OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
4160228
Component
Diesel Engine
Fluid
SHELL 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

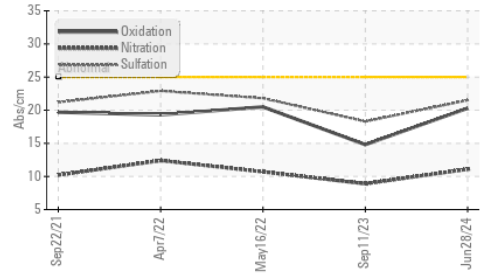
There is no indication of any contamination in the oil.

FLUID CONDITION

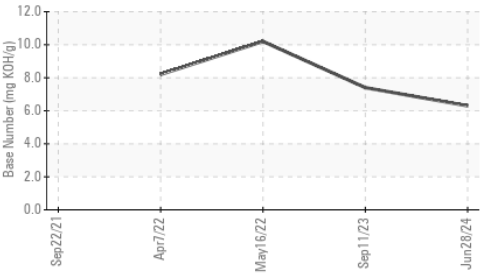
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0808651	WC0808707	WC0599537
Sample Date		Client Info		28 Jun 2024	11 Sep 2023	16 May 2022
Machine Age	hrs	Client Info		5478	4711	2990
Oil Age	hrs	Client Info		766	250	204
Filter Age	hrs	Client Info		766	250	204
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	22	6	8
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	9	<1	4
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	1	<1	2
Tin	ppm	ASTM D5185m	>15	<1	0	<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	4	3	3
Potassium	ppm	ASTM D5185m	>20	4	3	0
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	11.1	8.9	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.5	18.3	21.8
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	>150	2	2	2
Boron	ppm	ASTM D5185m		37	55	26
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		35	61	47
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		542	266	727
Calcium	ppm	ASTM D5185m		1635	2071	1288
Phosphorus	ppm	ASTM D5185m		904	935	727
Zinc	ppm	ASTM D5185m		1089	1192	887
Sulfur	ppm	ASTM D5185m		3457	4191	2296
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.3	14.8	20.5
Base Number (BN)	mg KOH/g	ASTM D2896		6.3	7.4	10.2
Visc @ 100°C	cSt	ASTM D445		13.7	13.5	14.0

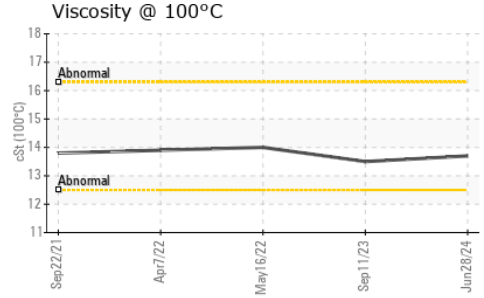
FT-IR (Direct Trend)



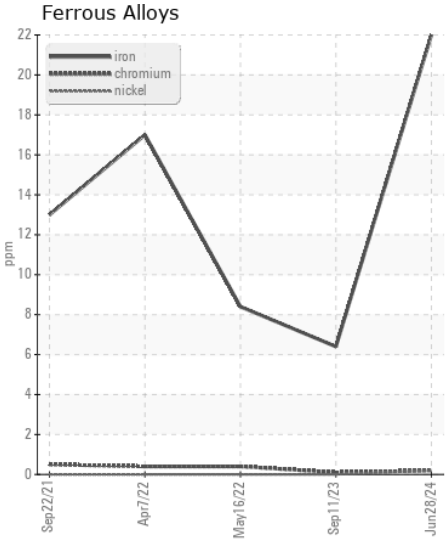
Base Number



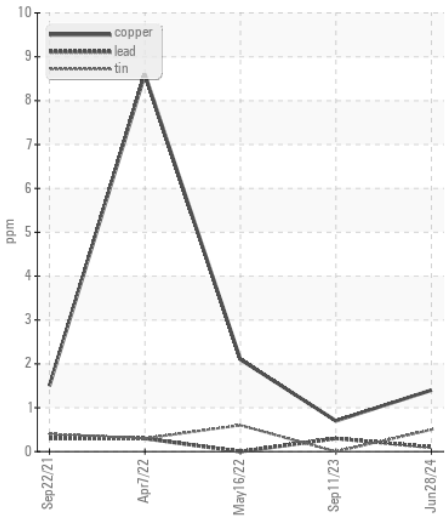
Viscosity @ 100°C



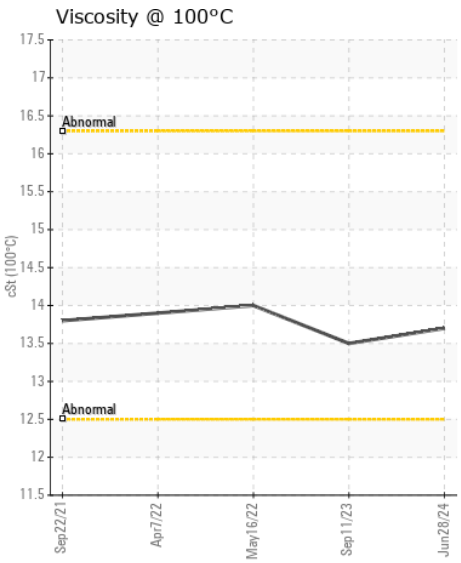
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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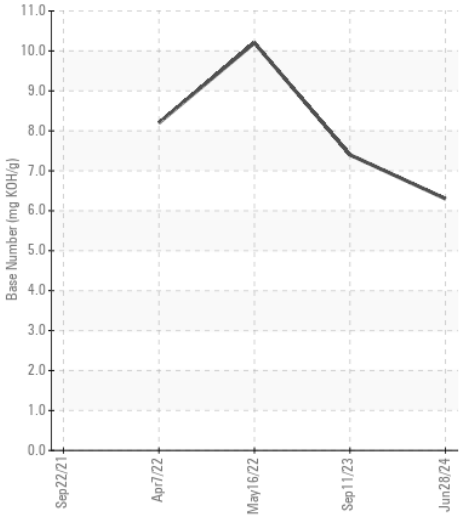

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0808651
Lab Number : 06234429
Unique Number : 11123263
Test Package : CONST (Additional Tests: TBN)

Received : 12 Jul 2024
Tested : 12 Jul 2024
Diagnosed : 14 Jul 2024 - Don Baldridge

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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