



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
MORBARK G1
 Component
Diesel Engine
 Fluid
CAT DIESEL ENGINE OIL 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0210182	JR0210493	---
Sample Date		Client Info		19 Jun 2024	28 Mar 2024	---
Machine Age	hrs	Client Info		2778	2504	---
Oil Age	hrs	Client Info		278	0	---
Filter Age	hrs	Client Info		278	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	18	20	---
Chromium	ppm	ASTM D5185m	>20	1	1	---
Nickel	ppm	ASTM D5185m	>4	0	0	---
Titanium	ppm	ASTM D5185m		0	<1	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>20	3	2	---
Lead	ppm	ASTM D5185m	>40	<1	0	---
Copper	ppm	ASTM D5185m	>330	3	4	---
Tin	ppm	ASTM D5185m	>15	<1	<1	---
Vanadium	ppm	ASTM D5185m		0	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

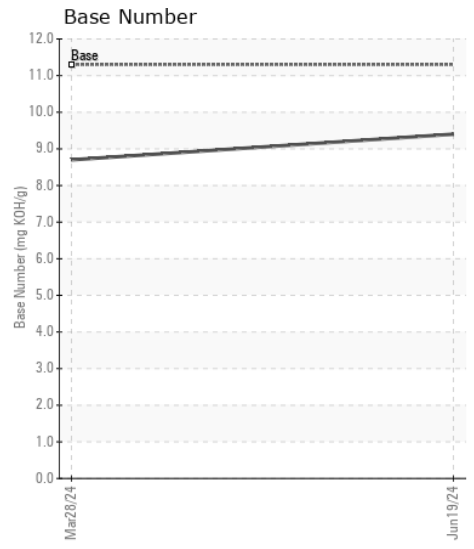
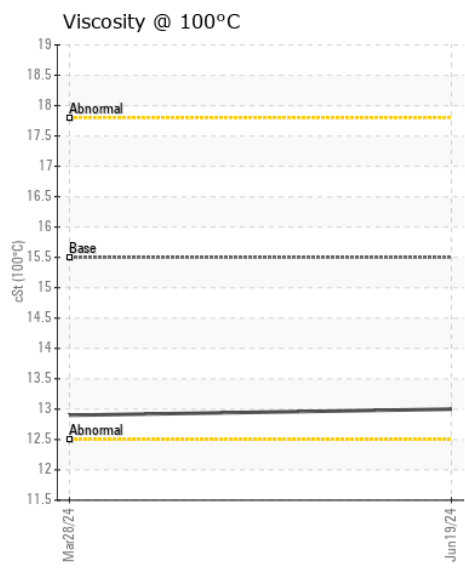
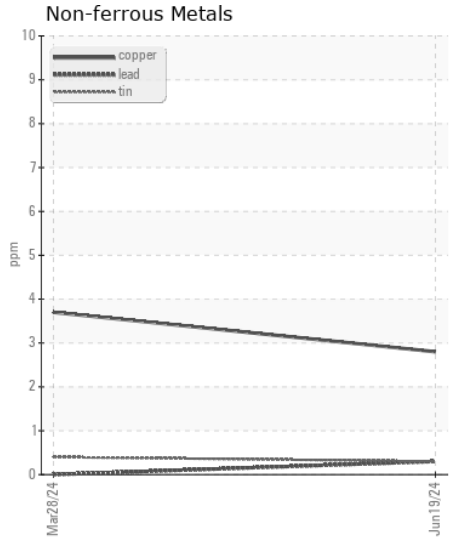
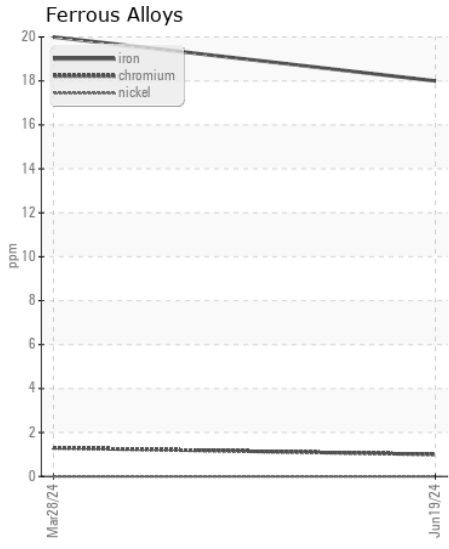
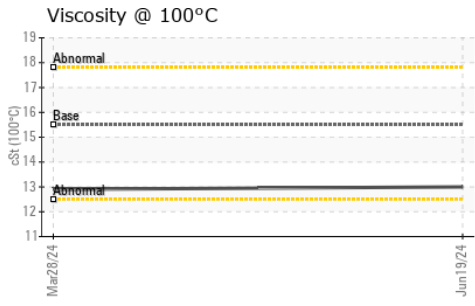
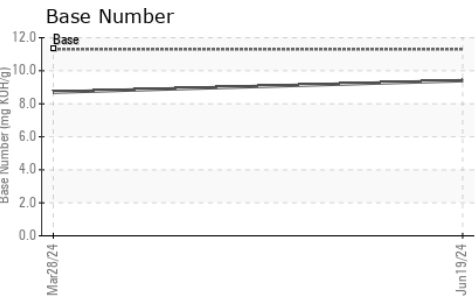
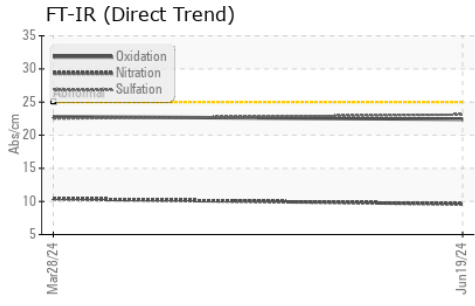
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	7	6	---
Potassium	ppm	ASTM D5185m	>20	4	1	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.2	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	9.6	10.4	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.1	22.5	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	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		2	3	---
Boron	ppm	ASTM D5185m		27	27	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		46	46	---
Manganese	ppm	ASTM D5185m		0	<1	---
Magnesium	ppm	ASTM D5185m		448	490	---
Calcium	ppm	ASTM D5185m		1801	1885	---
Phosphorus	ppm	ASTM D5185m		904	908	---
Zinc	ppm	ASTM D5185m	1460	1218	1189	---
Sulfur	ppm	ASTM D5185m		2996	3644	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.4	22.8	---
Base Number (BN)	mg KOH/g	ASTM D2896	11.3	9.4	8.7	---
Visc @ 100°C	cSt	ASTM D445	15.5	13.0	12.9	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0210182 **Received** : 26 Jun 2024
Lab Number : 06220967 **Tested** : 27 Jun 2024
Unique Number : 11099164 **Diagnosed** : 27 Jun 2024 - Don Baldrige
Test Package : CONST (Additional Tests: TBN)

FITZGERALD EXCAVATING
 PO BOX 2168
 WINCHESTER, VA
 US 22604
 Contact: Service Manager

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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F: