OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	SEVERE

Machine Id
34099
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. 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

Metal levels are typical for a new component breaking in.

CONTAMINATION

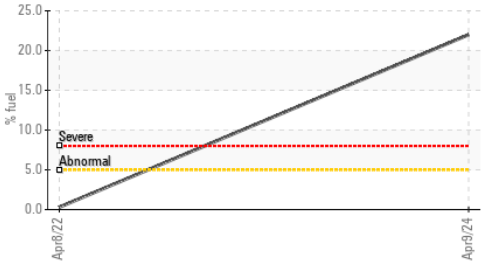
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

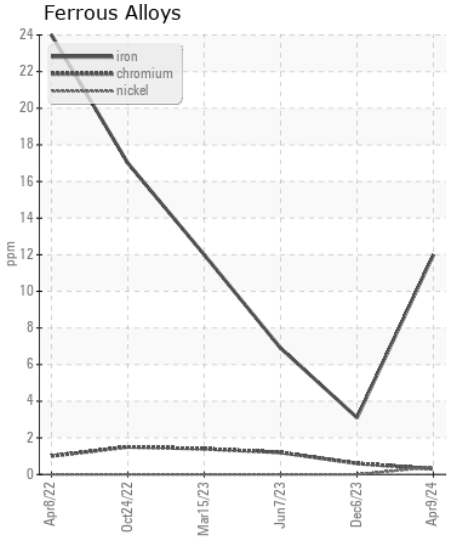
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0903222**	WC0875690	WC0696549
Sample Date		Client Info		**09 Apr 2024**	06 Dec 2023	07 Jun 2023
Machine Age	mls	Client Info		**50639**	42143	31625
Oil Age	mls	Client Info		**0**	0	0
Filter Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	Changed	N/A
Filter Changed		Client Info		**N/A**	Changed	N/A
Sample Status				**SEVERE**	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	**12**	3	7
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	1
Nickel	ppm	ASTM D5185m	>4	**<1**	0	0
Titanium	ppm	ASTM D5185m		**2**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**4**	7	9
Lead	ppm	ASTM D5185m	>40	**<1**	<1	0
Copper	ppm	ASTM D5185m	>330	**2**	23	68
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
Silicon	ppm	ASTM D5185m	>25	**7**	3	3
Potassium	ppm	ASTM D5185m	>20	**5**	17	19
Fuel	%	ASTM D3524	>5	▲ **22.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844	>3	**0.3**	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**7.6**	6.3	6.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.0**	19.4	20.6
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	**2**	0	<1
Boron	ppm	ASTM D5185m	250	**171**	5	3
Barium	ppm	ASTM D5185m	10	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**60**	70	61
Manganese	ppm	ASTM D5185m		**2**	0	<1
Magnesium	ppm	ASTM D5185m	450	**421**	1031	998
Calcium	ppm	ASTM D5185m	3000	**1123**	1214	1115
Phosphorus	ppm	ASTM D5185m	1150	**746**	1121	1069
Zinc	ppm	ASTM D5185m	1350	**843**	1260	1338
Sulfur	ppm	ASTM D5185m	4250	**2669**	3340	3861
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.8**	14.4	14.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**5.8**	9.6	9.8
Visc @ 100°C	cSt	ASTM D445	14.4	▲ **7.3**	13.2	13.3

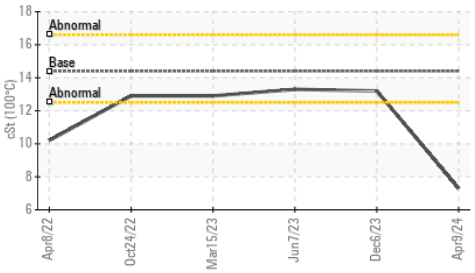
Fuel Dilution



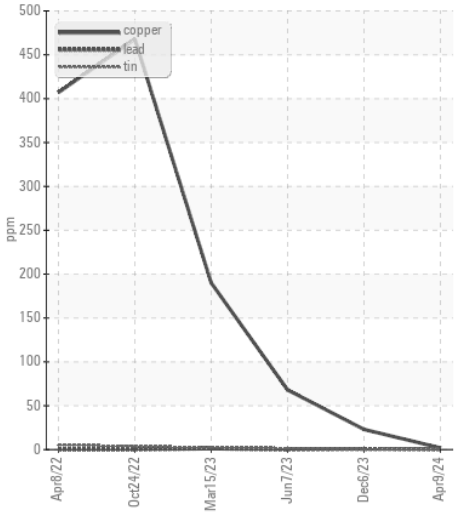
Ferrous Alloys



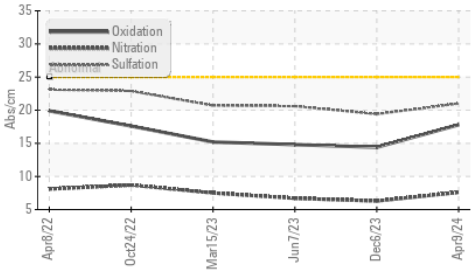
Viscosity @ 100°C



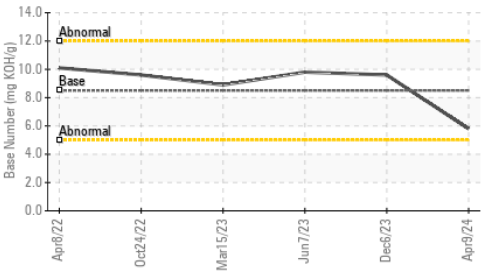
Non-ferrous Metals



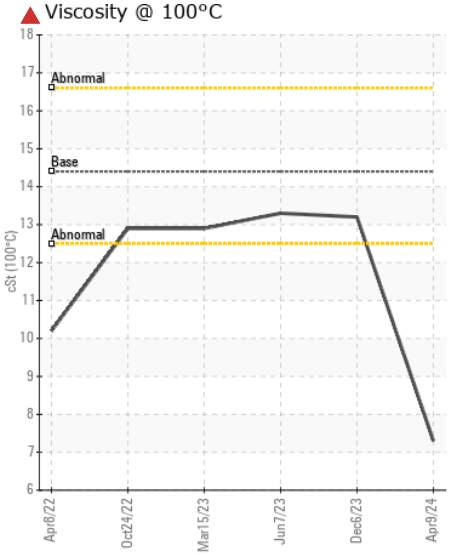
FT-IR (Direct Trend)



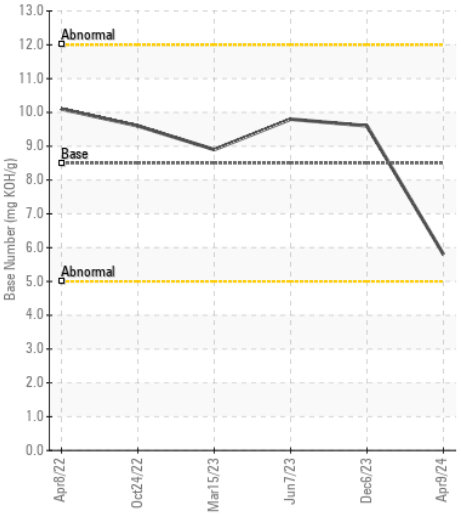
Base Number



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0903222
Lab Number : 06155137
Unique Number : 10990560
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 19 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 23 Apr 2024 - Wes Davis

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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