



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
HITACHI 1201
Component
Diesel Engine
Fluid
15W40 GULF (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0924757	WC0783501	---
Sample Date		Client Info		12 Apr 2024	19 Mar 2024	---
Machine Age	hrs	Client Info		10177	9920	---
Oil Age	hrs	Client Info		500	500	---
Filter Age	hrs	Client Info		500	500	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				ABNORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	43	25	---
Chromium	ppm	ASTM D5185m	>20	2	2	---
Nickel	ppm	ASTM D5185m	>4	0	<1	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>20	13	11	---
Lead	ppm	ASTM D5185m	>40	<1	<1	---
Copper	ppm	ASTM D5185m	>330	<1	1	---
Tin	ppm	ASTM D5185m	>15	<1	<1	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

Light concentration of carbon/soot present in the oil.

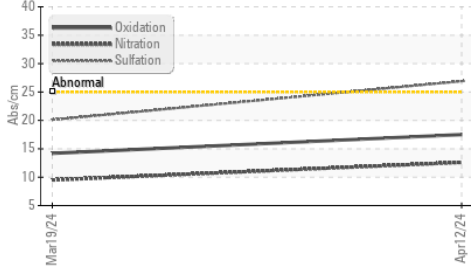
Silicon	ppm	ASTM D5185m	>25	23	9	---
Potassium	ppm	ASTM D5185m	>20	16	2	---
Fuel	%	ASTM D3524	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	▲ 3	1	---
Nitration	Abs/cm	*ASTM D7624	>20	12.6	9.5	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.9	20.1	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

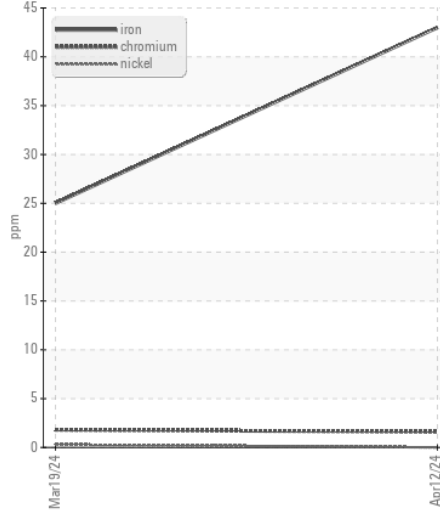
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		3	<1	---
Boron	ppm	ASTM D5185m		32	47	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		73	81	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		35	35	---
Calcium	ppm	ASTM D5185m		2374	2345	---
Phosphorus	ppm	ASTM D5185m		1014	921	---
Zinc	ppm	ASTM D5185m		1222	1210	---
Sulfur	ppm	ASTM D5185m		4071	3744	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.5	14.2	---
Base Number (BN)	mg KOH/g	ASTM D2896		7.5	7.4	---
Visc @ 100°C	cSt	ASTM D445		16.4	15.0	---

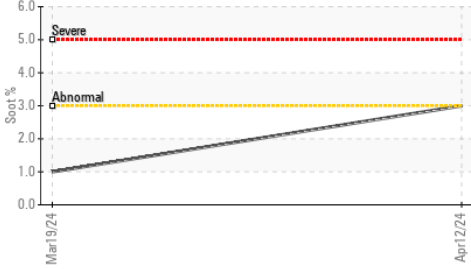
▲ FT-IR (Direct Trend)



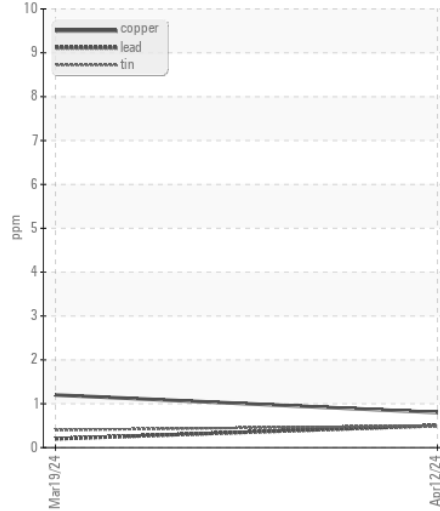
Ferrous Alloys



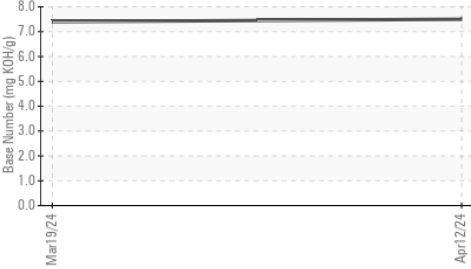
▲ Soot %



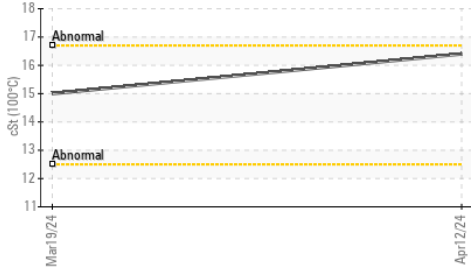
Non-ferrous Metals



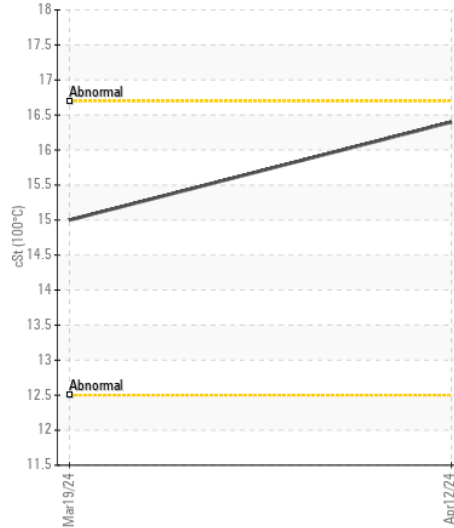
Base Number



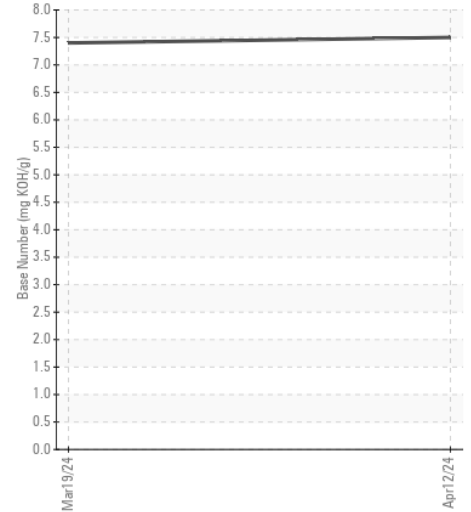
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0924757 **Received** : 16 Apr 2024
Lab Number : 06150915 **Tested** : 18 Apr 2024
Unique Number : 10980993 **Diagnosed** : 18 Apr 2024 - Wes Davis
Test Package : CONST (Additional Tests: FuelDilution, TBN)

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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)