



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
441373
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample. (Customer Sample Comment: Hours= 3067)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		IL0033855	IL0030407	IL0026521
Sample Date		Client Info		11 Jun 2024	06 Sep 2023	16 Mar 2023
Machine Age	mls	Client Info		121811	97034	83465
Oil Age	mls	Client Info		83465	0	15921
Filter Age	mls	Client Info		83465	0	15921
Oil Changed		Client Info		Changed	N/A	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	27	13	15
Chromium	ppm	ASTM D5185m	>20	1	<1	1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	5	3	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	1	1
Tin	ppm	ASTM D5185m	>15	<1	<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

CONTAMINATION

There is no indication of any contamination in the oil.

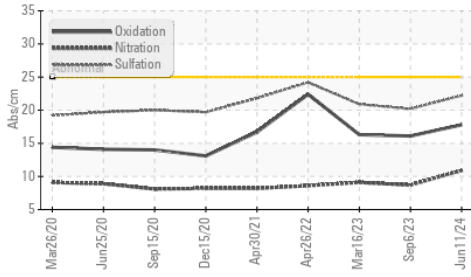
Silicon	ppm	ASTM D5185m	>25	10	6	8
Potassium	ppm	ASTM D5185m	>20	3	0	0
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.8	0.5	0.6
Nitration	Abs/cm	*ASTM D7624	>20	10.9	8.7	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.2	20.2	20.9
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

FLUID CONDITION

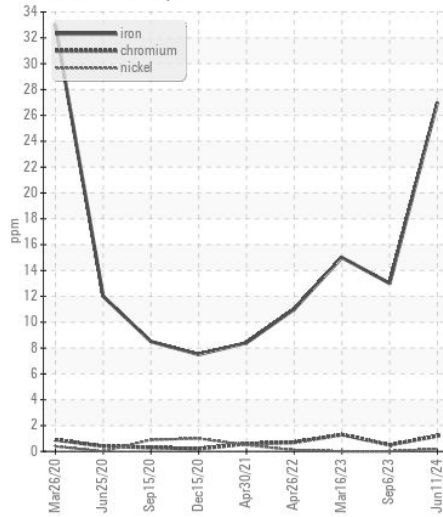
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	3	2	0
Boron	ppm	ASTM D5185m	250	5	3	3
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	66	64	58
Manganese	ppm	ASTM D5185m		1	<1	1
Magnesium	ppm	ASTM D5185m	450	997	984	914
Calcium	ppm	ASTM D5185m	3000	1180	1213	1185
Phosphorus	ppm	ASTM D5185m	1150	1129	1047	986
Zinc	ppm	ASTM D5185m	1350	1324	1234	1185
Sulfur	ppm	ASTM D5185m	4250	3775	3824	3252
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.8	16.1	16.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.9	9.0	9.4
Visc @ 100°C	cSt	ASTM D445	14.4	12.8	12.6	12.6

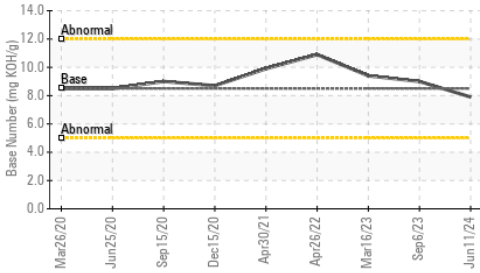
FT-IR (Direct Trend)



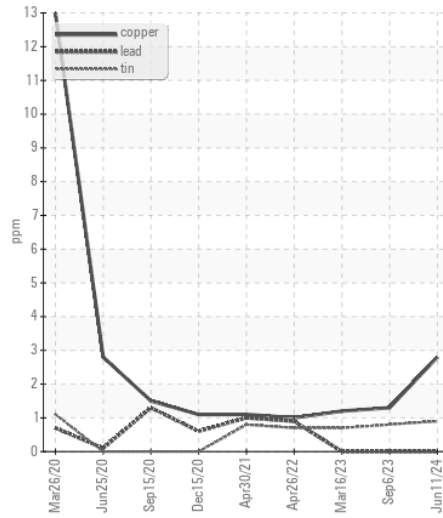
Ferrous Alloys



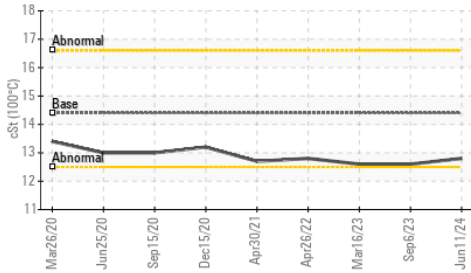
Base Number



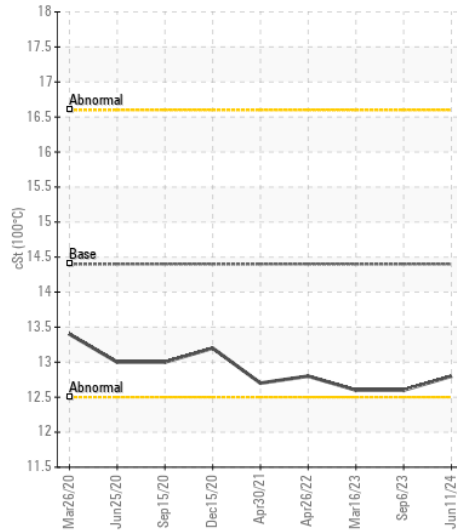
Non-ferrous Metals



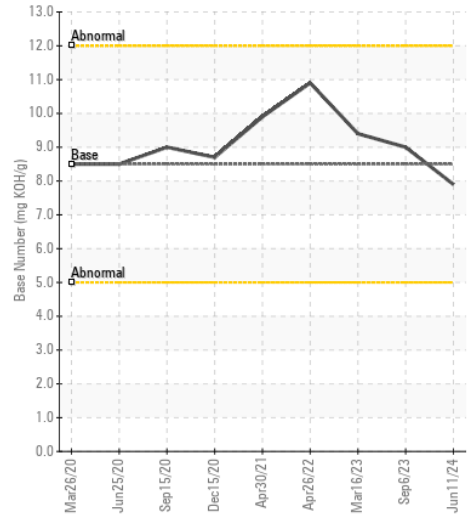
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL0033855
Lab Number : 06212834
Unique Number : 11085698
Test Package : FLEET

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 1333 AMERON DR
 CHARLOTTE, NC
 US 28206
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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)