



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
3232
Component
Diesel Engine
Fluid
SHELL 10W30 (--- GAL)

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		WC0878621	WC0878585	WC0822898
Sample Date		Client Info		02 Mar 2024	02 Dec 2023	02 Sep 2023
Machine Age	mls	Client Info		383739	363622	342038
Oil Age	mls	Client Info		20119	21585	21190
Filter Age	mls	Client Info		20119	21585	21190
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	21	17	21
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	6	4	4
Lead	ppm	ASTM D5185m	>40	4	2	2
Copper	ppm	ASTM D5185m	>330	<1	<1	0
Tin	ppm	ASTM D5185m	>15	<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

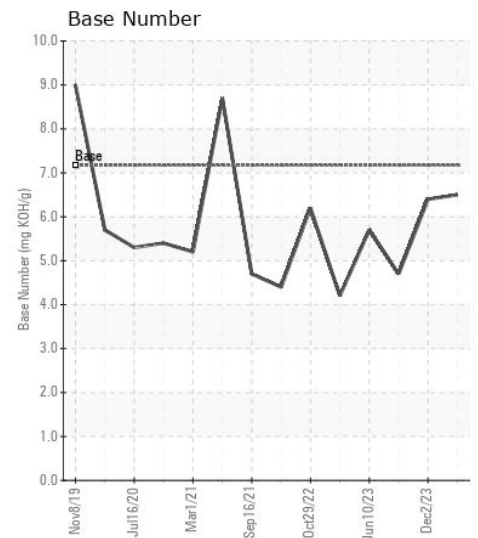
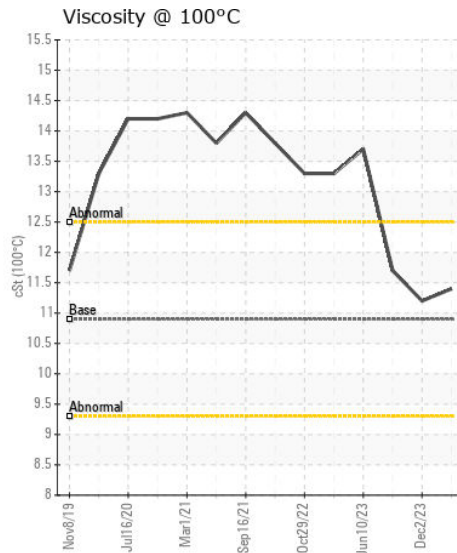
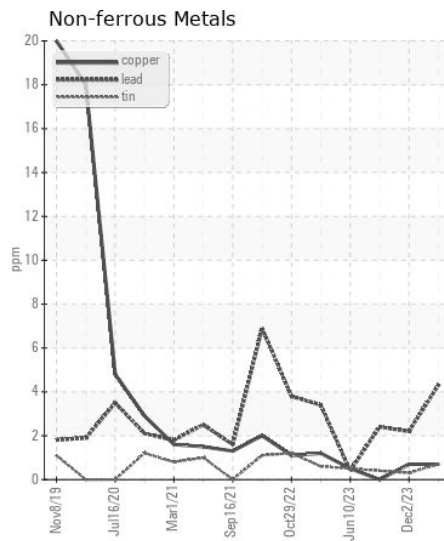
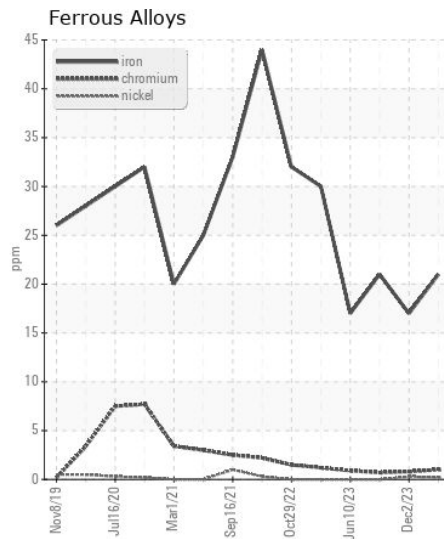
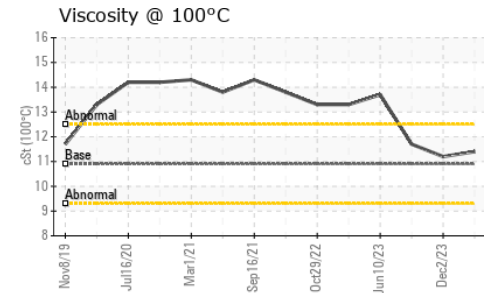
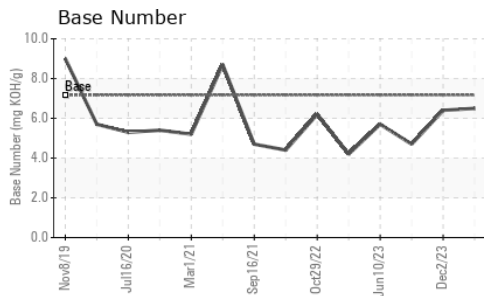
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	6	5	5
Potassium	ppm	ASTM D5185m	>20	10	6	6
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	0.3
Nitration	Abs/cm	*ASTM D7624	>20	10.7	10.3	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.2	21.9	21.7
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		3	1	1
Boron	ppm	ASTM D5185m		4	<1	4
Barium	ppm	ASTM D5185m		0	3	0
Molybdenum	ppm	ASTM D5185m		65	54	14
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	470	1053	864	75
Calcium	ppm	ASTM D5185m	1150	1181	1168	2210
Phosphorus	ppm	ASTM D5185m	94	1148	1011	857
Zinc	ppm	ASTM D5185m	1030	1352	1218	1064
Sulfur	ppm	ASTM D5185m		3392	3241	3897
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.8	18.6	13.6
Base Number (BN)	mg KOH/g	ASTM D2896	7.17	6.5	6.4	4.7
Visc @ 100°C	cSt	ASTM D445	10.90	11.4	11.2	11.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0878621
Lab Number : 06121463
Unique Number : 10930296
Test Package : FLEET

Received : 18 Mar 2024
Tested : 19 Mar 2024
Diagnosed : 19 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:

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)