OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
[Z20814]
Machine Id
KENWORTH TLL 28
Component
Front Diesel Engine
Fluid
VALVOLINE PREMIUM BLUE (48 LTR)

RECOMMENDATION

The oil 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

All component wear rates are normal.

CONTAMINATION

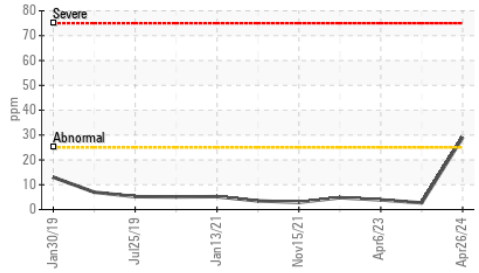
Elemental level of silicon (Si) above normal indicating ingress of seal material.

FLUID CONDITION

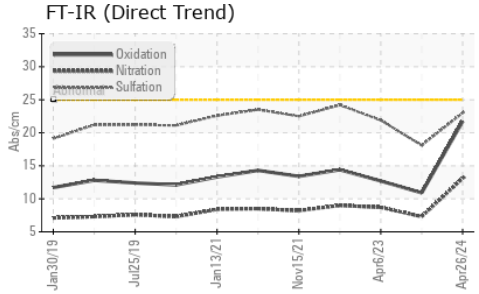
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC06189884	WC05906283	WC05892627
Sample Date		Client Info		26 Apr 2024	18 Jul 2023	06 Apr 2023
Machine Age	kms	Client Info		864898	802816	780924
Oil Age	kms	Client Info		83974	21892	57197
Filter Age	kms	Client Info		83974	21892	0
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>90	73	11	26
Chromium	ppm	ASTM D5185m	>20	3	<1	1
Nickel	ppm	ASTM D5185m	>2	1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	6	2	3
Lead	ppm	ASTM D5185m	>40	11	<1	2
Copper	ppm	ASTM D5185m	>330	11	<1	1
Tin	ppm	ASTM D5185m	>15	4	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	▲ 29	3	4
Potassium	ppm	ASTM D5185m	>20	7	15	▲ 52
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	1.1	0.3	0.5
Nitration	Abs/cm	*ASTM D7624	>20	13.1	7.3	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.0	18.1	21.9
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		10	3	9
Boron	ppm	ASTM D5185m	2.9	8	11	0
Barium	ppm	ASTM D5185m	0.1	<1	0	0
Molybdenum	ppm	ASTM D5185m	0.0	13	2	3
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m	18	58	58	32
Calcium	ppm	ASTM D5185m	2936	2734	2554	2535
Phosphorus	ppm	ASTM D5185m	998	1018	993	984
Zinc	ppm	ASTM D5185m	1095	1242	1186	1208
Sulfur	ppm	ASTM D5185m	5469	3851	4712	4606
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.7	10.9	12.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.0	10.0	8.37	6.0
Visc @ 100°C	cSt	ASTM D445	15.2	13.9	13.5	14.0

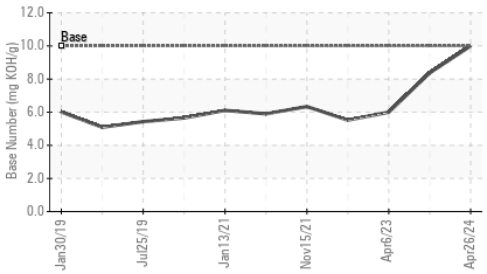
Silicon (ppm)



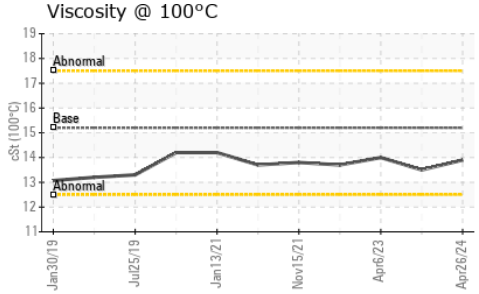
FT-IR (Direct Trend)



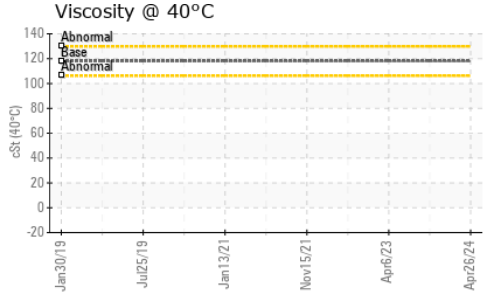
Base Number



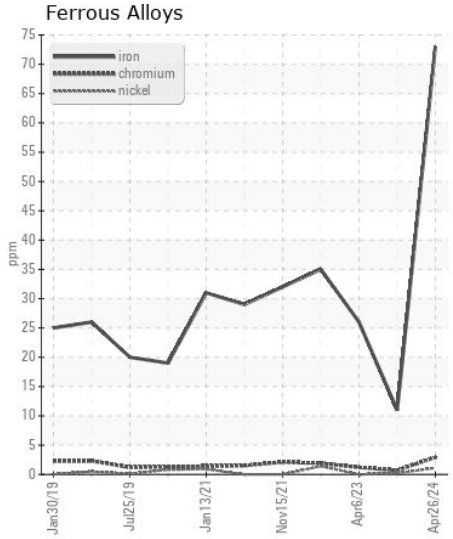
Viscosity @ 100°C



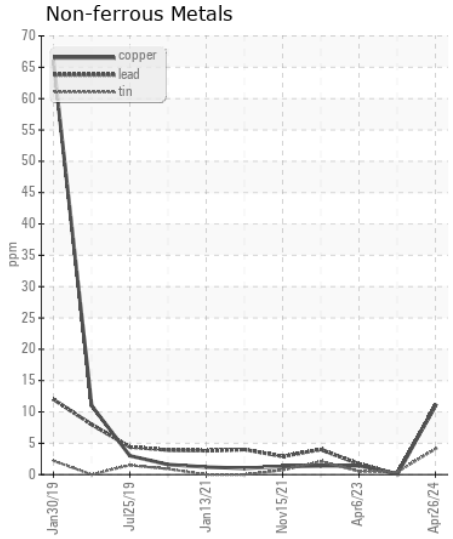
Viscosity @ 40°C



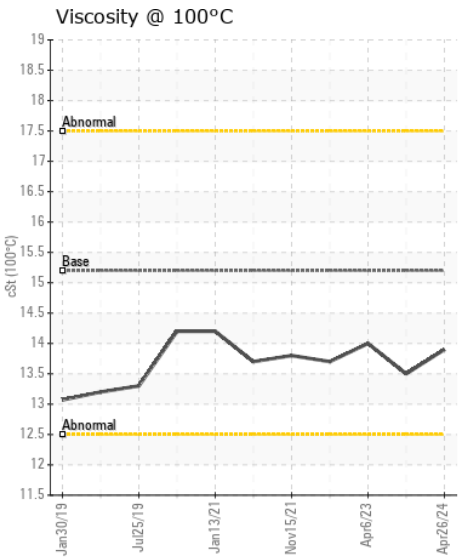
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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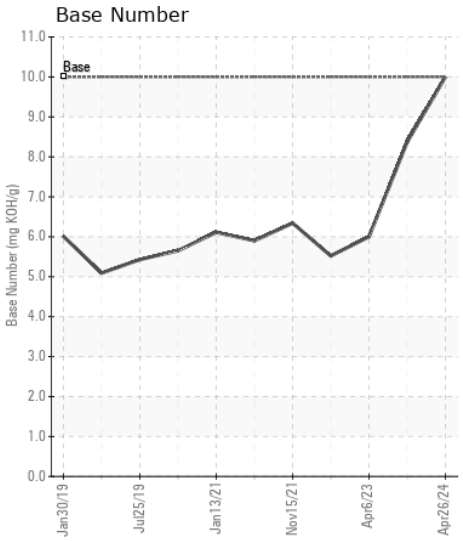

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC06189884 **Received** : 23 May 2024
Lab Number : 06189884 **Tested** : 29 May 2024
Unique Number : 11046636 **Diagnosed** : 29 May 2024 - Sean Felton
Test Package : FLEET (Additional Tests: kv40)

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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