OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
HC2215
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. 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.

WEAR

All component wear rates are normal.

CONTAMINATION

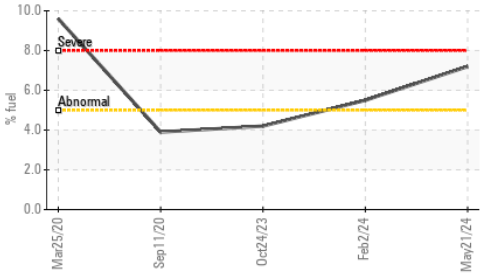
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

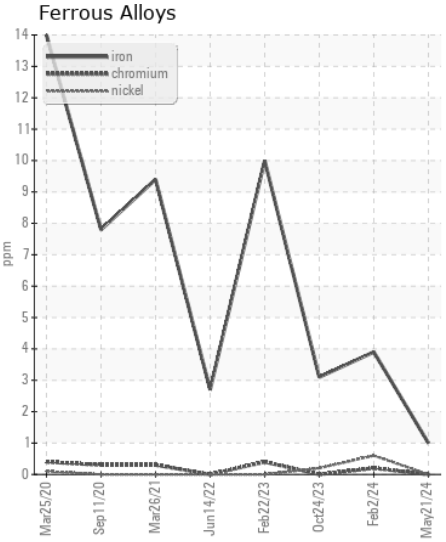
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0935886	WC0893165	WC0823462
Sample Date		Client Info		21 May 2024	02 Feb 2024	24 Oct 2023
Machine Age	hrs	Client Info		12325	11679	11138
Oil Age	hrs	Client Info		646	0	615
Filter Age	hrs	Client Info		646	0	615
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>100	1	4	3
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	2	1
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	0	<1	<1
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	3	4
Potassium	ppm	ASTM D5185m	>20	1	2	2
Fuel	%	ASTM D3524	>5	▲ 7.2	▲ 5.5	▲ 4.2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.2	7.5	6.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	19.6	19.3
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	>158	1	0	<1
Boron	ppm	ASTM D5185m	250	167	58	108
Barium	ppm	ASTM D5185m	10	0	13	0
Molybdenum	ppm	ASTM D5185m	100	3	53	44
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	145	900	381
Calcium	ppm	ASTM D5185m	3000	1839	862	1650
Phosphorus	ppm	ASTM D5185m	1150	930	952	954
Zinc	ppm	ASTM D5185m	1350	1084	1111	1209
Sulfur	ppm	ASTM D5185m	4250	3517	3398	3066
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.9	17.3	15.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	5.7	8.0	7.6
Visc @ 100°C	cSt	ASTM D445	14.4	12.8	▲ 12.0	▲ 11.2

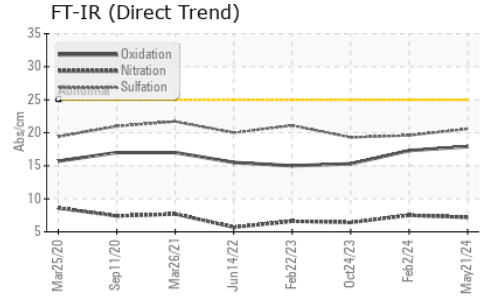
Fuel Dilution



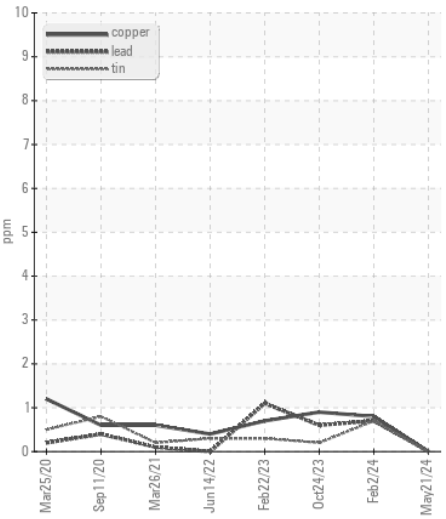
Ferrous Alloys



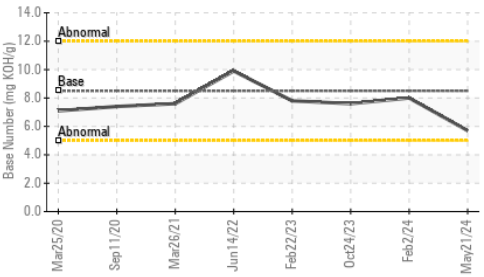
FT-IR (Direct Trend)



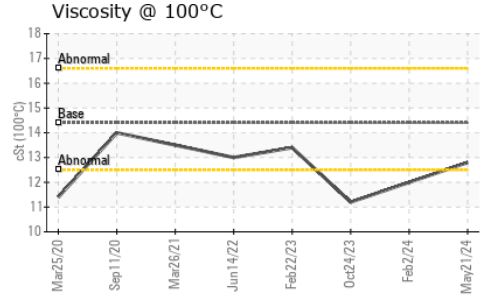
Non-ferrous Metals



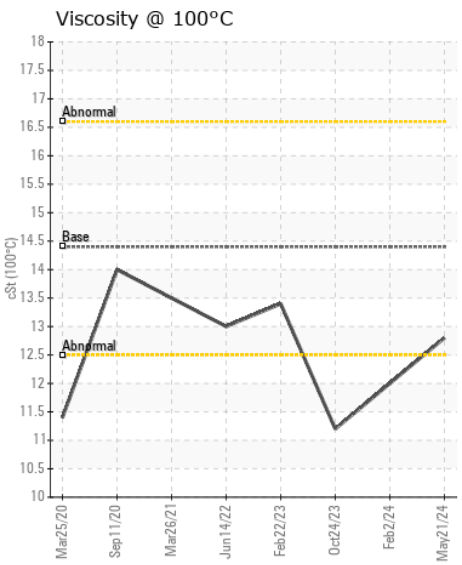
Base Number



Viscosity @ 100°C



Viscosity @ 100°C



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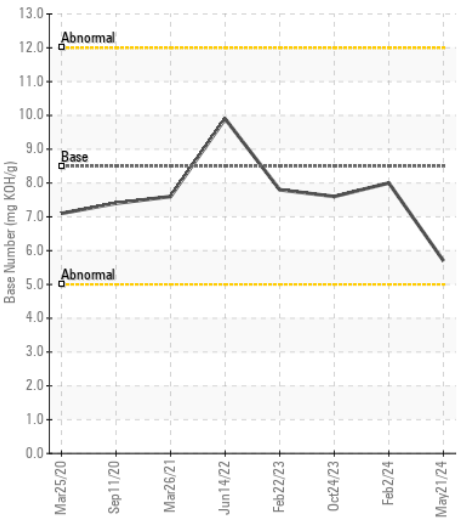

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0935886 **Received** : 24 May 2024
Lab Number : 06191618 **Tested** : 30 May 2024
Unique Number : 11048370 **Diagnosed** : 30 May 2024 - Wes Davis
Test Package : CONST (Additional Tests: PercentFuel, TBN)

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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