



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
2120-0279
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

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		JR0211565	JR0165305	JR0147269
Sample Date		Client Info		23 May 2024	24 Jun 2023	03 Dec 2022
Machine Age	hrs	Client Info		1451	938	711
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
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	15	10	23
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	8	6	11
Lead	ppm	ASTM D5185m	>40	1	0	2
Copper	ppm	ASTM D5185m	>330	4	8	34
Tin	ppm	ASTM D5185m	>15	<1	<1	2
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

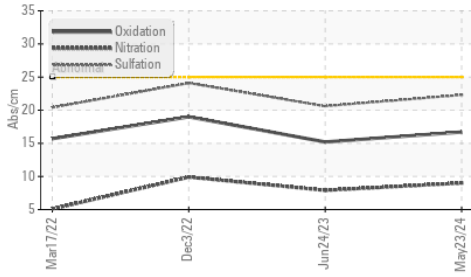
Silicon	ppm	ASTM D5185m	>25	12	11	25
Potassium	ppm	ASTM D5185m	>20	14	9	30
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	9.0	7.9	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.3	20.6	24.1
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

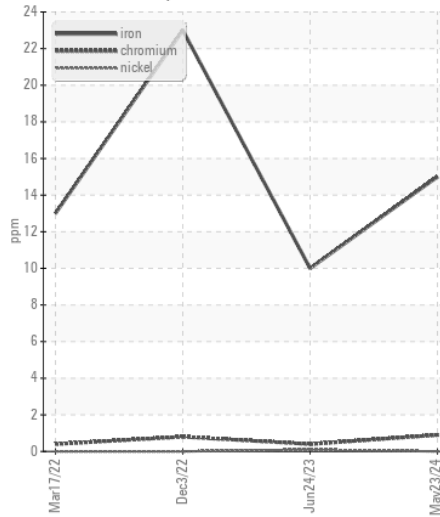
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	2	2	3
Boron	ppm	ASTM D5185m	250	227	222	157
Barium	ppm	ASTM D5185m	10	0	0	<1
Molybdenum	ppm	ASTM D5185m	100	251	219	206
Manganese	ppm	ASTM D5185m		<1	<1	2
Magnesium	ppm	ASTM D5185m	450	875	820	751
Calcium	ppm	ASTM D5185m	3000	1542	1423	1518
Phosphorus	ppm	ASTM D5185m	1150	948	903	869
Zinc	ppm	ASTM D5185m	1350	1135	1115	1045
Sulfur	ppm	ASTM D5185m	4250	3714	3810	3543
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.7	15.2	19.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.0	9.1	8.6
Visc @ 100°C	cSt	ASTM D445	14.4	13.1	12.5	12.6

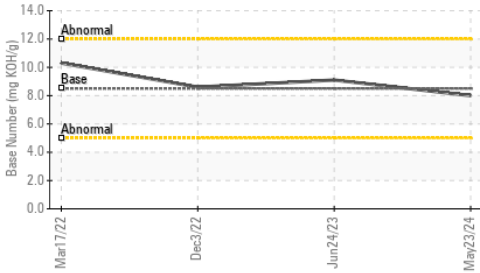
FT-IR (Direct Trend)



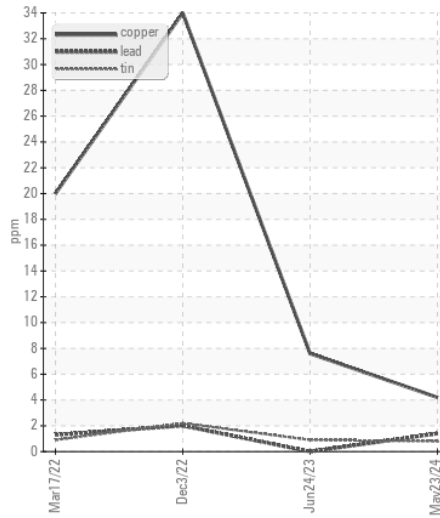
Ferrous Alloys



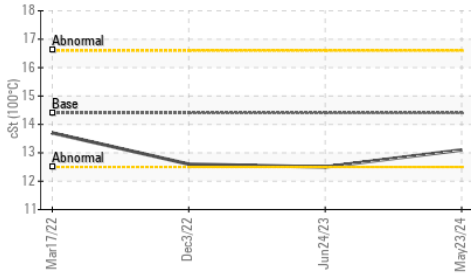
Base Number



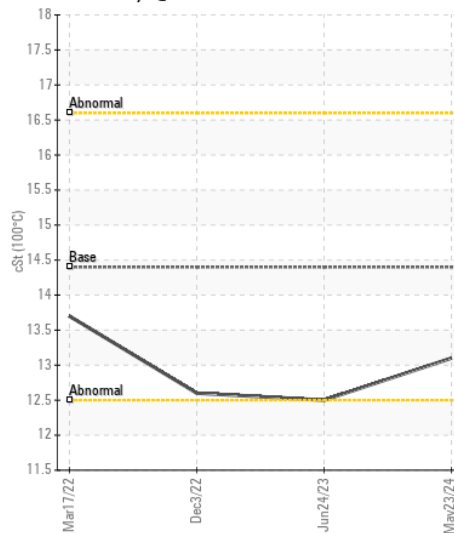
Non-ferrous Metals



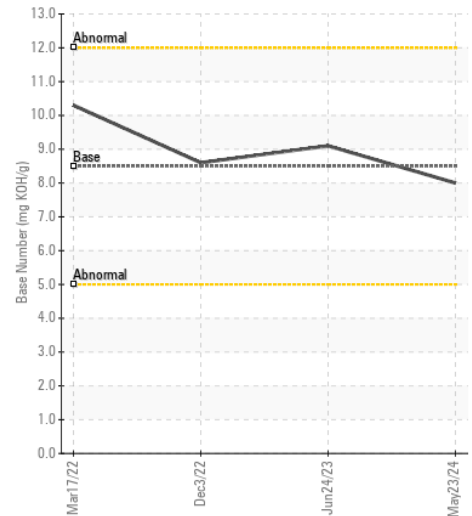
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : JR0211565

Lab Number : 06191481

Unique Number : 11048233

Test Package : CONST (Additional Tests: TBN)

Received : 24 May 2024

Tested : 29 May 2024

Diagnosed : 29 May 2024 - Wes Davis

JRE - ASHLAND

11047 LEADBETTER RD

ASHLAND, VA

US 23005

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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)