



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ATTENTION

Machine Id
INTERNATIONAL 3513
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 10W30 (32 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		WC0916495	WC0878616	WC0878582
Sample Date		Client Info		03 Jun 2024	01 Mar 2024	01 Dec 2023
Machine Age	mls	Client Info		15232	0	313670
Oil Age	mls	Client Info		15232	10000	24904
Filter Age	mls	Client Info		15232	10000	24904
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>127	45	35	26
Chromium	ppm	ASTM D5185m	>3	1	1	<1
Nickel	ppm	ASTM D5185m	>30	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>59	12	15	7
Lead	ppm	ASTM D5185m	>29	0	<1	0
Copper	ppm	ASTM D5185m	>135	6	8	22
Tin	ppm	ASTM D5185m	>2	0	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

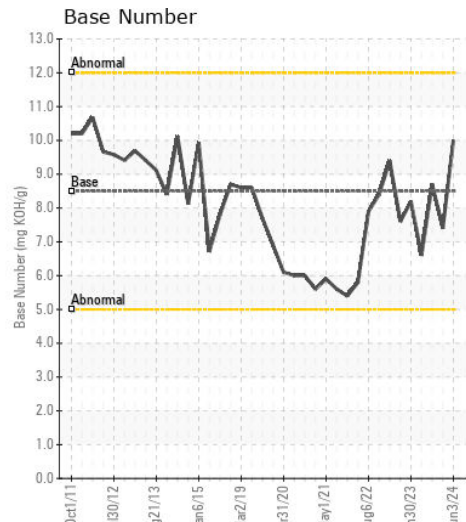
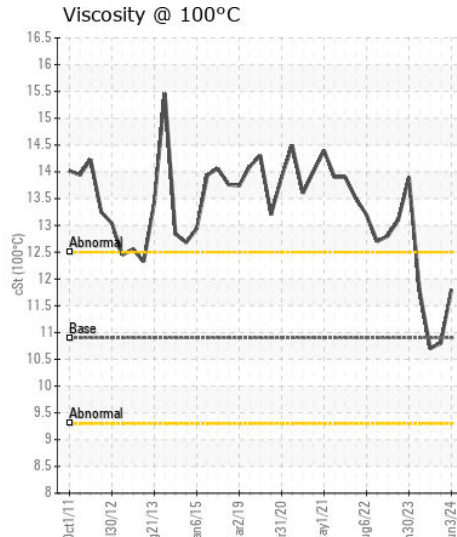
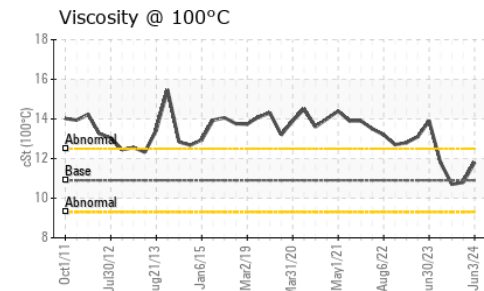
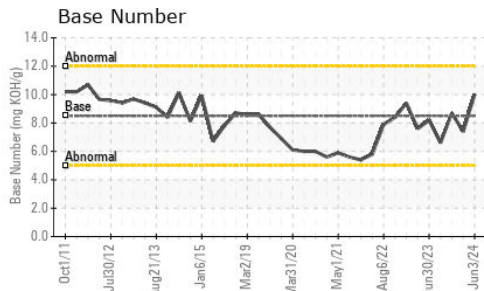
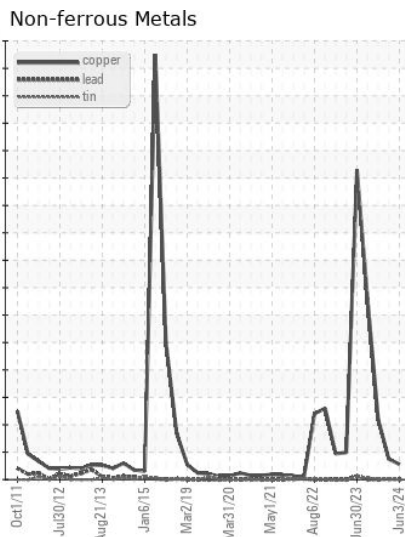
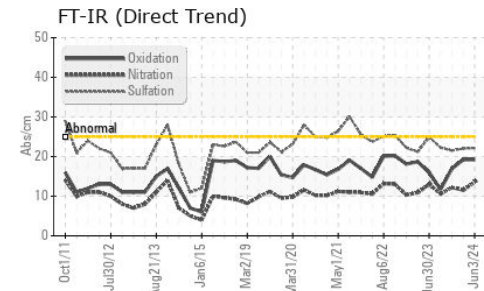
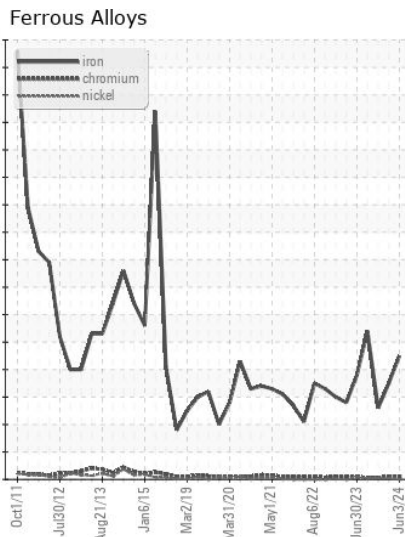
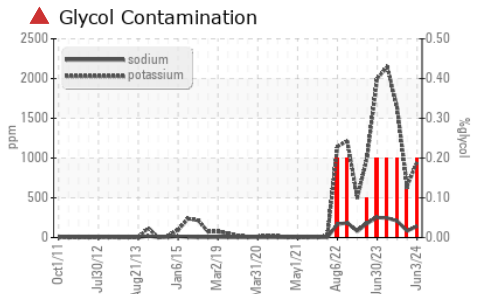
Test for glycol is positive. There is a high concentration of glycol present in the oil.

Silicon	ppm	ASTM D5185m	>18	8	9	8
Potassium	ppm	ASTM D5185m	>20	953	644	1639
Fuel		WC Method	>2.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		0.20	0.12	0.20
Soot %	%	*ASTM D7844	>3	0.6	0.6	0.4
Nitration	Abs/cm	*ASTM D7624	>20	13.6	11.5	12.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.1	22.0	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

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		143	83	209
Boron	ppm	ASTM D5185m	250	9	0	0
Barium	ppm	ASTM D5185m	10	<1	0	4
Molybdenum	ppm	ASTM D5185m	100	195	128	206
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	1041	1021	762
Calcium	ppm	ASTM D5185m	3000	1205	1186	1114
Phosphorus	ppm	ASTM D5185m	1150	1024	1088	900
Zinc	ppm	ASTM D5185m	1350	1366	1337	1177
Sulfur	ppm	ASTM D5185m	4250	3456	3576	3232
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.2	19.2	16.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	10.0	7.4	8.7
Visc @ 100°C	cSt	ASTM D445	10.9	11.8	10.8	10.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0916495
Lab Number : 06211099
Unique Number : 11083963
Test Package : FLEET

CARCO TRANSPORTATION
 3403 EAST ROOSEVELT ROAD
 LITTLE ROCK, AR
 US 72206
 Contact: DENNIS CATES
 denniscales@carcotrans.com
 T: (800)967-0777
 F:

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)