



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
WESTERN STAR 4211
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

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		WC0830957	WC0603378	---
Sample Date		Client Info		19 Jun 2024	04 Nov 2023	---
Machine Age	mls	Client Info		280182	233980	---
Oil Age	mls	Client Info		0	0	---
Filter Age	mls	Client Info		0	0	---
Oil Changed		Client Info		Changed	N/A	---
Filter Changed		Client Info		Changed	N/A	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	55	24	---
Chromium	ppm	ASTM D5185m	>20	3	2	---
Nickel	ppm	ASTM D5185m	>4	1	<1	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	<1	0	---
Aluminum	ppm	ASTM D5185m	>20	15	8	---
Lead	ppm	ASTM D5185m	>40	<1	<1	---
Copper	ppm	ASTM D5185m	>330	9	6	---
Tin	ppm	ASTM D5185m	>15	2	0	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

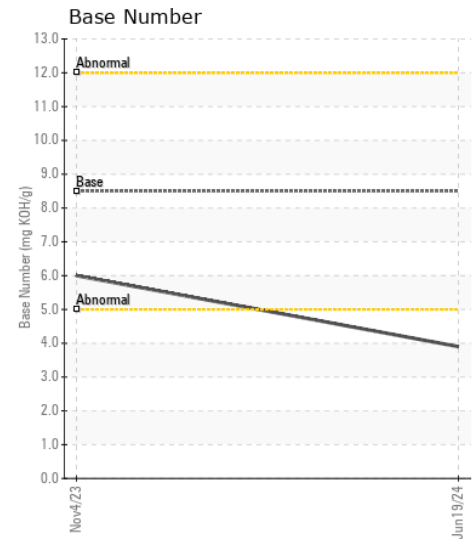
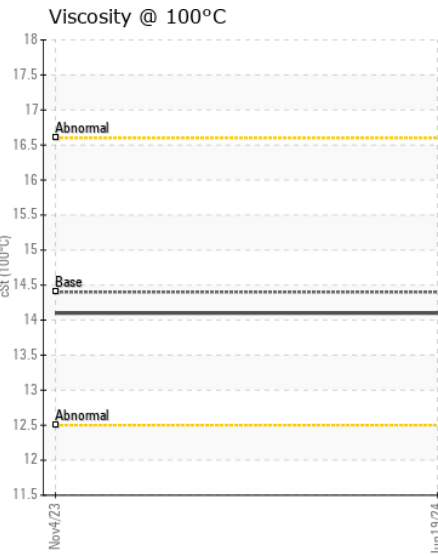
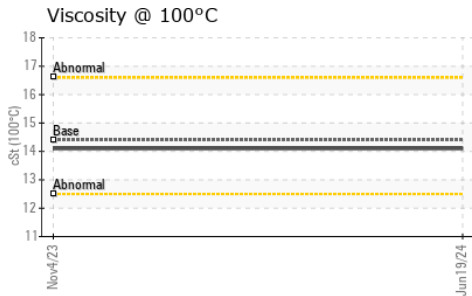
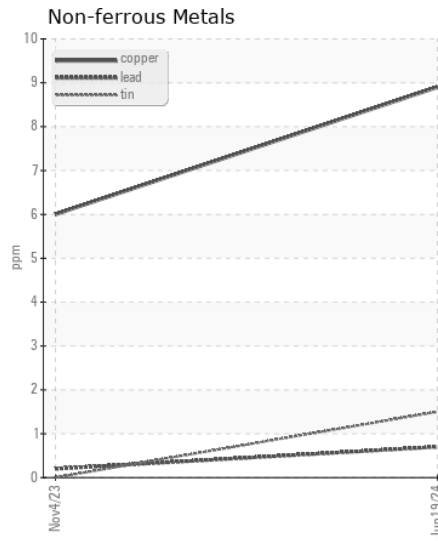
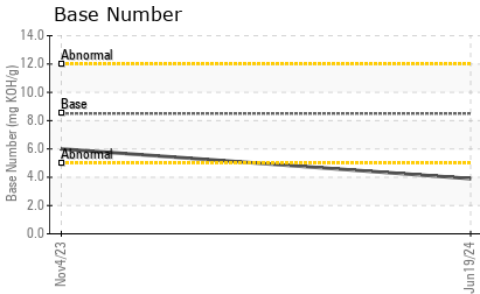
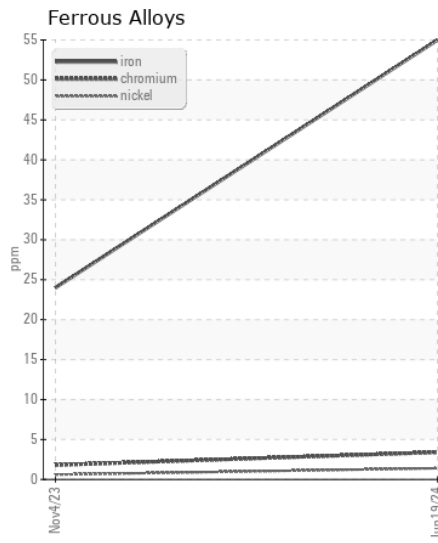
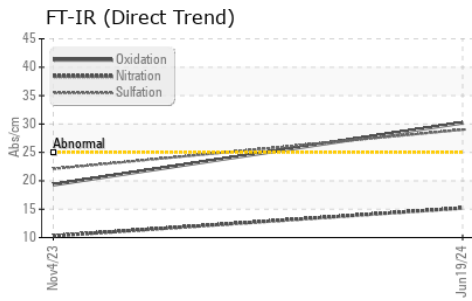
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	12	7	---
Potassium	ppm	ASTM D5185m	>20	15	10	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	1	0.6	---
Nitration	Abs/cm	*ASTM D7624	>20	15.2	10.3	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	29.0	22.1	---
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 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	>158	2	<1	---
Boron	ppm	ASTM D5185m	250	5	3	---
Barium	ppm	ASTM D5185m	10	1	0	---
Molybdenum	ppm	ASTM D5185m	100	71	57	---
Manganese	ppm	ASTM D5185m		2	<1	---
Magnesium	ppm	ASTM D5185m	450	936	761	---
Calcium	ppm	ASTM D5185m	3000	1392	1342	---
Phosphorus	ppm	ASTM D5185m	1150	1139	997	---
Zinc	ppm	ASTM D5185m	1350	1395	1274	---
Sulfur	ppm	ASTM D5185m	4250	2922	2171	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	30.2	19.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	3.9	6.0	---
Visc @ 100°C	cSt	ASTM D445	14.4	14.1	14.1	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0830957
Lab Number : 06223171
Unique Number : 11101368
Test Package : FLEET
Received : 28 Jun 2024
Tested : 28 Jun 2024
Diagnosed : 30 Jun 2024 - Don Baldrige

INTERSTATE WASTE-GOSHEN
 95 HARTLEY ROAD
 GOSHEN, NY
 US 10924
 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: