



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
HITACHI 001631
Component
Diesel Engine
Fluid
CASTROL VECTON 15W40 CK4 (5 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0800505	WC0724546	WC0557669
Sample Date		Client Info		07 Dec 2023	15 May 2023	04 May 2022
Machine Age	hrs	Client Info		10927	10403	10173
Oil Age	hrs	Client Info		524	230	775
Filter Age	hrs	Client Info		524	230	775
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	28	20	28
Chromium	ppm	ASTM D5185m	>20	1	<1	1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	14	11	14
Lead	ppm	ASTM D5185m	>40	2	<1	<1
Copper	ppm	ASTM D5185m	>330	119	5	12
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

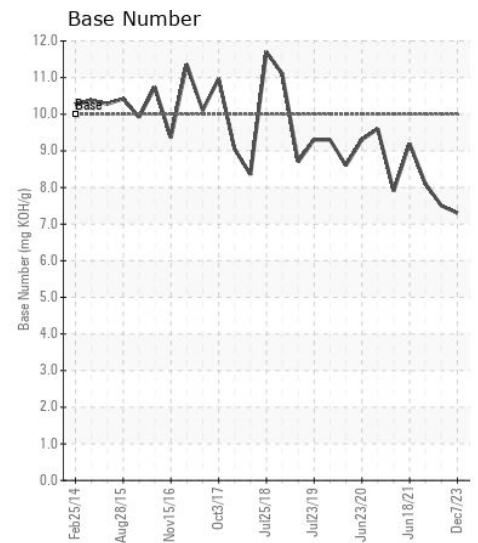
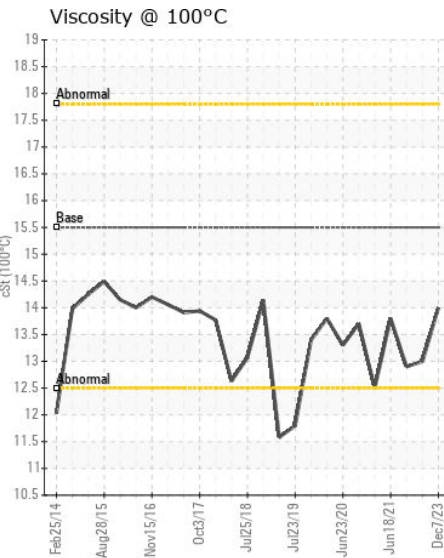
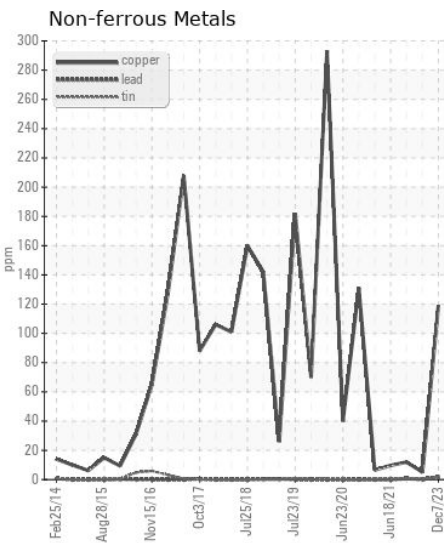
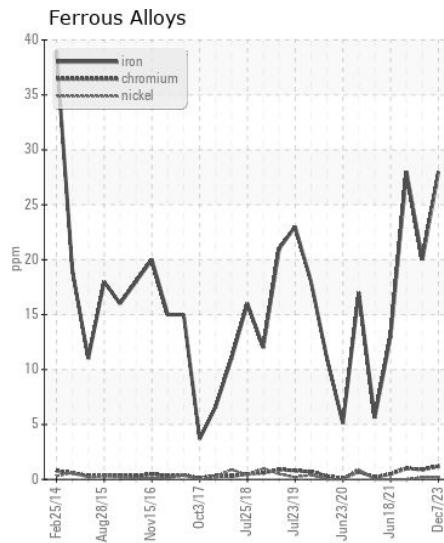
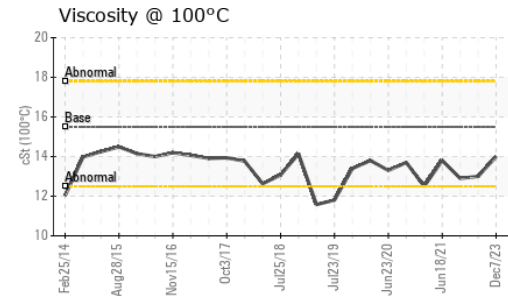
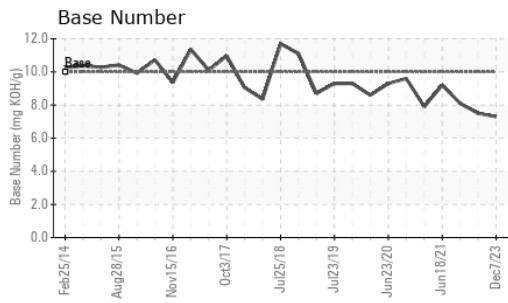
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	12	24	7
Potassium	ppm	ASTM D5185m	>20	<1	4	8
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	2.1	0.8	2.1
Nitration	Abs/cm	*ASTM D7624	>20	11.9	9.0	13.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.0	19.6	25.6
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

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		6	8	4
Boron	ppm	ASTM D5185m		44	23	29
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		97	38	78
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		104	75	194
Calcium	ppm	ASTM D5185m		2241	2401	2213
Phosphorus	ppm	ASTM D5185m		1168	1008	1031
Zinc	ppm	ASTM D5185m		1318	1224	1165
Sulfur	ppm	ASTM D5185m		3363	4366	4193
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.5	12.8	19.1
Base Number (BN)	mg KOH/g	ASTM D2896	10	7.3	7.5	8.1
Visc @ 100°C	cSt	ASTM D445	15.5	14.0	13.0	12.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0800505 **Received** : 12 Jan 2024
Lab Number : 06060110 **Diagnosed** : 16 Jan 2024
Unique Number : 10831492 **Diagnostician** : Wes Davis
Test Package : CONST (Additional Tests: TBN)

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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