



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
202320
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (40 QTS)

RECOMMENDATION

Resample at the next service interval to monitor. 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		WC0917980	WC0882155	WC0847873
Sample Date		Client Info		18 Mar 2024	29 Nov 2023	16 Aug 2023
Machine Age	mls	Client Info		41601	38114	34716
Oil Age	mls	Client Info		0	3398	3055
Filter Age	mls	Client Info		0	3398	3055
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>120	8	7	6
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	2	<1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	2	1	2
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

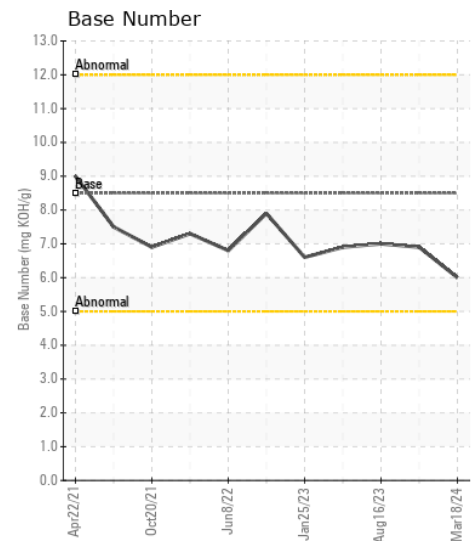
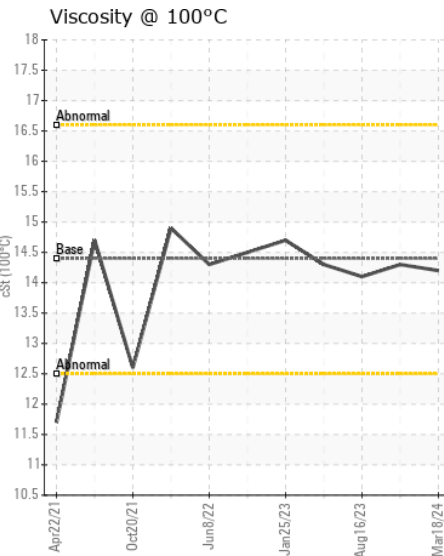
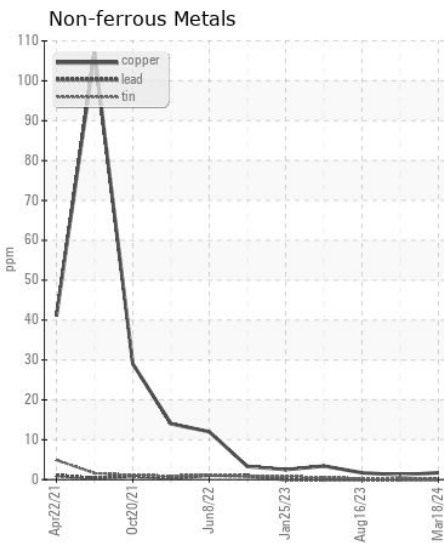
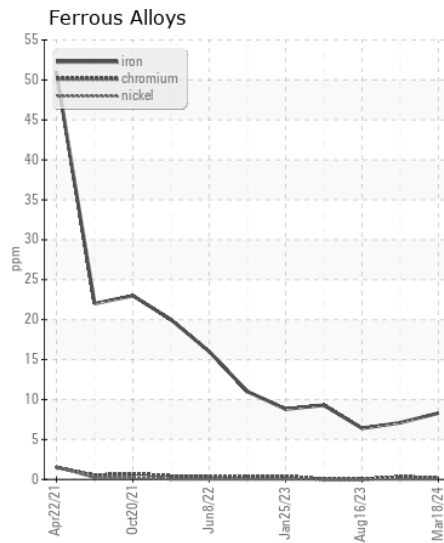
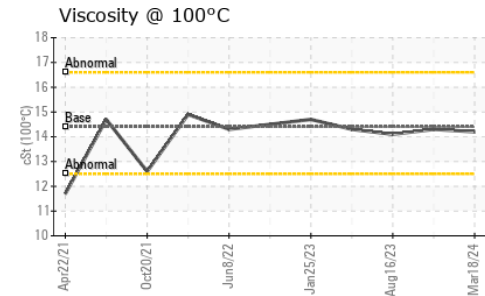
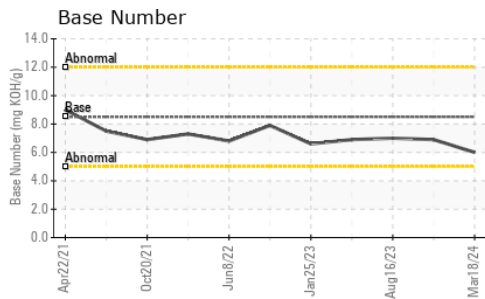
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	3	4	4
Potassium	ppm	ASTM D5185m	>20	<1	2	1
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	0.6	0.6	0.5
Nitration	Abs/cm	*ASTM D7624	>20	10.6	10.5	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.6	21.5	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	4	3	3
Boron	ppm	ASTM D5185m	250	24	27	29
Barium	ppm	ASTM D5185m	10	0	5	0
Molybdenum	ppm	ASTM D5185m	100	52	55	49
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	450	677	727	743
Calcium	ppm	ASTM D5185m	3000	1295	1209	1210
Phosphorus	ppm	ASTM D5185m	1150	652	665	647
Zinc	ppm	ASTM D5185m	1350	895	862	850
Sulfur	ppm	ASTM D5185m	4250	2716	2132	2515
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.8	19.3	18.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.0	6.9	7.0
Visc @ 100°C	cSt	ASTM D445	14.4	14.2	14.3	14.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0917980
Lab Number : 06122957
Unique Number : 10937108
Test Package : FLEET

Received : 19 Mar 2024
Tested : 20 Mar 2024
Diagnosed : 20 Mar 2024 - Wes Davis

CITY OF GREENSBORO
 401 PATTON AVE - BUILDING H
 GREENSBORO, NC
 US 27406
 Contact: JERRY GUNTER
 jerry.gunter@greensboro-nc.gov

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)

T: x:
 F: x: