



# OIL ANALYSIS REPORT

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

Machine Id  
**63007**  
Component  
**Diesel Engine**  
Fluid  
**CASTROL VECTON 15W40 CK4 (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0813311</b>	WC0813353	WC0666214
Sample Date		Client Info		<b>17 Jan 2024</b>	16 Oct 2023	21 Mar 2023
Machine Age	hrs	Client Info		<b>2593</b>	2243	1621
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>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>6</b>	5	8
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	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>2</b>	6	3
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	<1	2
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	<1
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

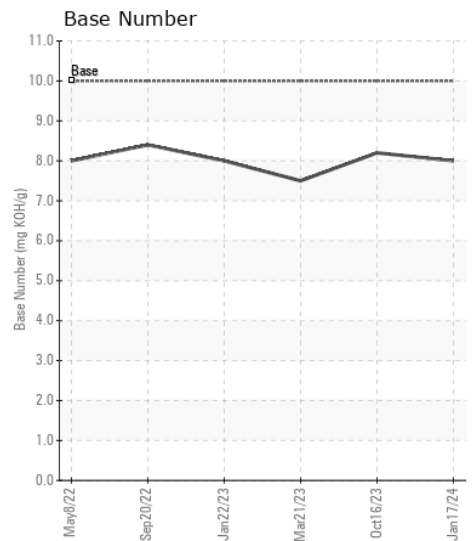
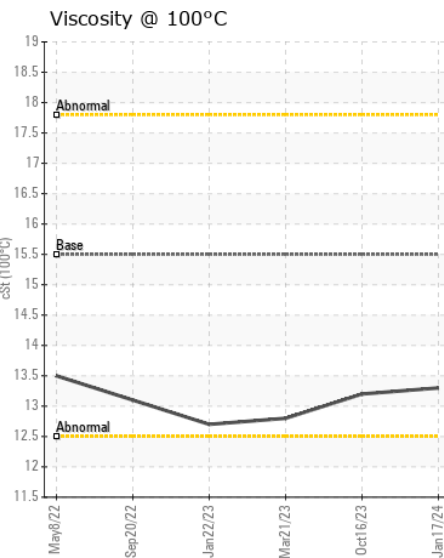
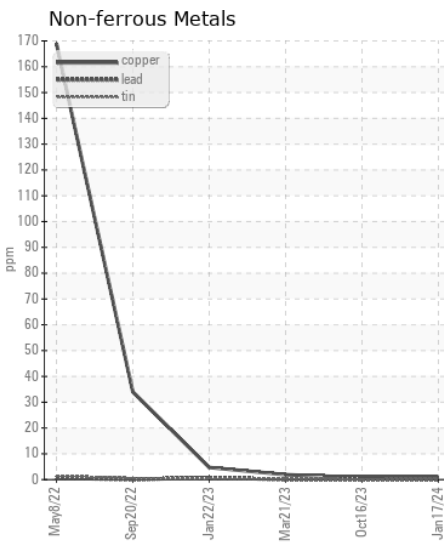
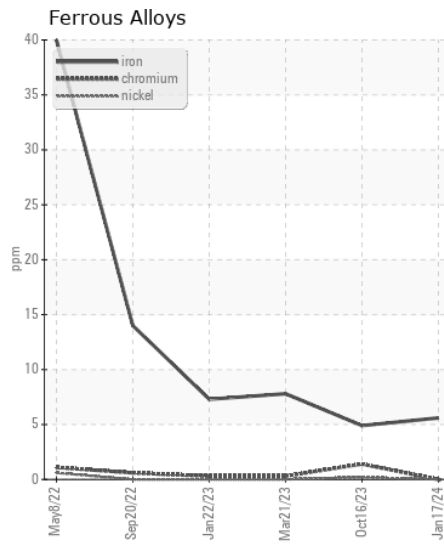
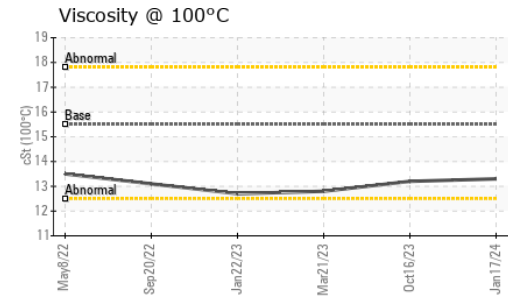
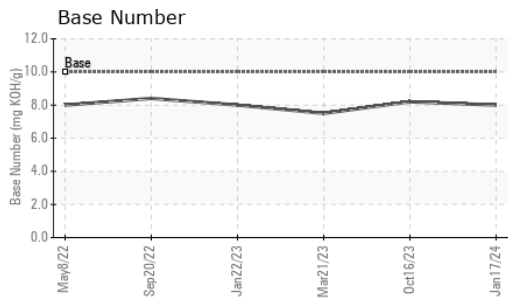
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	5	5
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	1	<1
Fuel		WC Method	>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>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.3</b>	8.2	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.2</b>	19.4	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 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		<b>3</b>	3	0
Boron	ppm	ASTM D5185m		<b>32</b>	33	32
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>46</b>	46	48
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>561</b>	519	524
Calcium	ppm	ASTM D5185m		<b>1402</b>	1422	1524
Phosphorus	ppm	ASTM D5185m		<b>762</b>	729	699
Zinc	ppm	ASTM D5185m		<b>918</b>	906	949
Sulfur	ppm	ASTM D5185m		<b>2342</b>	2610	2294
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.1</b>	16.3	16.5
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>8.0</b>	8.2	7.5
Visc @ 100°C	cSt	ASTM D445	15.5	<b>13.3</b>	13.2	12.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0813311 **Received** : 18 Jan 2024  
**Lab Number** : 06064747 **Diagnosed** : 21 Jan 2024  
**Unique Number** : 10836129 **Diagnostician** : Don Baldrige  
**Test Package** : FLEET

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)

**CITY OF BERKELEY**  
 1199 SECOND ST  
 BERKELEY, CA  
 US 94710

Contact: BAL JOHAL  
 bjoahal@ci.berkeley.ca.us  
 T: (510)981-6375  
 F: (510)558-1330