



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
212319
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (27 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		WC0756861	WC0882160	WC0850143
Sample Date		Client Info		10 Apr 2024	13 Dec 2023	30 Aug 2023
Machine Age	mls	Client Info		12200	8286	19779
Oil Age	mls	Client Info		3914	3983	3992
Filter Age	mls	Client Info		3914	3983	3992
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>75	16	16	17
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	5	3	6
Lead	ppm	ASTM D5185m	>25	0	0	<1
Copper	ppm	ASTM D5185m	>100	1	2	2
Tin	ppm	ASTM D5185m	>4	<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.

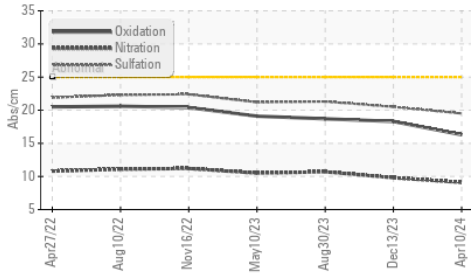
Silicon	ppm	ASTM D5185m	>25	5	7	5
Potassium	ppm	ASTM D5185m	>20	2	3	4
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.5	0.5	0.9
Nitration	Abs/cm	*ASTM D7624	>20	9.1	9.8	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.5	20.5	21.3
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

FLUID CONDITION

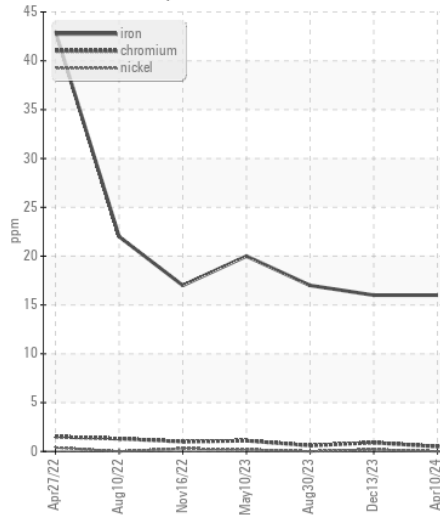
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	2	<1	6
Boron	ppm	ASTM D5185m	250	19	47	21
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	61	52	48
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	941	750	738
Calcium	ppm	ASTM D5185m	3000	1136	1175	1229
Phosphorus	ppm	ASTM D5185m	1150	1017	705	658
Zinc	ppm	ASTM D5185m	1350	1189	898	863
Sulfur	ppm	ASTM D5185m	4250	3491	2718	2665
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.3	18.3	18.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.5	8.0	7.7
Visc @ 100°C	cSt	ASTM D445	14.4	13.0	13.5	13.6

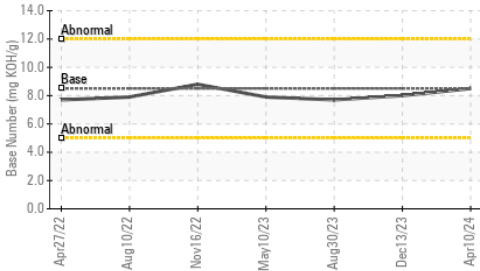
FT-IR (Direct Trend)



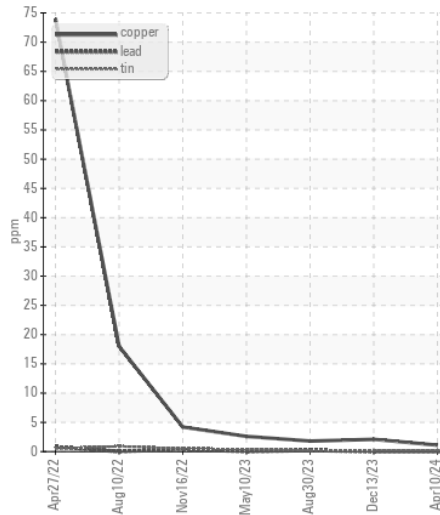
Ferrous Alloys



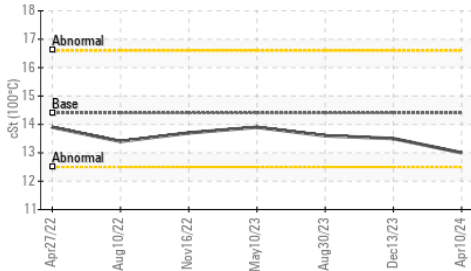
Base Number



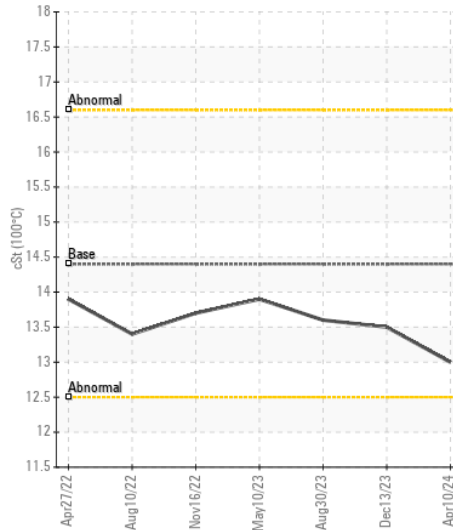
Non-ferrous Metals



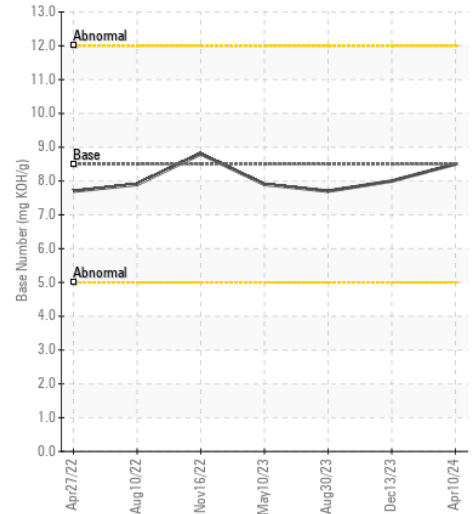
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : WC0756861

Lab Number : 06150063

Unique Number : 10980141

Test Package : FLEET

Received : 16 Apr 2024

Tested : 17 Apr 2024

Diagnosed : 17 Apr 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: