



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**VOGELE 001940**  
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		<b>WC0800446</b>	WC0823860	WC0757902
Sample Date		Client Info		<b>16 Feb 2024</b>	25 Aug 2023	17 Feb 2023
Machine Age	hrs	Client Info		<b>6628</b>	6283	5915
Oil Age	hrs	Client Info		<b>345</b>	368	680
Filter Age	hrs	Client Info		<b>345</b>	368	680
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	<b>9</b>	12	19
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	2	2
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	3	4
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

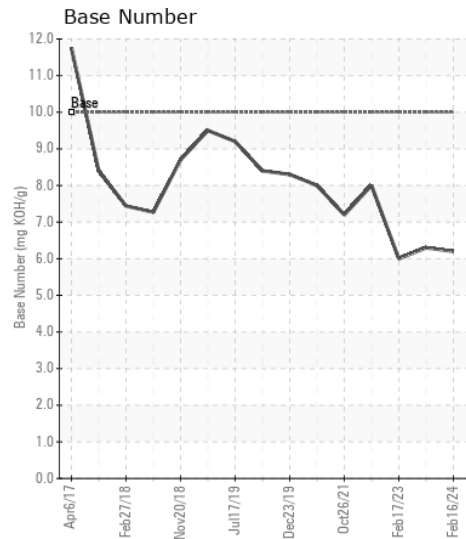
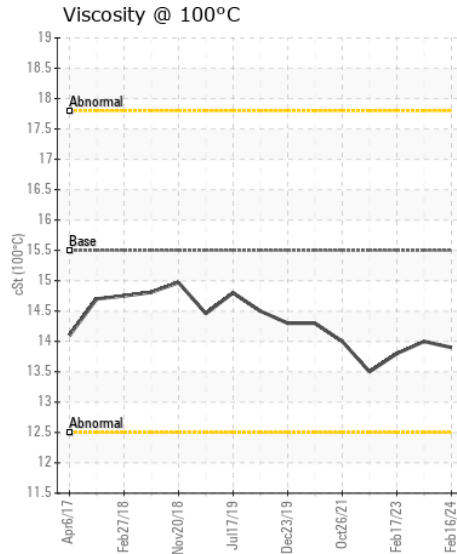
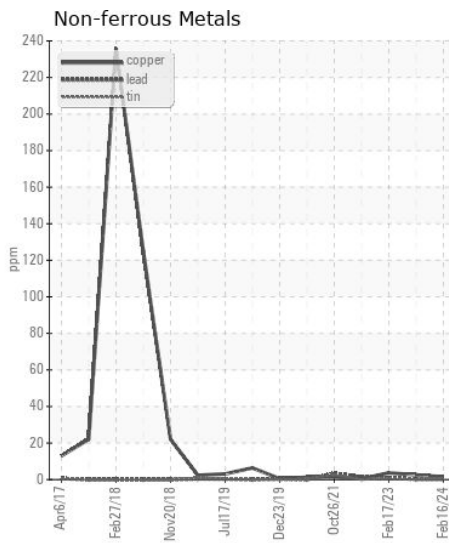
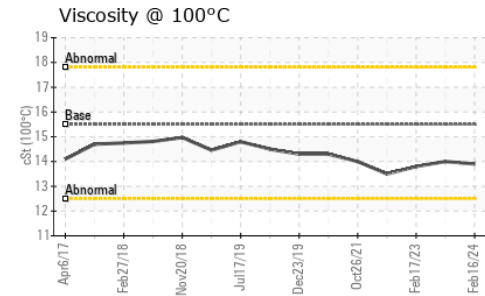
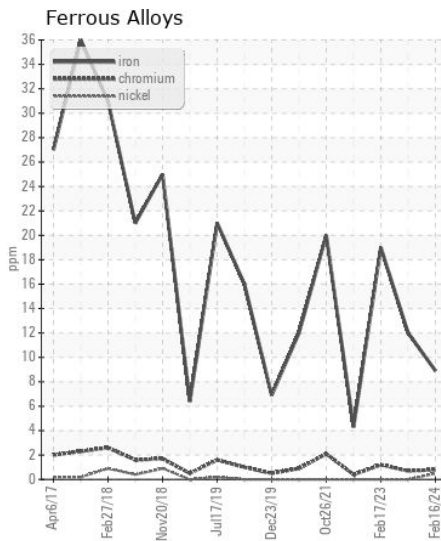
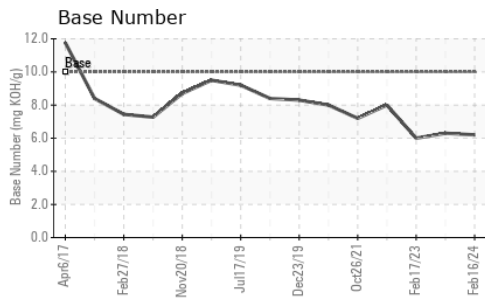
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	3	4
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	1
Fuel		WC Method	>3.0	<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	>6	<b>0.7</b>	0.6	1.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.3</b>	9.4	11.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.2</b>	19.3	23.1
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>2</b>	3	2
Boron	ppm	ASTM D5185m		<b>40</b>	55	29
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>89</b>	94	84
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Magnesium	ppm	ASTM D5185m		<b>74</b>	94	115
Calcium	ppm	ASTM D5185m		<b>1857</b>	2236	2030
Phosphorus	ppm	ASTM D5185m		<b>922</b>	1064	885
Zinc	ppm	ASTM D5185m		<b>1044</b>	1268	1126
Sulfur	ppm	ASTM D5185m		<b>3261</b>	4376	3718
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.1</b>	14.1	16.1
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>6.2</b>	6.3	6.0
Visc @ 100°C	cSt	ASTM D445	15.5	<b>13.9</b>	14.0	13.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0800446 **Received** : 27 Feb 2024  
**Lab Number** : 06102276 **Tested** : 28 Feb 2024  
**Unique Number** : 10900506 **Diagnosed** : 28 Feb 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

**CJ MILLER LLC**  
 2903 DEDE RD  
 FINKSBURG, MD  
 US 21048  
 Contact: JOE ROSS  
 jross@cjmillerllc.com  
 T: (410)239-8006  
 F: (410)239-1051

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)