



WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
INTERNATIONAL 103525

Component
Diesel Engine

Fluid
SHELL ROTELLA T 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.

WEAR

Piston, ring and cylinder wear is indicated.

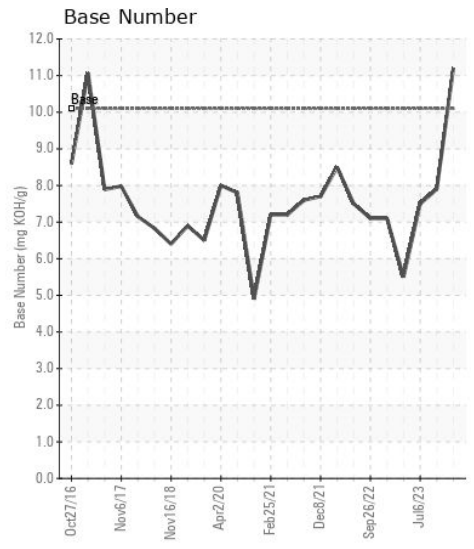
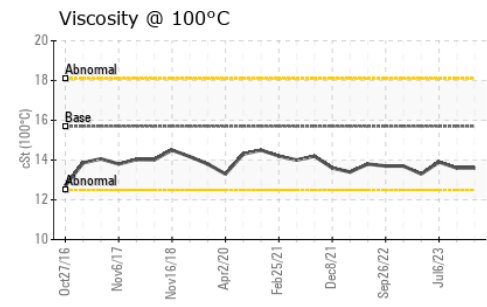
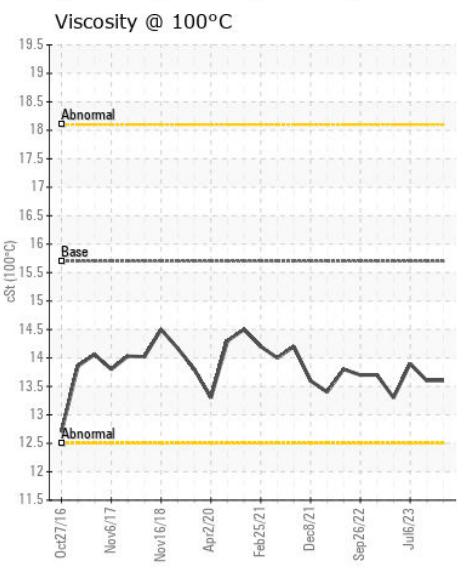
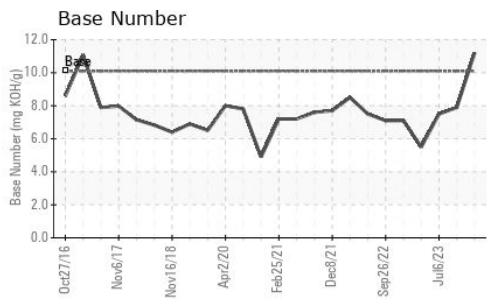
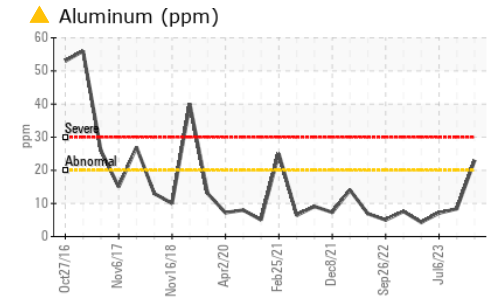
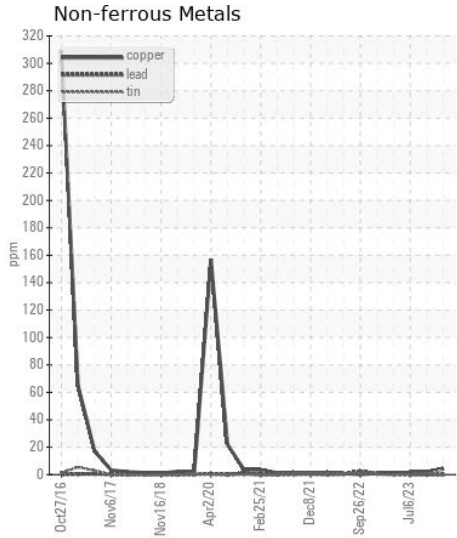
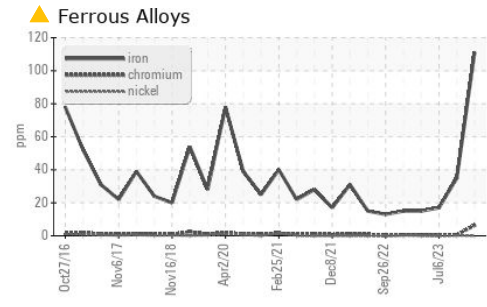
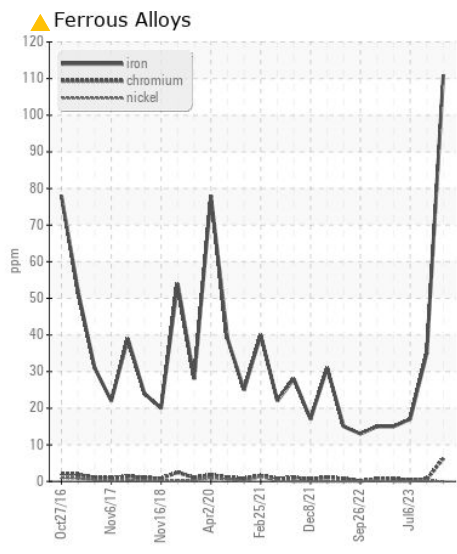
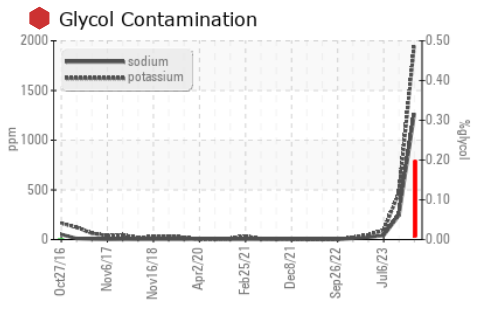
CONTAMINATION

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

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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		IL0032958	IL0032750	IL0027484
Sample Date		Client Info		07 Feb 2024	16 Oct 2023	06 Jul 2023
Machine Age	mls	Client Info		389619	373309	358764
Oil Age	mls	Client Info		16310	14545	12829
Filter Age	mls	Client Info		16310	14545	12829
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>130	▲ 111	35	17
Chromium	ppm	ASTM D5185m	>10	▲ 6	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	▲ 23	8	7
Lead	ppm	ASTM D5185m	>20	0	0	0
Copper	ppm	ASTM D5185m	>125	4	2	2
Tin	ppm	ASTM D5185m	>4	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	16	10	7
Potassium	ppm	ASTM D5185m	>20	▲ 1970	▲ 473	▲ 93
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		◆ 0.20	NEG	NEG
Soot %	%	*ASTM D7844	>6	1.2	0.9	0.6
Nitration	Abs/cm	*ASTM D7624	>20	16.8	10.9	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.1	22.4	21.5
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
Sodium	ppm	ASTM D5185m		▲ 1268	▲ 245	▲ 42
Boron	ppm	ASTM D5185m	316	23	41	68
Barium	ppm	ASTM D5185m	0.0	0	20	0
Molybdenum	ppm	ASTM D5185m	1.2	183	55	26
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	24	306	202	134
Calcium	ppm	ASTM D5185m	2292	1790	1790	2198
Phosphorus	ppm	ASTM D5185m	1064	915	948	1024
Zinc	ppm	ASTM D5185m	1160	1218	1103	1270
Sulfur	ppm	ASTM D5185m	4996	3374	4204	4236
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.0	17.9	17.6
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	11.2	7.9	7.5
Visc @ 100°C	cSt	ASTM D445	15.7	13.6	13.6	13.9



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL0032958 **Received** : 13 Feb 2024
Lab Number : 06087077 **Tested** : 14 Feb 2024
Unique Number : 10874522 **Diagnosed** : 14 Feb 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)