



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. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0878616	WC0878582	WC0822894
Sample Date		Client Info		01 Mar 2024	01 Dec 2023	01 Sep 2023
Machine Age	mls	Client Info		0	313670	300998
Oil Age	mls	Client Info		10000	24904	12223
Filter Age	mls	Client Info		10000	24904	12223
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				SEVERE	SEVERE	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>127	35	26	54
Chromium	ppm	ASTM D5185m	>3	1	<1	<1
Nickel	ppm	ASTM D5185m	>30	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>59	15	7	5
Lead	ppm	ASTM D5185m	>29	<1	0	<1
Copper	ppm	ASTM D5185m	>135	8	22	66
Tin	ppm	ASTM D5185m	>2	<1	<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

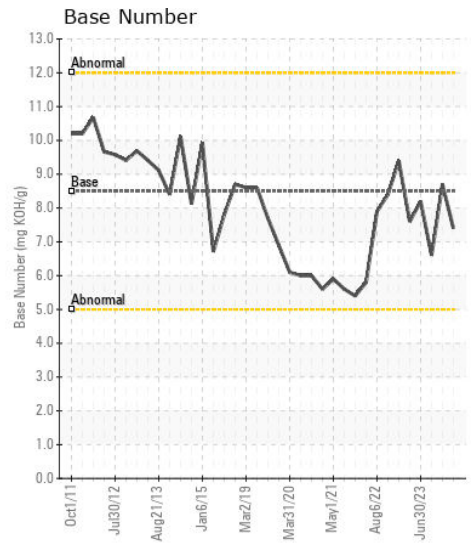
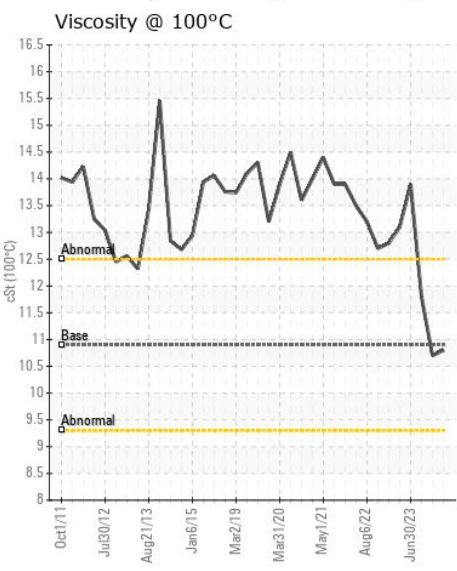
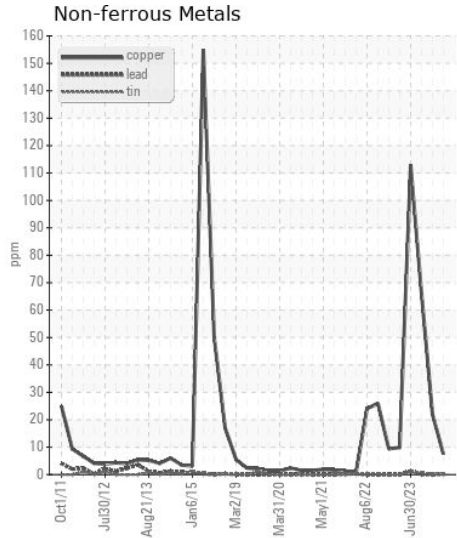
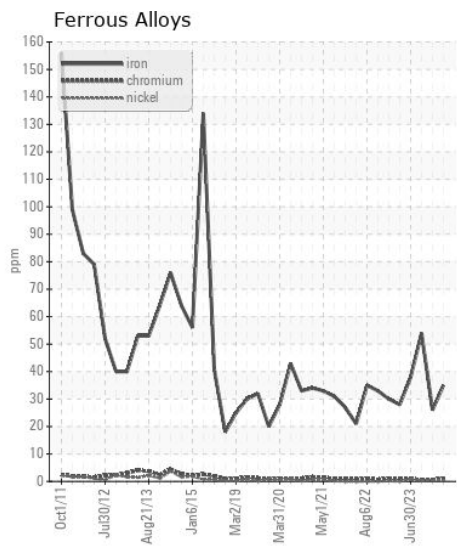
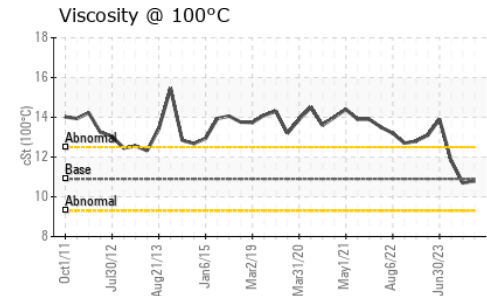
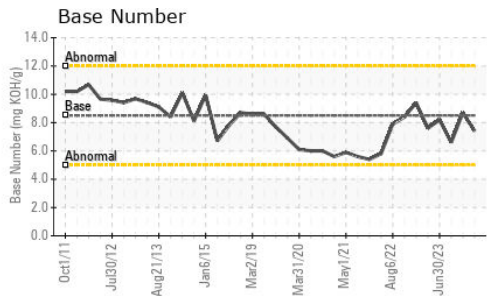
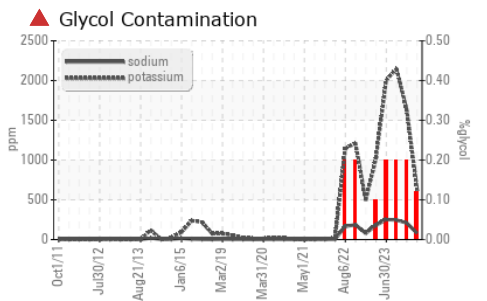
Test for glycol is positive. There is a high concentration of glycol present in the oil.

Silicon	ppm	ASTM D5185m	>18	9	8	8
Potassium	ppm	ASTM D5185m	>20	644	1639	2147
Fuel		WC Method	>2.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		0.12	0.20	0.20
Soot %	%	*ASTM D7844	>3	0.6	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	11.5	12.2	10.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.0	21.5	22.3
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		83	209	246
Boron	ppm	ASTM D5185m	250	0	0	5
Barium	ppm	ASTM D5185m	10	0	4	0
Molybdenum	ppm	ASTM D5185m	100	128	206	188
Manganese	ppm	ASTM D5185m		<1	<1	1
Magnesium	ppm	ASTM D5185m	450	1021	762	57
Calcium	ppm	ASTM D5185m	3000	1186	1114	1661
Phosphorus	ppm	ASTM D5185m	1150	1088	900	750
Zinc	ppm	ASTM D5185m	1350	1337	1177	958
Sulfur	ppm	ASTM D5185m	4250	3576	3232	3534
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.2	16.9	11.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.4	8.7	6.6
Visc @ 100°C	cSt	ASTM D445	10.9	10.8	10.7	11.8



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0878616
Lab Number : 06121500
Unique Number : 10930333
Test Package : FLEET
Received : 18 Mar 2024
Tested : 20 Mar 2024
Diagnosed : 20 Mar 2024 - Wes Davis

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

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)