



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>MARGINAL</b>

Machine Id  
**6390**  
Component  
**Diesel Engine**  
Fluid  
**CASTROL VECTON 15W40 CK4 (--- QTS)**

## RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0666193</b>	WC0813385	WC0666208
Sample Date		Client Info		<b>16 Jan 2024</b>	15 Oct 2023	14 May 2023
Machine Age	hrs	Client Info		<b>7146</b>	7411	6925
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>MARGINAL</b>	MARGINAL	MARGINAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>4</b>	5	6
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>1</b>	1	<1
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

There is no indication of any contamination in the oil.

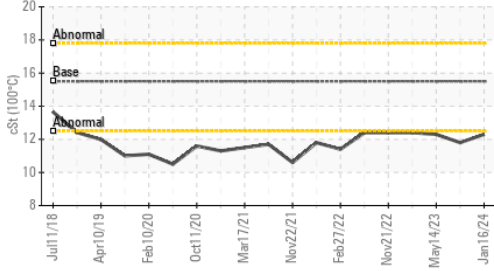
Silicon	ppm	ASTM D5185m	>25	<b>5</b>	4	6
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	2
Fuel	%	ASTM D3524	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.6</b>	8.2	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.1</b>	18.5	19.7
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

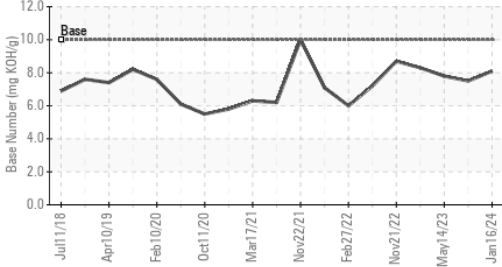
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		<b>3</b>	4	4
Boron	ppm	ASTM D5185m		<b>37</b>	38	32
Barium	ppm	ASTM D5185m		<b>0</b>	3	0
Molybdenum	ppm	ASTM D5185m		<b>44</b>	43	46
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>530</b>	466	540
Calcium	ppm	ASTM D5185m		<b>1387</b>	1374	1543
Phosphorus	ppm	ASTM D5185m		<b>770</b>	685	762
Zinc	ppm	ASTM D5185m		<b>911</b>	786	919
Sulfur	ppm	ASTM D5185m		<b>2322</b>	1998	2540
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.2</b>	15.5	16.6
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>8.1</b>	7.5	7.8
Visc @ 100°C	cSt	ASTM D445	15.5	<b>▲ 12.3</b>	▲ 11.8	▲ 12.3

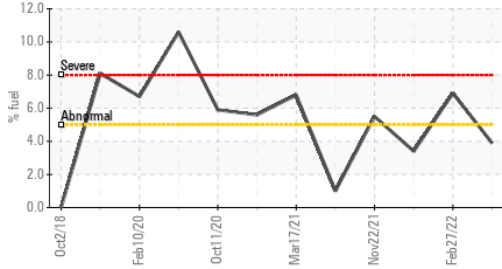
▲ Viscosity @ 100°C



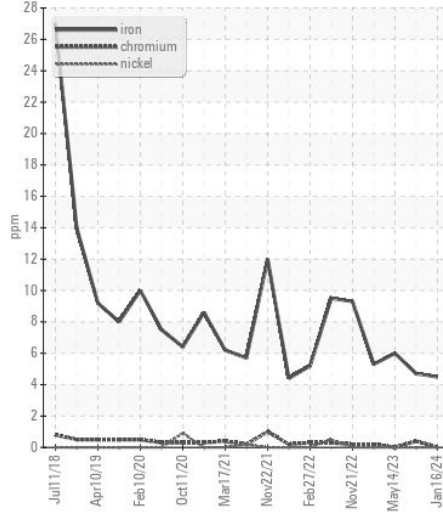
Base Number



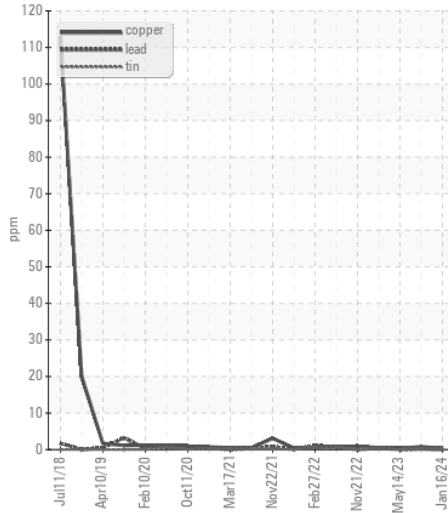
Fuel Dilution



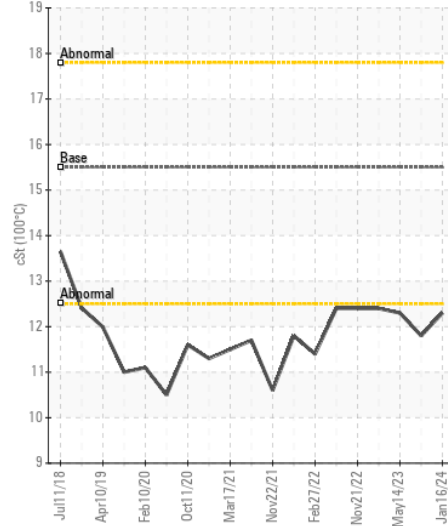
Ferrous Alloys



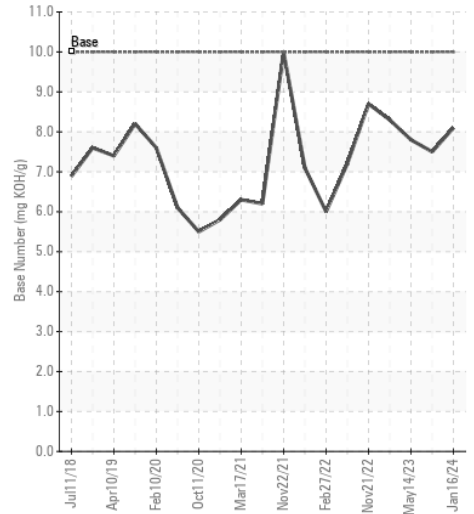
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0666193 **Received** : 18 Jan 2024  
**Lab Number** : 06064788 **Diagnosed** : 22 Jan 2024  
**Unique Number** : 10836170 **Diagnostician** : Sean Felton  
**Test Package** : FLEET ( Additional Tests: FuelDilution )

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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