OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
11122
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 5W40 (--- QTS)

RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

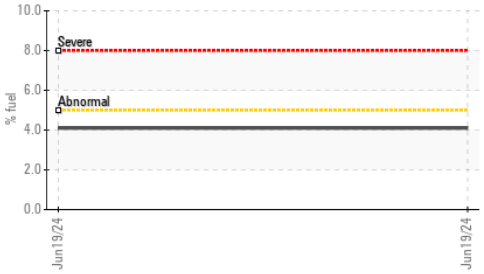
There is a moderate amount of fuel present in the oil.

FLUID CONDITION

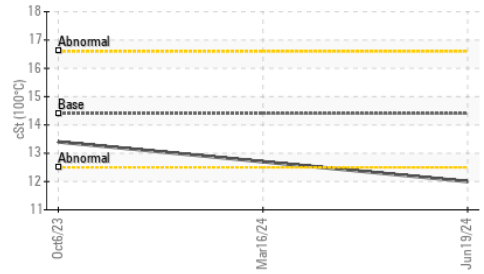
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0936759**	WC0915950	WC0838096
Sample Date		Client Info		**19 Jun 2024**	16 Mar 2024	06 Oct 2023
Machine Age	mls	Client Info		**171190**	0	129202
Oil Age	mls	Client Info		**10000**	15000	0
Filter Age	mls	Client Info		**10000**	15000	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	**23**	23	72
Chromium	ppm	ASTM D5185m	>20	**1**	1	4
Nickel	ppm	ASTM D5185m	>4	**0**	<1	<1
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**19**	18	13
Lead	ppm	ASTM D5185m	>40	**0**	<1	0
Copper	ppm	ASTM D5185m	>330	**1**	<1	4
Tin	ppm	ASTM D5185m	>15	**0**	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
Silicon	ppm	ASTM D5185m	>25	**8**	6	11
Potassium	ppm	ASTM D5185m	>20	**39**	27	21
Fuel	%	ASTM D3524	>5	▲ **4.1**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844	>3	**0.4**	0.4	0.8
Nitration	Abs/cm	*ASTM D7624	>20	**10.1**	9.9	13.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**26.6**	24.4	28.8
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	>44	**2**	2	2
Boron	ppm	ASTM D5185m	250	**136**	228	5
Barium	ppm	ASTM D5185m	10	**0**	0	12
Molybdenum	ppm	ASTM D5185m	100	**112**	127	66
Manganese	ppm	ASTM D5185m		**1**	<1	1
Magnesium	ppm	ASTM D5185m	450	**564**	728	966
Calcium	ppm	ASTM D5185m	3000	**1483**	1621	1178
Phosphorus	ppm	ASTM D5185m	1150	**724**	767	1020
Zinc	ppm	ASTM D5185m	1350	**921**	937	1289
Sulfur	ppm	ASTM D5185m	4250	**2990**	3164	2749
Oxidation	Abs/.1mm	*ASTM D7414	>25	**27.2**	22.0	30.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**5.7**	7.5	4.5
Visc @ 100°C	cSt	ASTM D445	14.4	▲ **12.0**	12.7	13.4

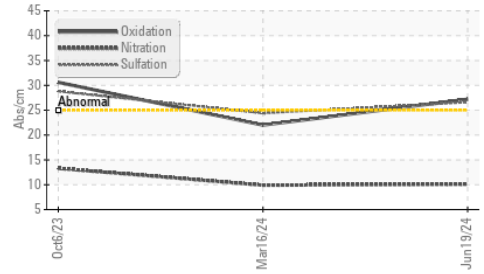
Fuel Dilution



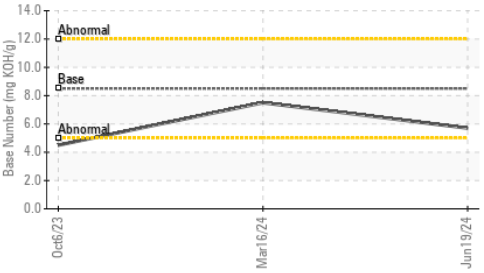
Viscosity @ 100°C



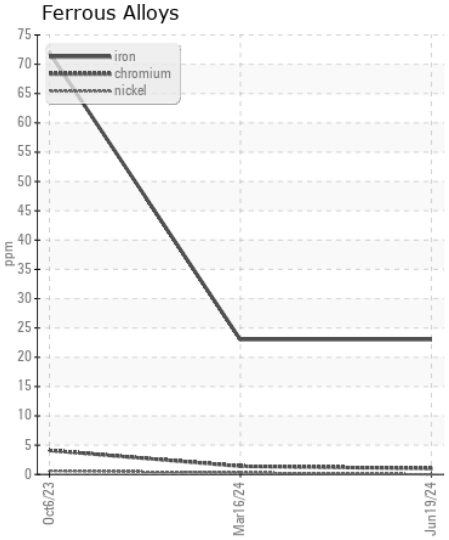
FT-IR (Direct Trend)



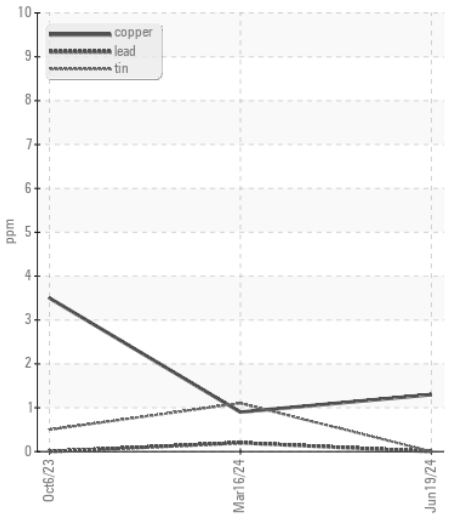
Base Number



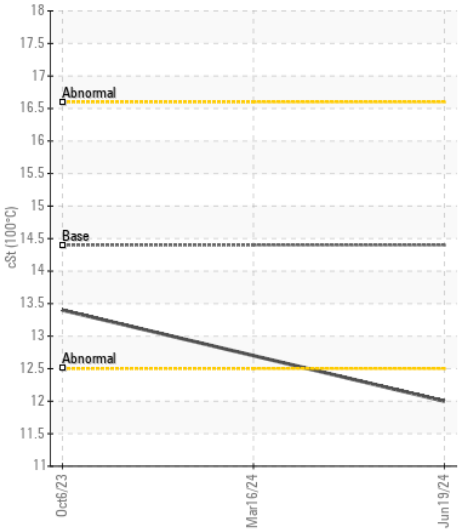
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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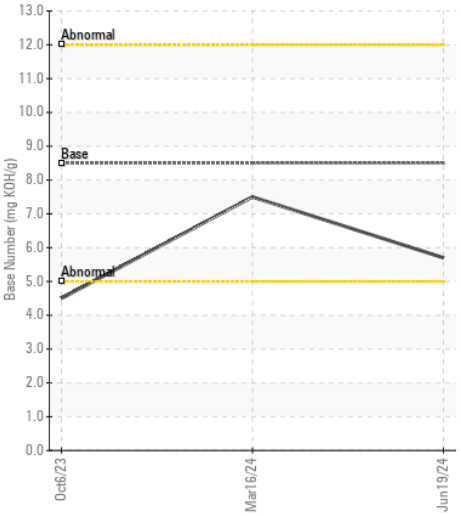

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0936759
Lab Number : 06220550
Unique Number : 11098747
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 25 Jun 2024
Tested : 28 Jun 2024
Diagnosed : 28 Jun 2024 - Jonathan Hester

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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