



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
12414
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- QTS)

RECOMMENDATION

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		WC0929251	WC0817766	WC0762552
Sample Date		Client Info		04 Jun 2024	05 Jul 2023	29 Dec 2022
Machine Age	mls	Client Info		593346	521145	510319
Oil Age	mls	Client Info		0	47232	0
Filter Age	mls	Client Info		0	47232	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	48	33	14
Chromium	ppm	ASTM D5185m	>20	2	2	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	13	14	<1
Lead	ppm	ASTM D5185m	>40	0	0	2
Copper	ppm	ASTM D5185m	>330	3	3	<1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

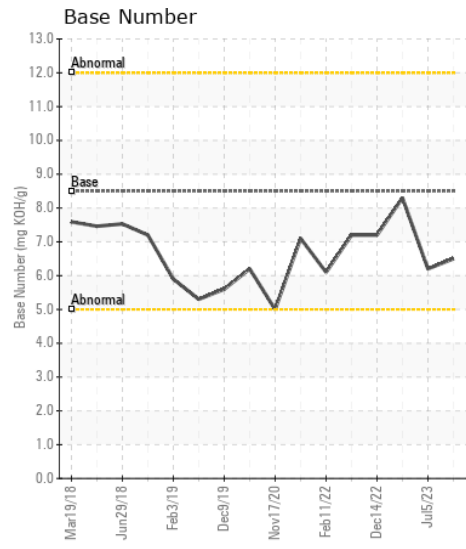
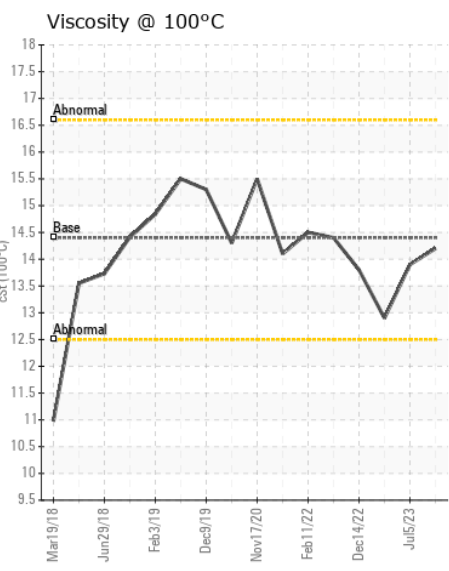
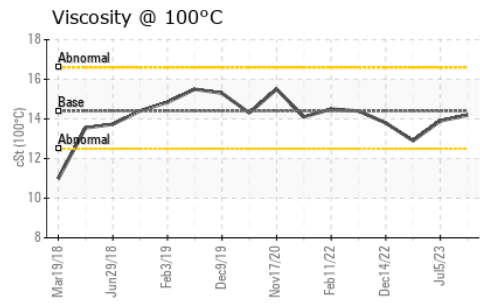
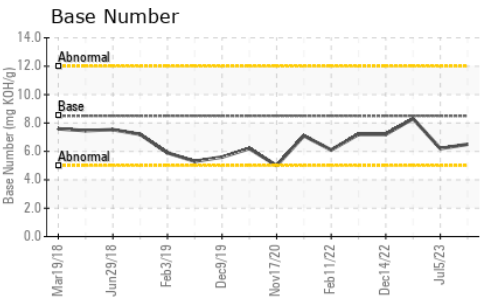
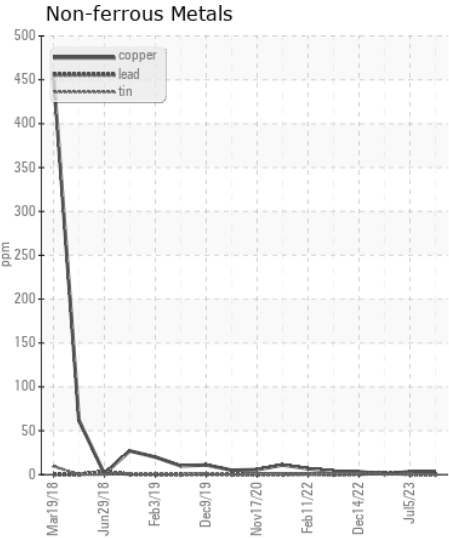
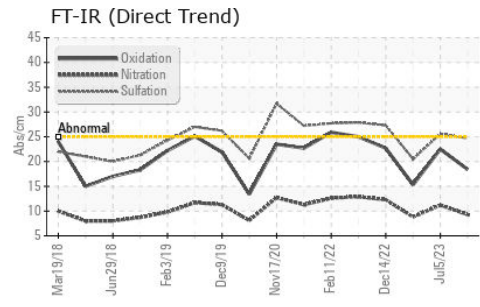
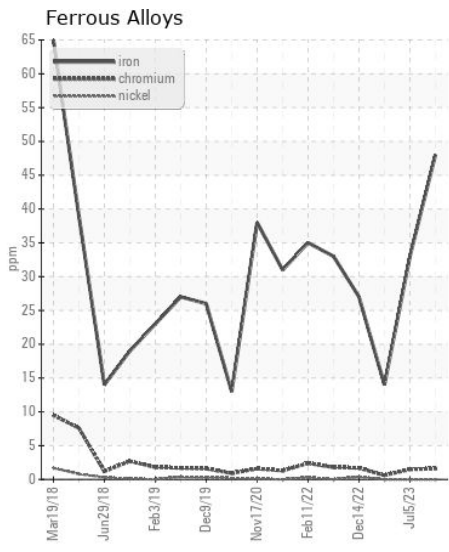
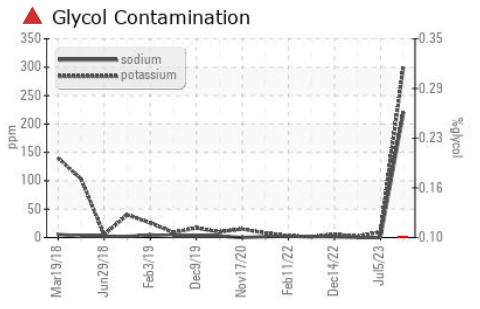
Sodium and/or potassium levels are high. Test for glycol is positive.

Silicon	ppm	ASTM D5185m	>25	15	5	4
Potassium	ppm	ASTM D5185m	>20	303	10	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		0.10	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	1	0.5
Nitration	Abs/cm	*ASTM D7624	>20	9.3	11.2	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.7	25.6	20.5
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m	>158	221	0	0
Boron	ppm	ASTM D5185m	250	133	2	96
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	96	68	67
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m	450	485	915	950
Calcium	ppm	ASTM D5185m	3000	1500	1162	1198
Phosphorus	ppm	ASTM D5185m	1150	1109	1037	1044
Zinc	ppm	ASTM D5185m	1350	1394	1252	1268
Sulfur	ppm	ASTM D5185m	4250	3701	3056	3558
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.4	22.5	15.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.5	6.2	8.3
Visc @ 100°C	cSt	ASTM D445	14.4	14.2	13.9	12.9



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0929251 **Received** : 05 Jul 2024
Lab Number : 06229508 **Tested** : 09 Jul 2024
Unique Number : 11113001 **Diagnosed** : 09 Jul 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

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Certificate L2367
 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)