



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Area
Rockaway
Machine Id
MACK 1331
Component
Diesel Engine
Fluid
GIBRALTAR 15W/40 SUPER S-3 LX (11)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0858423	WC0840409	---
Sample Date		Client Info		30 May 2024	08 Nov 2023	---
Machine Age	hrs	Client Info		600	450	---
Oil Age	hrs	Client Info		450	450	---
Filter Age	hrs	Client Info		450	450	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				ATTENTION	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	71	34	---
Chromium	ppm	ASTM D5185m	>20	3	<1	---
Nickel	ppm	ASTM D5185m	>5	1	1	---
Titanium	ppm	ASTM D5185m	>2	3	<1	---
Silver	ppm	ASTM D5185m	>2	<1	<1	---
Aluminum	ppm	ASTM D5185m	>20	15	2	---
Lead	ppm	ASTM D5185m	>40	3	<1	---
Copper	ppm	ASTM D5185m	>330	8	6	---
Tin	ppm	ASTM D5185m	>15	<1	<1	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

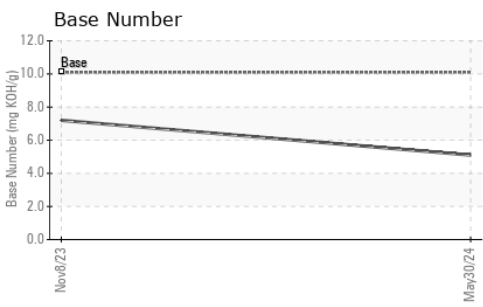
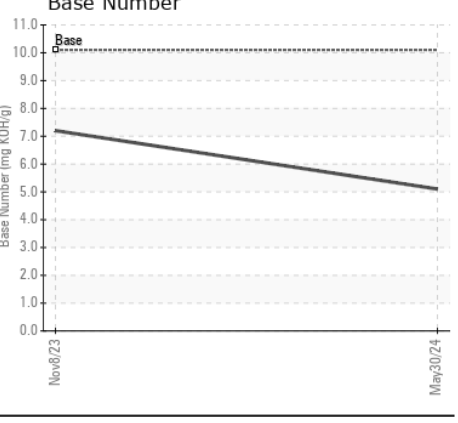
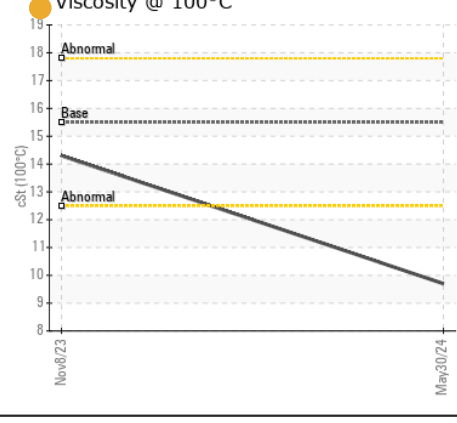
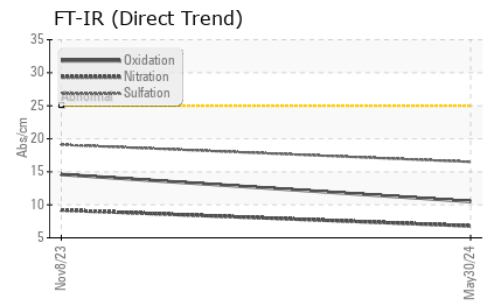
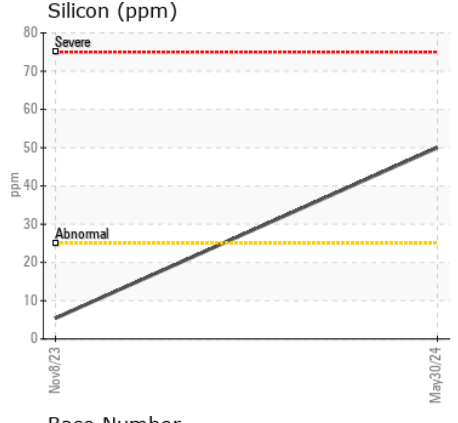
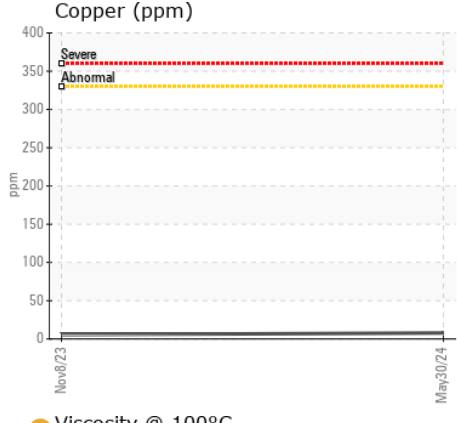
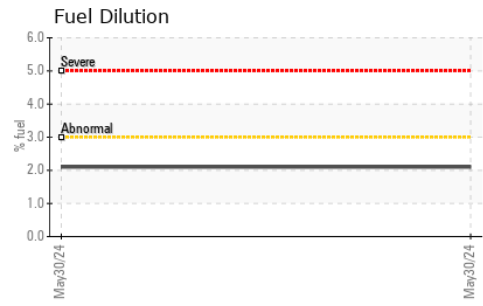
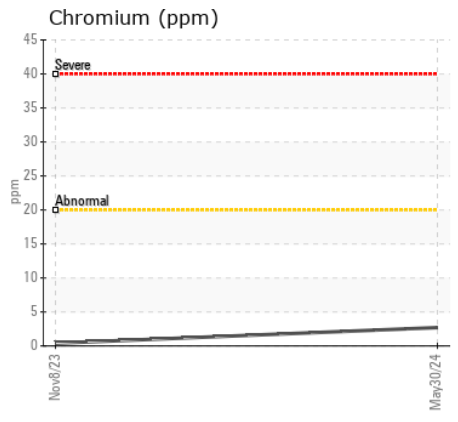
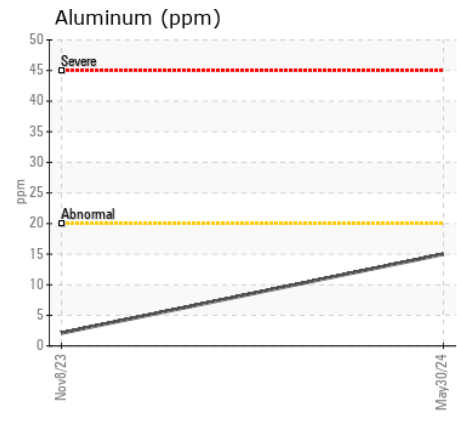
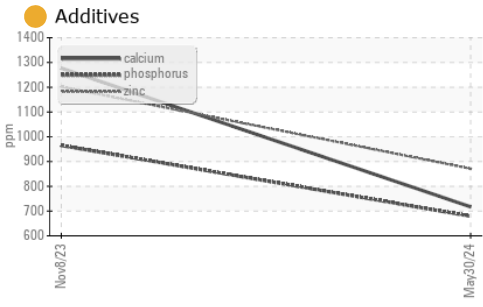
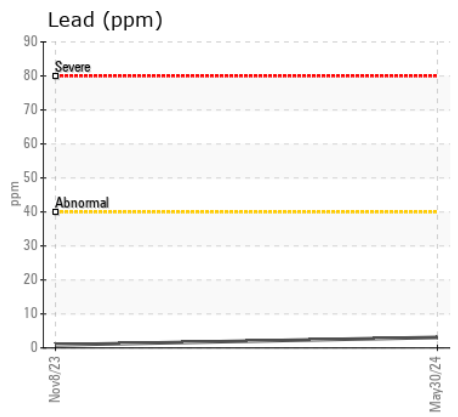
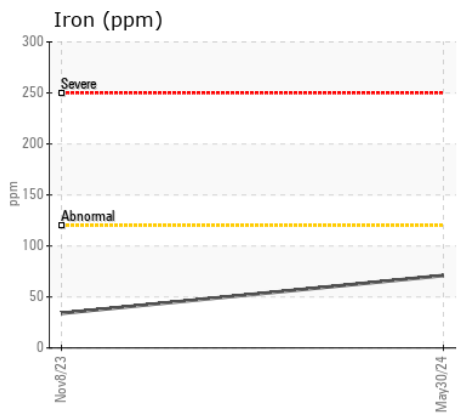
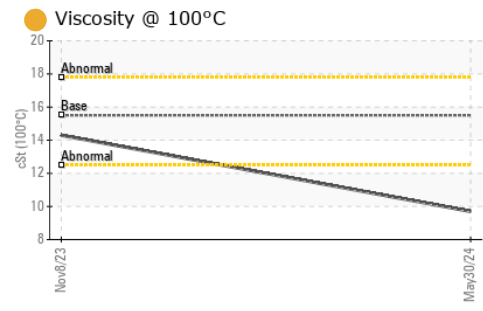
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	50	5	---
Potassium	ppm	ASTM D5185m	>20	31	6	---
Fuel	%	ASTM D3524	>3.0	2.1	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>4	0.1	0.7	---
Nitration	Abs/cm	*ASTM D7624	>20	6.8	9.2	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.5	19.1	---
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 oil viscosity is lower than normal. Additive levels indicate the addition of a different brand, or type of oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		33	0	---
Boron	ppm	ASTM D5185m		6	7	---
Barium	ppm	ASTM D5185m		3	<1	---
Molybdenum	ppm	ASTM D5185m	66	35	66	---
Manganese	ppm	ASTM D5185m		2	<1	---
Magnesium	ppm	ASTM D5185m	1000	420	774	---
Calcium	ppm	ASTM D5185m	1050	717	1277	---
Phosphorus	ppm	ASTM D5185m	1150	679	965	---
Zinc	ppm	ASTM D5185m	1270	871	1202	---
Sulfur	ppm	ASTM D5185m		4577	3136	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.5	14.6	---
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	5.1	7.2	---
Visc @ 100°C	cSt	ASTM D445	15.5	9.7	14.3	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0858423 **Received** : 28 Jun 2024
Lab Number : 06223147 **Tested** : 03 Jul 2024
Unique Number : 11101344 **Diagnosed** : 03 Jul 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, TBN)

INTERSTATE WASTE-ROCKAWAY
 311 WEST MAIN STREET, STE 8
 ROCKAWAY, NJ
 US 07866
 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: