



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
1905
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		HRE0000170	WC0887573	WC0844932
Sample Date		Client Info		08 May 2024	09 Feb 2024	20 Nov 2023
Machine Age	mls	Client Info		144356	138785	133383
Oil Age	mls	Client Info		0	6000	6000
Filter Age	mls	Client Info		0	6000	6000
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	5	6	6
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		2	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	3	2
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	<1	2	1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<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.

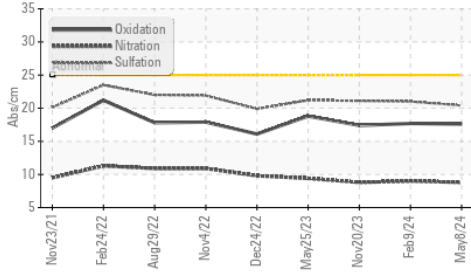
Silicon	ppm	ASTM D5185m	>25	6	6	8
Potassium	ppm	ASTM D5185m	>20	<1	2	<1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	8.8	9.0	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.4	21.0	21.1
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

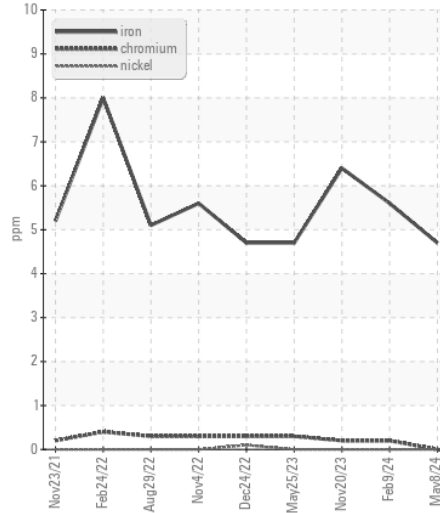
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	8	4	5
Boron	ppm	ASTM D5185m	250	121	105	136
Barium	ppm	ASTM D5185m	10	0	10	0
Molybdenum	ppm	ASTM D5185m	100	69	78	77
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	450	353	215	299
Calcium	ppm	ASTM D5185m	3000	1548	1564	1703
Phosphorus	ppm	ASTM D5185m	1150	991	892	1019
Zinc	ppm	ASTM D5185m	1350	1148	1101	1252
Sulfur	ppm	ASTM D5185m	4250	3454	3269	3365
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.6	17.7	17.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.3	5.9	5.8
Visc @ 100°C	cSt	ASTM D445	14.4	14.0	13.4	13.9

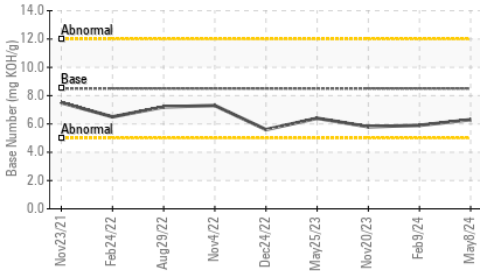
FT-IR (Direct Trend)



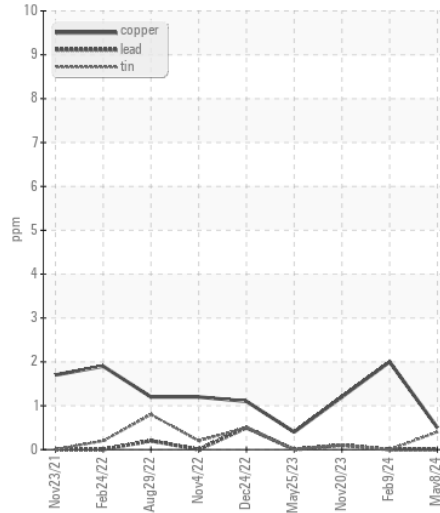
Ferrous Alloys



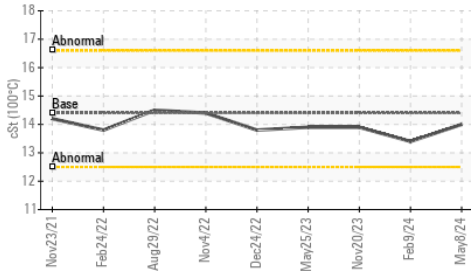
Base Number



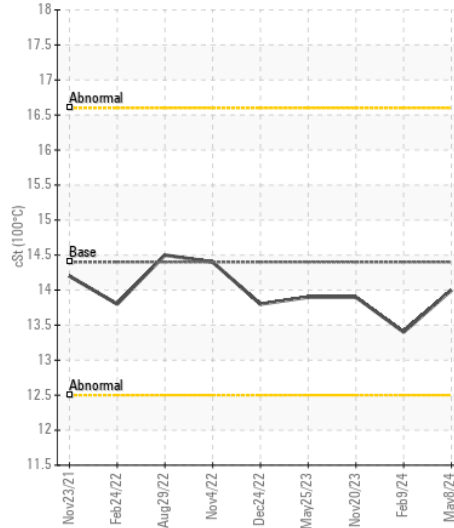
Non-ferrous Metals



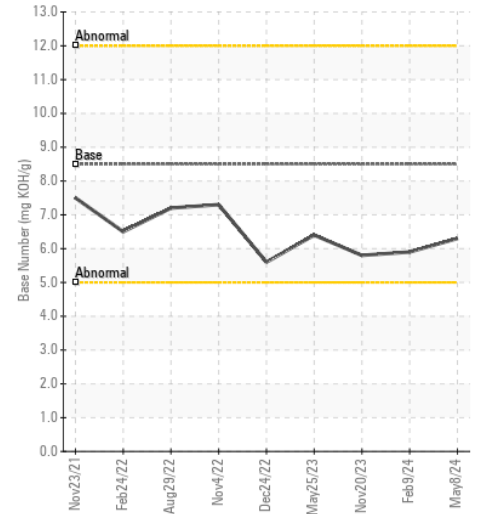
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : HRE0000170

Lab Number : 06196199

Unique Number : 11058322

Test Package : FLEET

Received : 31 May 2024

Tested : 03 Jun 2024

Diagnosed : 03 Jun 2024 - Wes Davis

TOWN OF CHAPEL HILL

6900 MILLHOUSE RD

CHAPEL HILL, NC

US 27516

Contact: Lisa DePasqua

ldepasqua@townofchapelhill.org

T: (919)696-4941

F:

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)