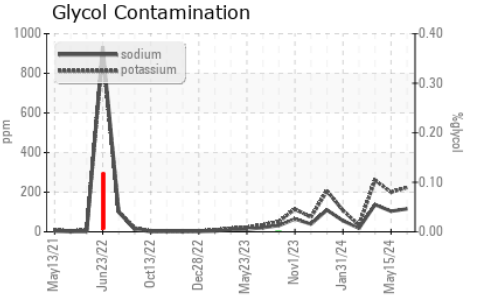
Base Number



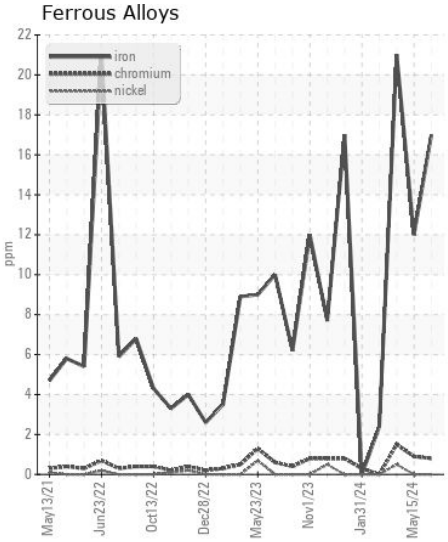
Viscosity @ 100°C



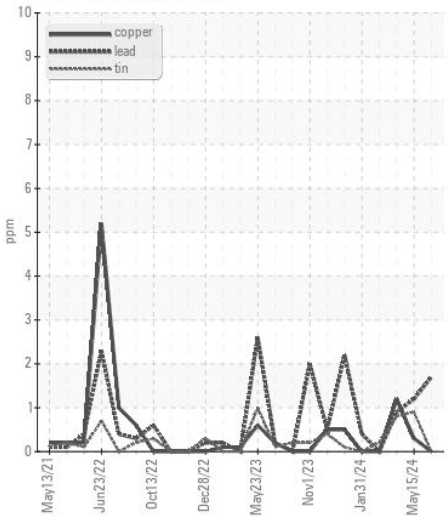
Glycol Contamination



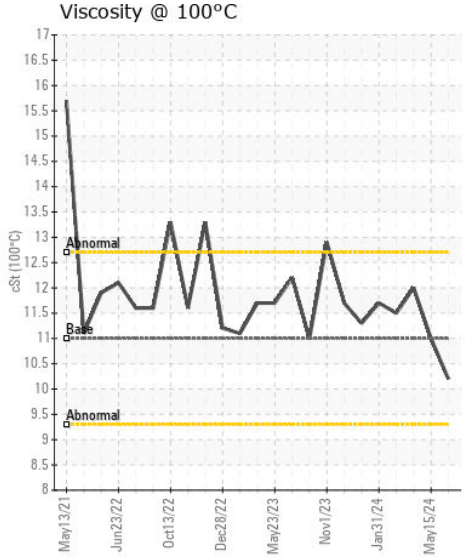
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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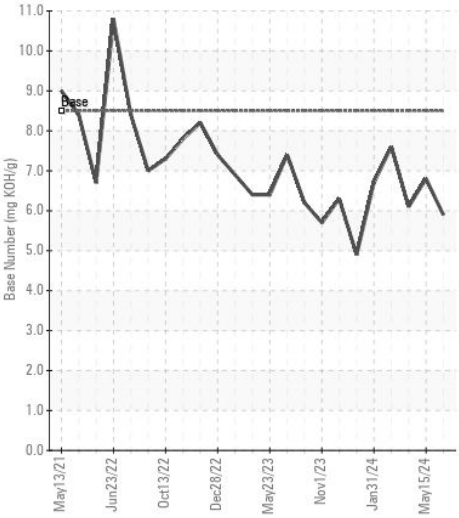

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0955677
Lab Number : 06229409
Unique Number : 11112902
Test Package : FLEET (Additional Tests: Glycol)

Received : 05 Jul 2024
Tested : 09 Jul 2024
Diagnosed : 09 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)

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