



OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
I-422
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

WEAR

Cylinder, crank, or cam shaft wear is indicated. Bearing and/or bushing wear is indicated. Moderate concentration of visible metal present.

CONTAMINATION

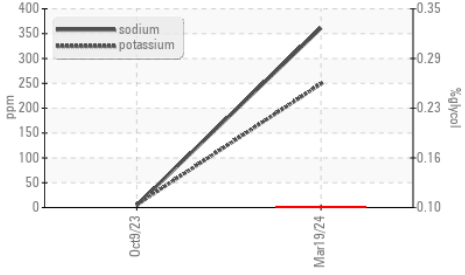
Sodium and/or potassium levels are high. There is a severe concentration of water and glycol present in the oil.

FLUID CONDITION

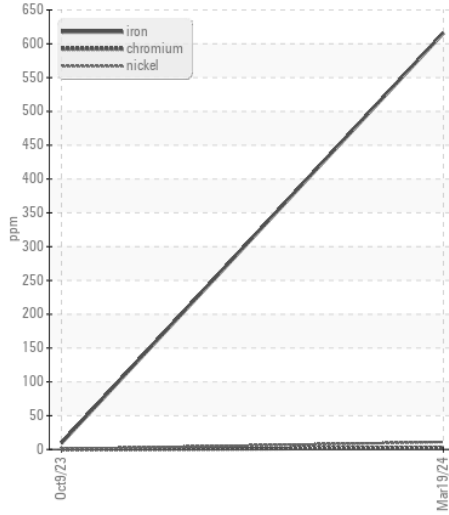
The oil viscosity is higher than normal. The oil is no longer serviceable.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0921948	WC0577408	---
Sample Date		Client Info		19 Mar 2024	09 Oct 2023	---
Machine Age	hrs	Client Info		7245	7014	---
Oil Age	hrs	Client Info		0	100	---
Filter Age	hrs	Client Info		0	100	---
Oil Changed		Client Info		N/A	Changed	---
Filter Changed		Client Info		N/A	Changed	---
Sample Status				SEVERE	NORMAL	---
Iron	ppm	ASTM D5185m	>100	▲ 616	10	---
Chromium	ppm	ASTM D5185m	>20	2	<1	---
Nickel	ppm	ASTM D5185m	>4	▲ 11	<1	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m	>3	0	<1	---
Aluminum	ppm	ASTM D5185m	>20	11	3	---
Lead	ppm	ASTM D5185m	>40	▲ 978	5	---
Copper	ppm	ASTM D5185m	>330	87	2	---
Tin	ppm	ASTM D5185m	>15	▲ 23	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	▲ MODER	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---
Silicon	ppm	ASTM D5185m	>25	22	6	---
Potassium	ppm	ASTM D5185m	>20	▲ 249	6	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water	%	ASTM D6304	>0.2	▲ 38.6	---	---
ppm Water	ppm	ASTM D6304	>2000	▲ 386000	---	---
Glycol	%	*ASTM D2982		▲ 0.10	NEG	---
Soot %	%	*ASTM D7844	>3	0.9	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	25.7	6.4	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	11.2	15.2	---
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	▲ 0.2%	NEG	---
Sodium	ppm	ASTM D5185m	>158	▲ 361	4	---
Boron	ppm	ASTM D5185m	250	87	22	---
Barium	ppm	ASTM D5185m	10	<1	0	---
Molybdenum	ppm	ASTM D5185m	100	191	84	---
Manganese	ppm	ASTM D5185m		8	<1	---
Magnesium	ppm	ASTM D5185m	450	287	137	---
Calcium	ppm	ASTM D5185m	3000	2080	2108	---
Phosphorus	ppm	ASTM D5185m	1150	1241	902	---
Zinc	ppm	ASTM D5185m	1350	1819	974	---
Sulfur	ppm	ASTM D5185m	4250	5146	3504	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	33.0	8.8	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	47.7	8.9	---
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 18.4	16.9	---

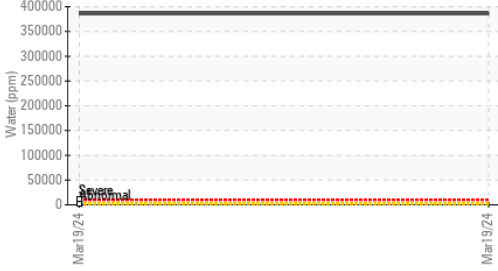
▲ Glycol Contamination



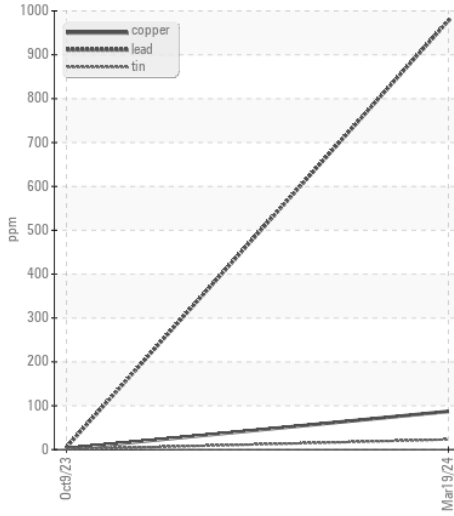
▲ Ferrous Alloys



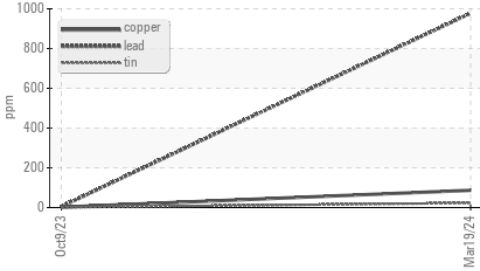
▲ Water (KF)



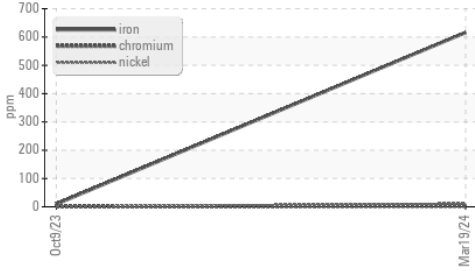
▲ Non-ferrous Metals



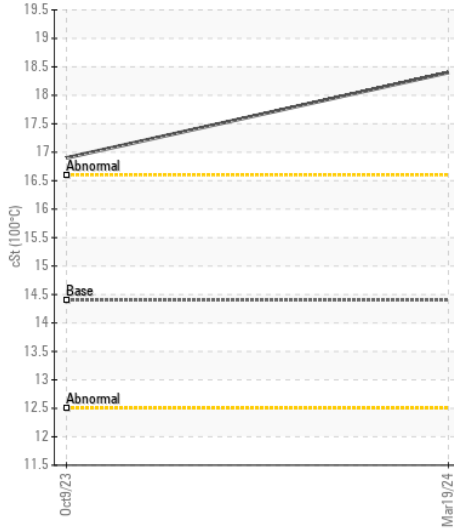
▲ Non-ferrous Metals



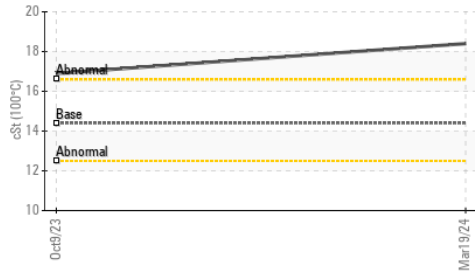
▲ Ferrous Alloys



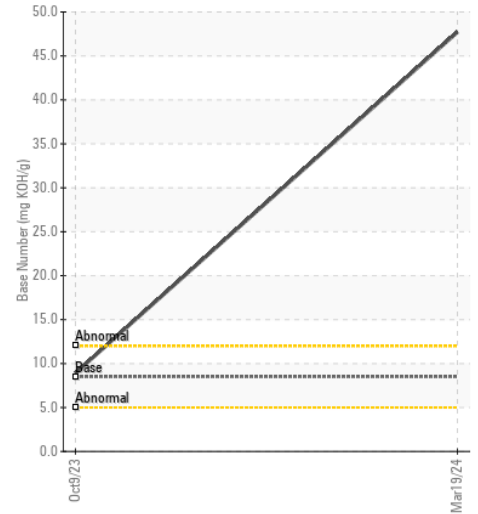
▲ Viscosity @ 100°C



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0921948

Lab Number : 06123398

Unique Number : 10937549

Test Package : CONST (Additional Tests: Glycol, KF, TBN)

Received : 20 Mar 2024

Tested : 22 Mar 2024

Diagnosed : 22 Mar 2024 - Don Baldrige

MAY HEAVY EQUIPMENT / National Equipment Dealers

555 WISE RD

CLAYTON, NC

US 27528

Contact: SCOTT WOODY

swoody@nedealers.com

T:

F: (919)773-1425

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)