



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
20109
Component
Diesel Engine
Fluid
SHELL 10W30 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0878603	WC0854047	WC0822913
Sample Date		Client Info		15 Dec 2023	09 Oct 2023	15 Aug 2023
Machine Age	mls	Client Info		248898	233259	222095
Oil Age	mls	Client Info		15639	11164	16667
Filter Age	mls	Client Info		15639	11164	16667
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	7	8	14
Chromium	ppm	ASTM D5185m	>20	<1	<1	<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	4	3	9
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	3	4
Tin	ppm	ASTM D5185m	>15	<1	0	<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

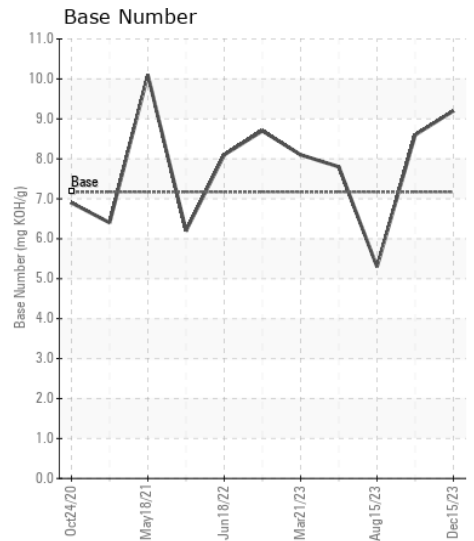
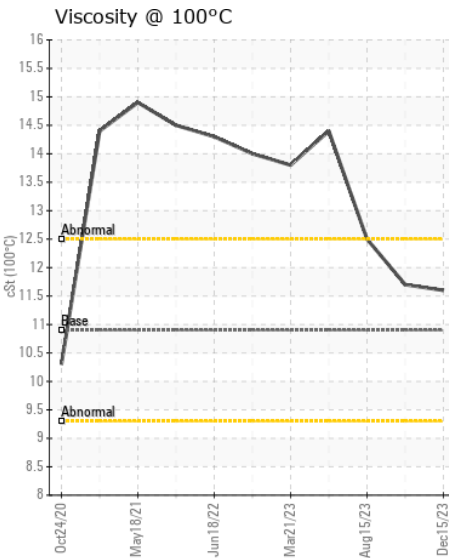
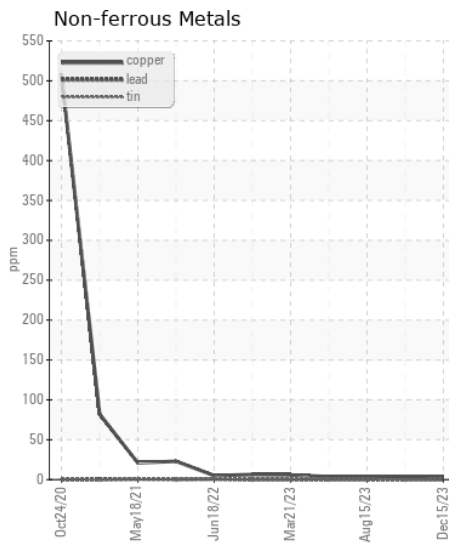
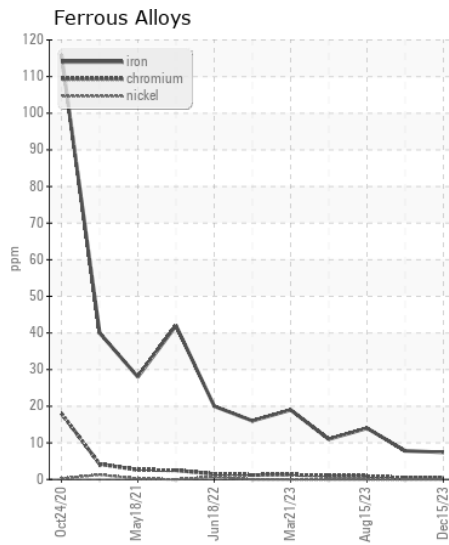
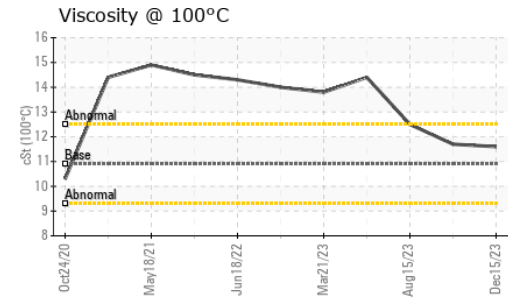
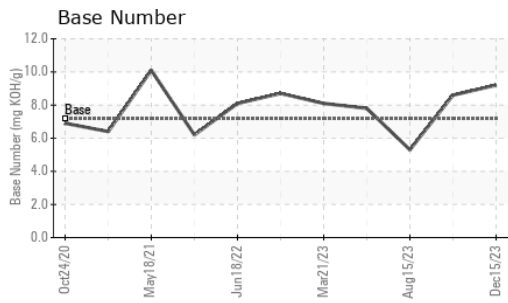
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	3	4	5
Potassium	ppm	ASTM D5185m	>20	7	7	10
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	7.7	6.8	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.7	18.8	19.3
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 condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		0	2	<1
Boron	ppm	ASTM D5185m		2	1	7
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		60	52	19
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	470	985	858	98
Calcium	ppm	ASTM D5185m	1150	1077	1197	2528
Phosphorus	ppm	ASTM D5185m	94	1122	1018	1010
Zinc	ppm	ASTM D5185m	1030	1331	1255	1243
Sulfur	ppm	ASTM D5185m		3180	3125	4426
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.7	14.2	12.0
Base Number (BN)	mg KOH/g	ASTM D2896	7.17	9.2	8.6	5.3
Visc @ 100°C	cSt	ASTM D445	10.90	11.6	11.7	12.5



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0878603 **Received** : 16 Jan 2024
Lab Number : 06060777 **Diagnosed** : 17 Jan 2024
Unique Number : 10832159 **Diagnostician** : Wes Davis
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)