OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
X52 (S/N NDNJ2611)
Component
Diesel Engine
Fluid
VALVOLINE PREMIUM BLUE 2000 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

WEAR

All component wear rates are normal.

CONTAMINATION

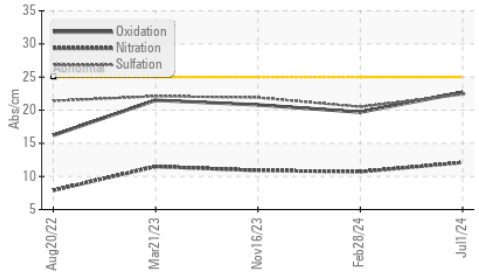
There is no indication of any contamination in the oil.

FLUID CONDITION

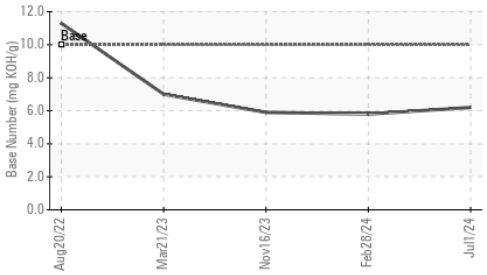
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0885558	WC0885547	WC0849038
Sample Date		Client Info		01 Jul 2024	28 Feb 2024	16 Nov 2023
Machine Age	hrs	Client Info		4380	3526	2648
Oil Age	hrs	Client Info		854	878	909
Filter Age	hrs	Client Info		854	878	909
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ATTENTION	ATTENTION
Iron	ppm	ASTM D5185m	>100	16	16	32
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	4	12
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	1	2	8
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	3	4	4
Potassium	ppm	ASTM D5185m	>20	4	7	30
Fuel		WC Method	>5	<1.0	0.8	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.7	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	12.1	10.7	10.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.4	20.5	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		3	2	4
Boron	ppm	ASTM D5185m		29	28	27
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		52	57	75
Manganese	ppm	ASTM D5185m		<1	<1	1
Magnesium	ppm	ASTM D5185m		732	620	696
Calcium	ppm	ASTM D5185m		1216	1008	1243
Phosphorus	ppm	ASTM D5185m		725	706	630
Zinc	ppm	ASTM D5185m		858	827	829
Sulfur	ppm	ASTM D5185m		2680	2678	2351
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.7	19.7	20.8
Base Number (BN)	mg KOH/g	ASTM D2896	10.0	6.2	5.8	5.9
Visc @ 100°C	cSt	ASTM D445	15.2	13.0	11.4	11.8

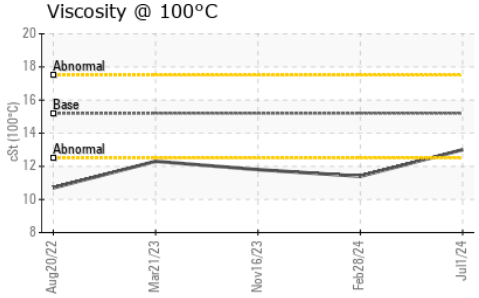
FT-IR (Direct Trend)



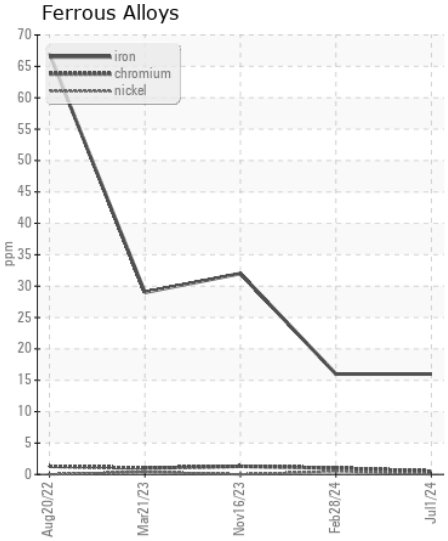
Base Number



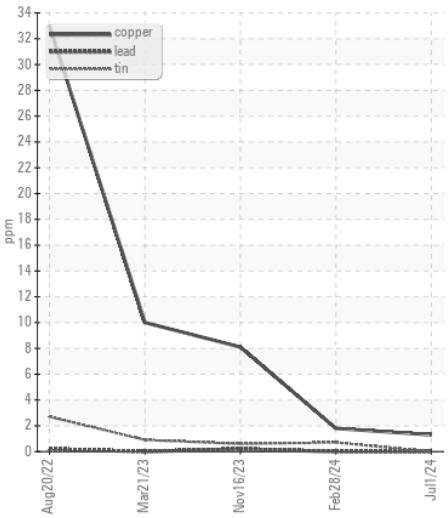
Viscosity @ 100°C



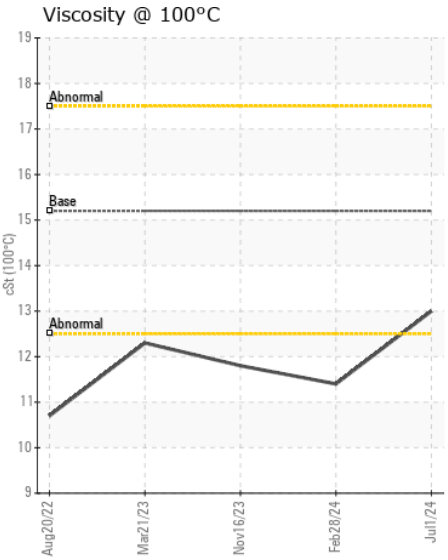
Ferrous Alloys



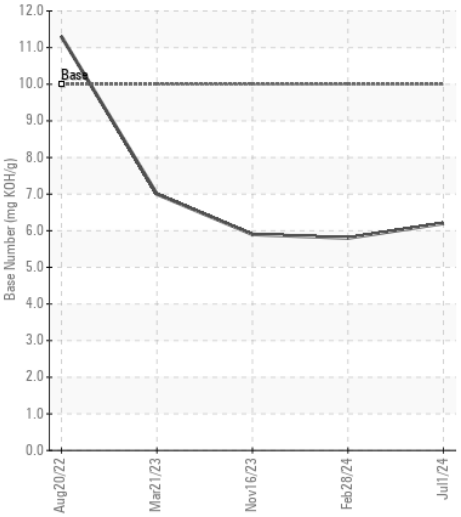
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0885558
Lab Number : 06229425
Unique Number : 11112918
Test Package : CONST (Additional Tests: TBN)

Received : 05 Jul 2024
Tested : 09 Jul 2024
Diagnosed : 09 Jul 2024 - Wes Davis

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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