OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
1313
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

WEAR

Cylinder, crank, or cam shaft wear is indicated.

CONTAMINATION

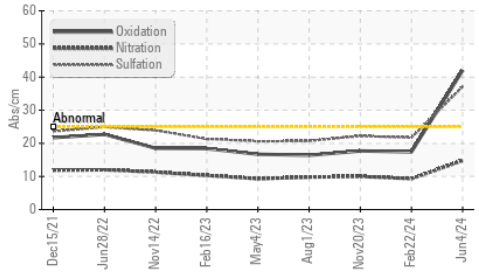
There is an abnormal amount of solids and carbon present in the oil. Light fuel dilution occurring.

FLUID CONDITION

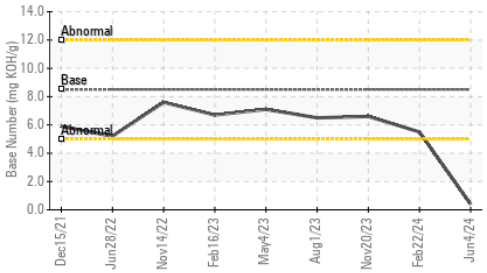
The oil viscosity is lower than normal. The BN level is low.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0887551	WC0887526	WC0844934
Sample Date		Client Info		04 Jun 2024	22 Feb 2024	20 Nov 2023
Machine Age	mls	Client Info		273107	265883	260367
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	▲ 113	19	24
Chromium	ppm	ASTM D5185m	>20	2	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	6	9	9
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	6	2	3
Tin	ppm	ASTM D5185m	>15	0	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
Silicon	ppm	ASTM D5185m	>25	11	9	7
Potassium	ppm	ASTM D5185m	>20	0	2	3
Fuel	%	ASTM D3524	>5	▲ 2.7	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	▲ 3.8	0.6	1.1
Nitration	Abs/cm	*ASTM D7624	>20	14.8	9.3	10.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	37.1	21.7	22.2
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	4	9	18
Boron	ppm	ASTM D5185m	250	39	85	47
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	52	86	75
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	450	268	232	274
Calcium	ppm	ASTM D5185m	3000	1220	1695	1899
Phosphorus	ppm	ASTM D5185m	1150	772	953	1053
Zinc	ppm	ASTM D5185m	1350	810	1164	1282
Sulfur	ppm	ASTM D5185m	4250	2721	3350	3424
Oxidation	Abs/.1mm	*ASTM D7414	>25	42.0	17.4	17.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	▲ 0.4	5.5	6.6
Visc @ 100°C	cSt	ASTM D445	14.4	● 12.2	13.4	14.0

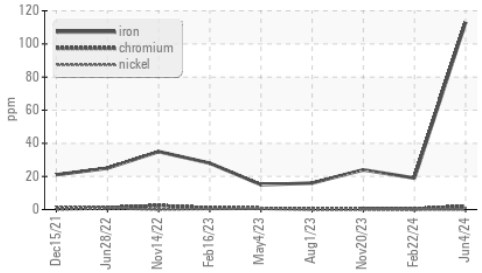
FT-IR (Direct Trend)



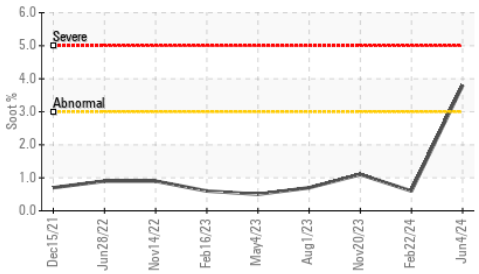
Base Number



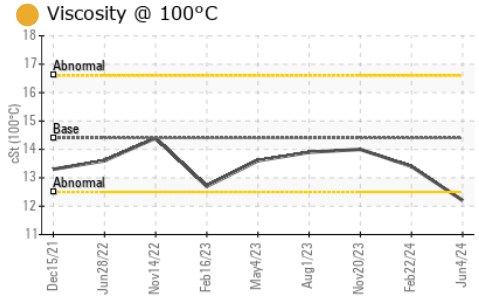
Ferrous Alloys



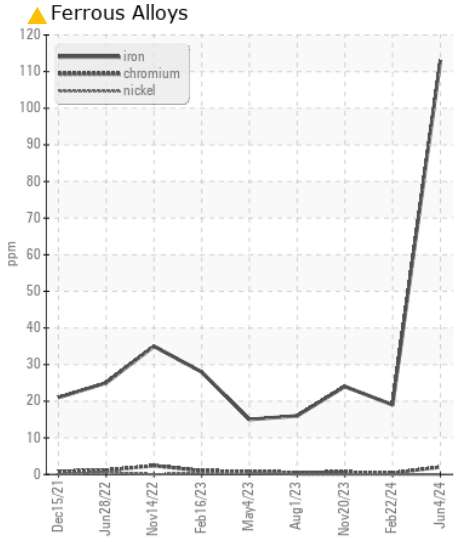
Soot %



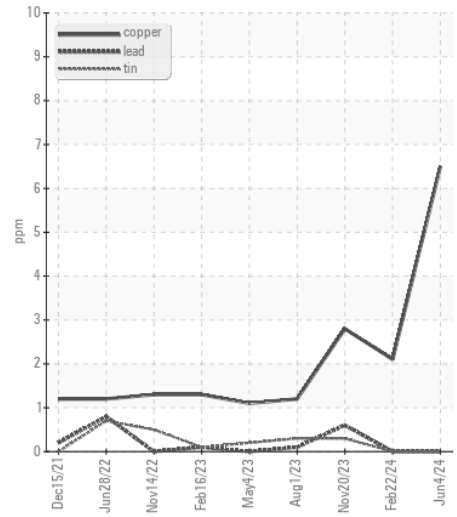
Viscosity @ 100°C



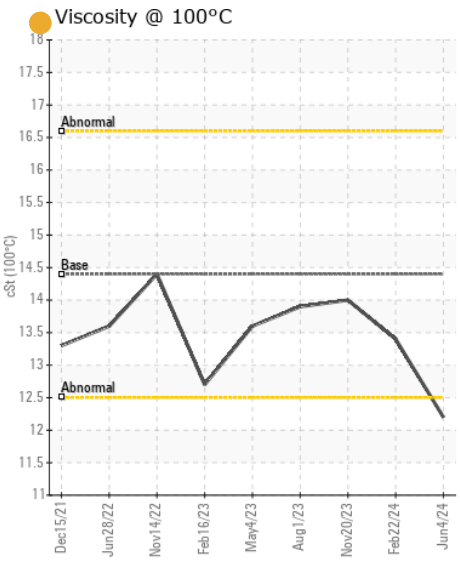
Ferrous Alloys



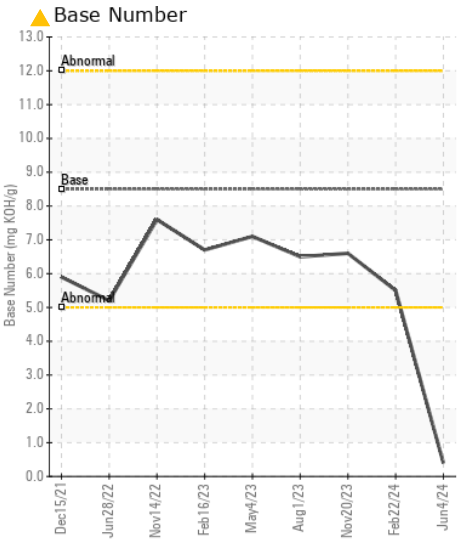
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0887551 **Received** : 18 Jun 2024
Lab Number : 06213230 **Tested** : 20 Jun 2024
Unique Number : 11086094 **Diagnosed** : 20 Jun 2024 - Don Baldridge
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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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