



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Area
Store 9 - Marietta

Machine Id
INTERNATIONAL EAGLE 9903

Component
Diesel Engine

Fluid
MOBIL 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you check for the source of the coolant leak. Check for low coolant level. 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		LEC0048390	LEC0037379	---
Sample Date		Client Info		21 May 2024	18 Oct 2023	---
Machine Age	mls	Client Info		692317	585607	---
Oil Age	mls	Client Info		10000	5000	---
Filter Age	mls	Client Info		10000	5000	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				ABNORMAL	NORMAL	---

WEAR

Ring and cylinder wear is indicated. Bearing and/or bushing wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 205	10	---
Chromium	ppm	ASTM D5185m	>20	▲ 26	1	---
Nickel	ppm	ASTM D5185m	>4	<1	0	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	<1	0	---
Aluminum	ppm	ASTM D5185m	>20	3	1	---
Lead	ppm	ASTM D5185m	>40	▲ 64	10	---
Copper	ppm	ASTM D5185m	>330	14	3	---
Tin	ppm	ASTM D5185m	>15	4	<1	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

Sodium and/or potassium levels are high. Elemental level of silicon (Si) above normal indicating ingress of seal material.

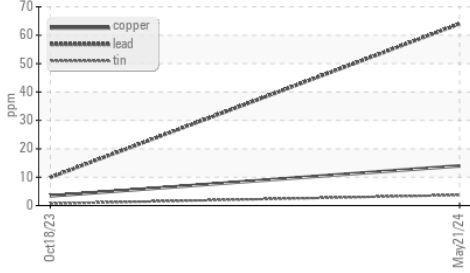
Silicon	ppm	ASTM D5185m	>120	▲ 33	7	---
Potassium	ppm	ASTM D5185m	>20	▲ 30	14	---
Fuel		WC Method	>2.0	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol	%	*ASTM D2982		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.8	0.3	---
Nitration	Abs/cm	*ASTM D7624	>20	7.6	4.6	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.9	17.2	---
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

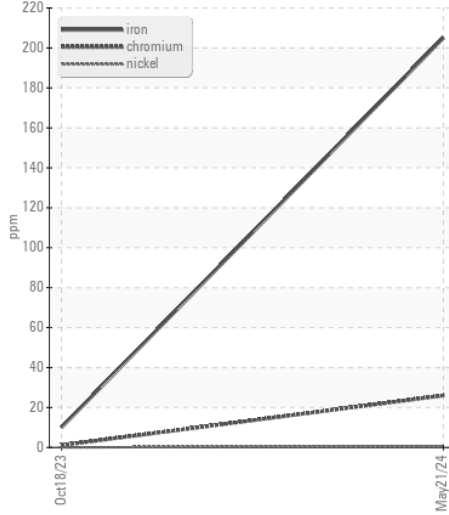
The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m	>118	▲ 197	36	---
Boron	ppm	ASTM D5185m		37	8	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		84	57	---
Manganese	ppm	ASTM D5185m		3	<1	---
Magnesium	ppm	ASTM D5185m		1285	943	---
Calcium	ppm	ASTM D5185m		1383	1093	---
Phosphorus	ppm	ASTM D5185m		1453	1068	---
Zinc	ppm	ASTM D5185m		1707	1328	---
Sulfur	ppm	ASTM D5185m		4757	3490	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.2	11.6	---
Base Number (BN)	mg KOH/g	ASTM D2896		11.9	9.7	---
Visc @ 100°C	cSt	ASTM D445		13.2	13.5	---

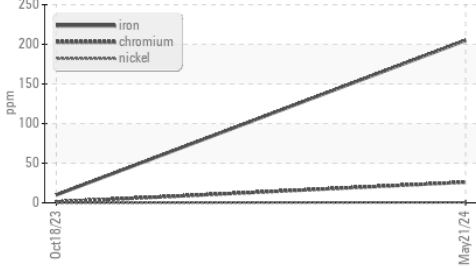
▲ Non-ferrous Metals



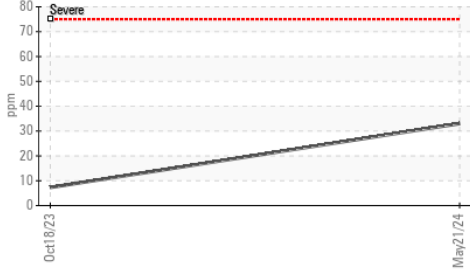
▲ Ferrous Alloys



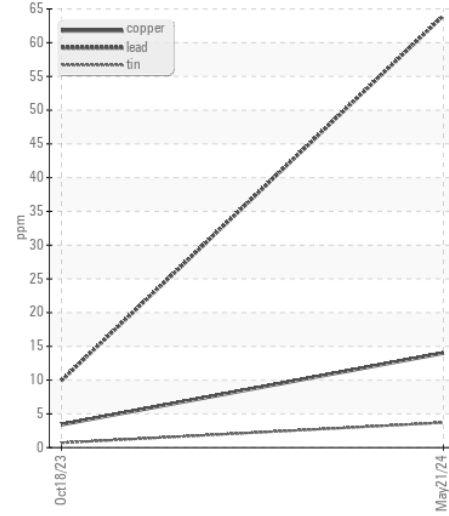
▲ Ferrous Alloys



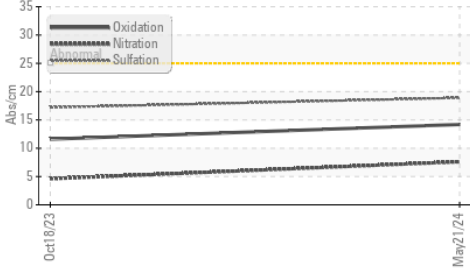
▲ Silicon (ppm)



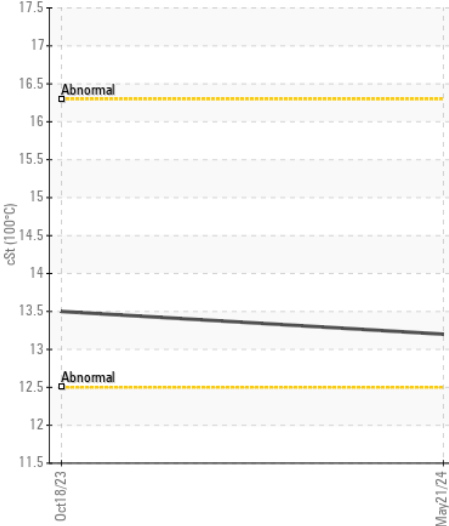
▲ Non-ferrous Metals



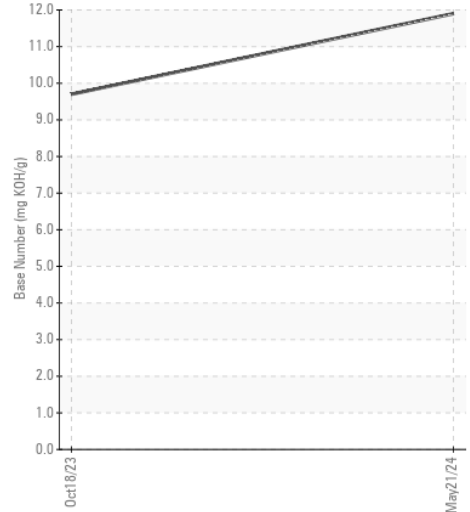
FT-IR (Direct Trend)



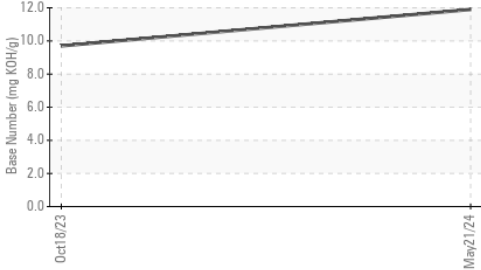
Viscosity @ 100°C



Base Number



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0048390 **Received** : 03 Jun 2024
Lab Number : 06197492 **Tested** : 05 Jun 2024
Unique Number : 11059615 **Diagnosed** : 05 Jun 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: Glycol, TBN)

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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)