



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id  
**BELL B45E B93A645EK03007699**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>BE0003731</b>	BE0003727	BE0003726
Sample Date		Client Info		<b>12 Feb 2024</b>	22 Aug 2023	08 Mar 2023
Machine Age	hrs	Client Info		<b>4170</b>	3672	3053
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>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

## WEAR

All component wear rates are normal.

PQ		ASTM D8184	>79	<b>14</b>	14	14
Iron	ppm	ASTM D5185m	>100	<b>27</b>	12	39
Chromium	ppm	ASTM D5185m	>20	<b>3</b>	2	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	21
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>8</b>	2	2
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>4</b>	2	48
Tin	ppm	ASTM D5185m	>15	<b>1</b>	0	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

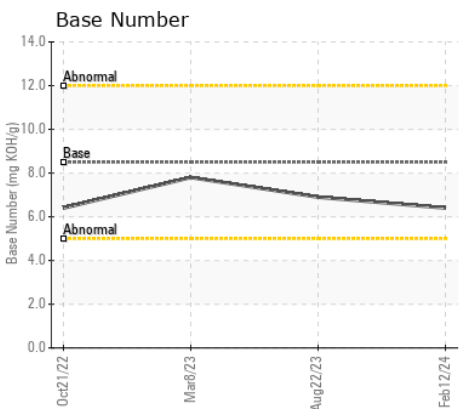
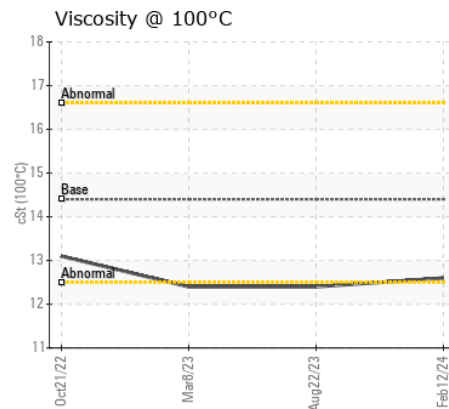
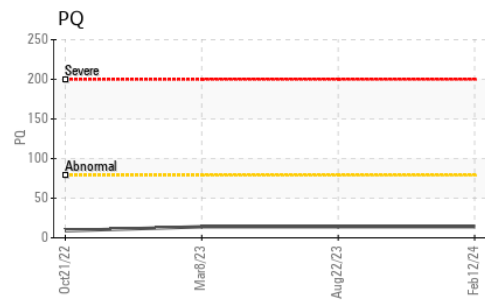
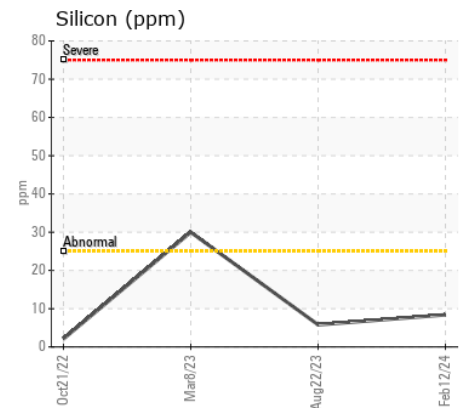
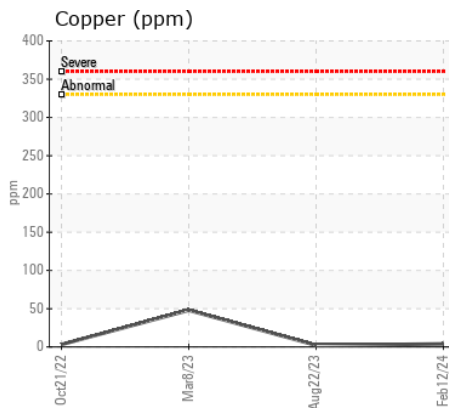
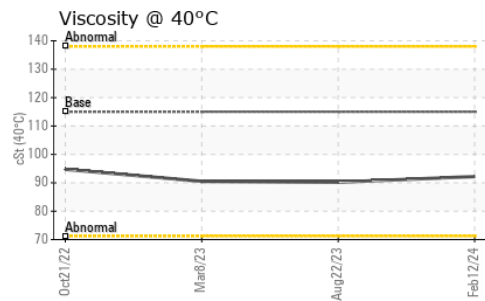
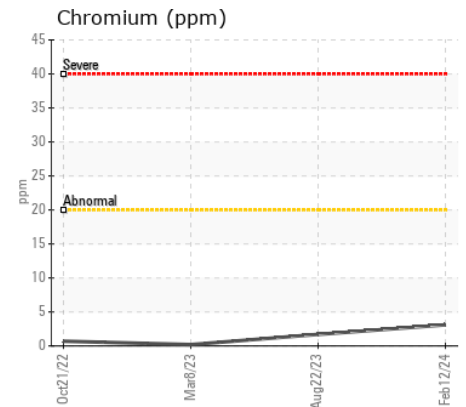
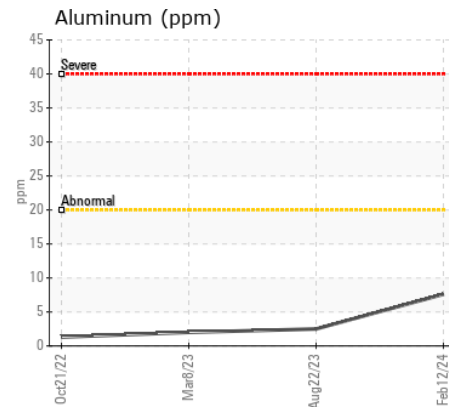
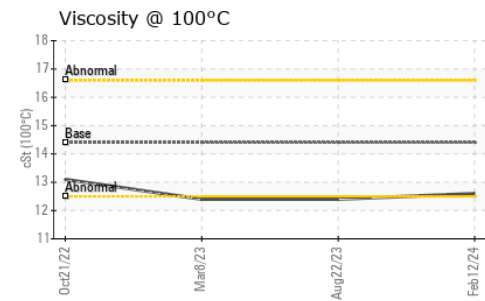
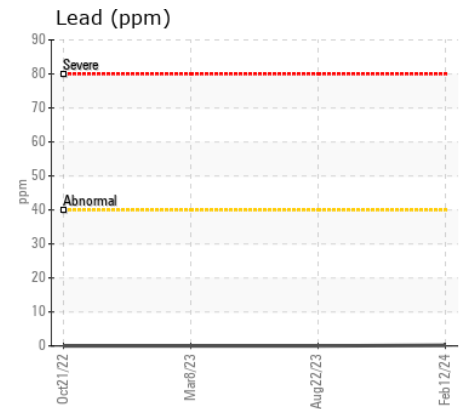
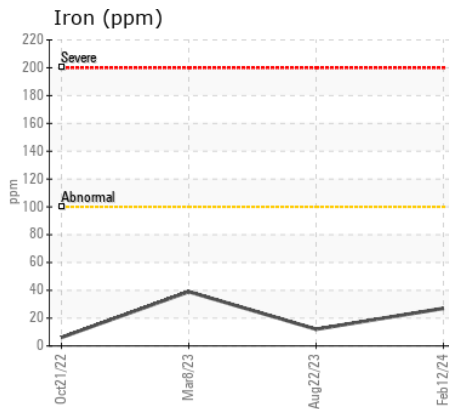
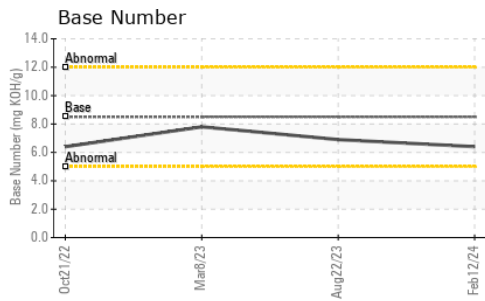
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>8</b>	6	▲ 30
Potassium	ppm	ASTM D5185m	>20	<b>14</b>	<1	<1
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	2.3
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.5</b>	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.4</b>	6.5	7.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.0</b>	18.8	18.1
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 acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>158	<b>&lt;1</b>	1	7
Boron	ppm	ASTM D5185m	250	<b>5</b>	0	2
Barium	ppm	ASTM D5185m	10	<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>50</b>	55	35
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	5
Magnesium	ppm	ASTM D5185m	450	<b>342</b>	364	842
Calcium	ppm	ASTM D5185m	3000	<b>1387</b>	1685	1213
Phosphorus	ppm	ASTM D5185m	1150	<b>898</b>	1028	890
Zinc	ppm	ASTM D5185m	1350	<b>1114</b>	1250	1181
Sulfur	ppm	ASTM D5185m	4250	<b>3120</b>	3725	3169
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.3</b>	13.2	13.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>6.4</b>	6.9	7.8
Visc @ 40°C	cSt	ASTM D445	115	<b>92.2</b>	90.2	90.5
Visc @ 100°C	cSt	ASTM D445	14.4	<b>12.6</b>	12.4	12.4
Viscosity Index (VI)	Scale	ASTM D2270	126	<b>132</b>	132	131



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : BE0003731 **Received** : 27 Feb 2024  
**Lab Number** : 06101493 **Tested** : 29 Feb 2024  
**Unique Number** : 10899723 **Diagnosed** : 29 Feb 2024 - Jonathan Hester  
**Test Package** : MOBCE

**Four Seasons Equipment Inc.**  
 8111 Mills Road  
 Houston, TX  
 US 77064  
 Contact: Vaughan Phillips  
 vphillips@fourseasons-equip.com  
 T: (800)234-5007  
 F:

Certificate L2367  
 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)