



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
BALER
Machine Id
HYSTER F422
Component
Diesel Engine
Fluid
SHELL 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0916580	WC0902261	WC0870242
Sample Date		Client Info		12 Jun 2024	06 Mar 2024	27 Dec 2023
Machine Age	hrs	Client Info		11368	11170	10979
Oil Age	hrs	Client Info		198	191	214
Filter Age	hrs	Client Info		198	191	214
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	13	26	22
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		77	79	58
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	4	5
Lead	ppm	ASTM D5185m	>40	2	3	2
Copper	ppm	ASTM D5185m	>330	1	2	51
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

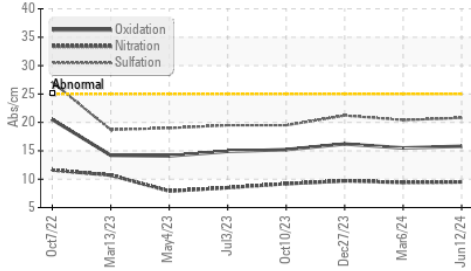
Silicon	ppm	ASTM D5185m	>25	6	9	8
Potassium	ppm	ASTM D5185m	>20	4	4	11
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0	0	0
Nitration	Abs/cm	*ASTM D7624	>20	9.5	9.4	9.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.8	20.4	21.2
Silt	scalar	*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

FLUID CONDITION

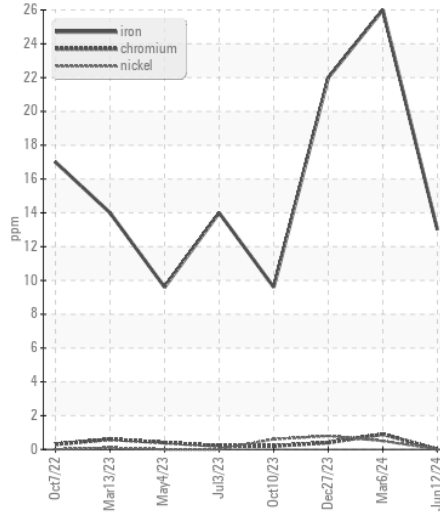
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>150	2	1	3
Boron	ppm	ASTM D5185m		71	91	55
Barium	ppm	ASTM D5185m		0	0	2
Molybdenum	ppm	ASTM D5185m		10	16	22
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		488	528	586
Calcium	ppm	ASTM D5185m		1653	1677	1361
Phosphorus	ppm	ASTM D5185m		941	937	858
Zinc	ppm	ASTM D5185m		1228	1239	1173
Sulfur	ppm	ASTM D5185m		4250	3848	3372
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.8	15.5	16.2
Base Number (BN)	mg KOH/g	ASTM D2896		5.8	6.2	5.2
Visc @ 100°C	cSt	ASTM D445		14.8	14.9	14.5

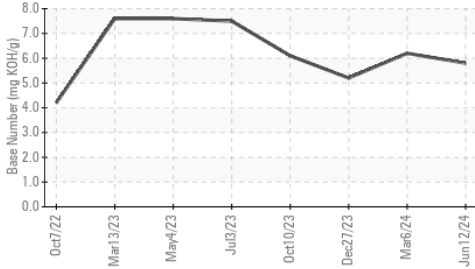
FT-IR (Direct Trend)



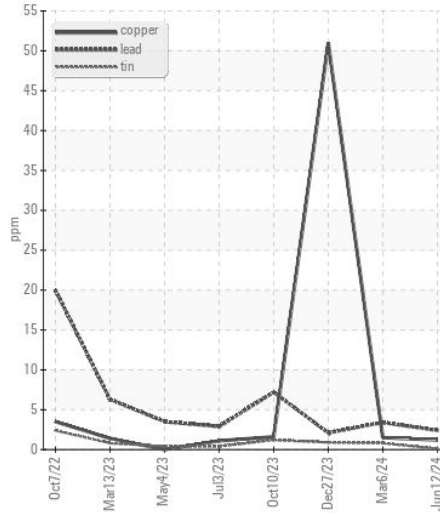
Ferrous Alloys



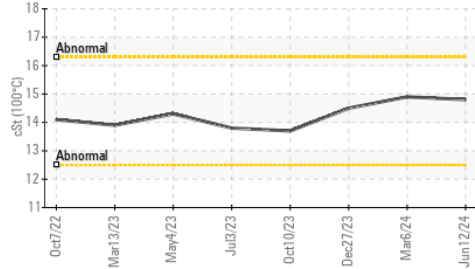
Base Number



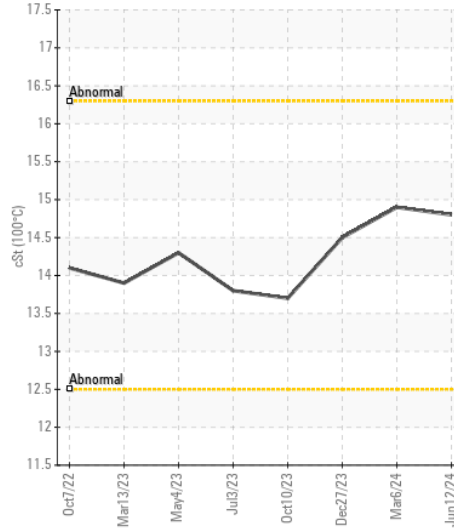
Non-ferrous Metals



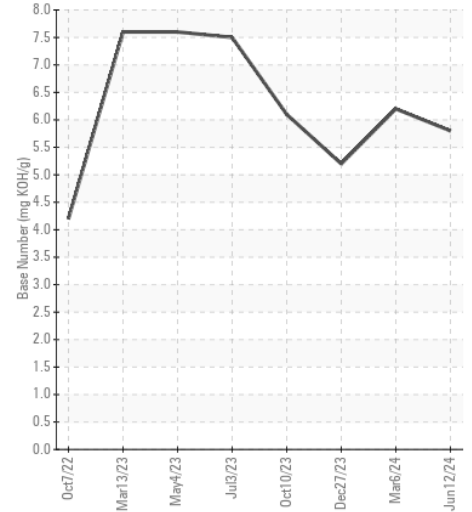
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0916580 **Received** : 26 Jun 2024
Lab Number : 06220662 **Tested** : 27 Jun 2024
Unique Number : 11098859 **Diagnosed** : 27 Jun 2024 - Wes Davis
Test Package : CONST (Additional Tests: TBN)

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 TACOMA, WA
 US 98421
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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)