



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
822052 PETERBILT 320
 Component
Diesel Engine
 Fluid
TIER ONE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0110980	GFL0102221	GFL0061457
Sample Date		Client Info		10 Apr 2024	26 Feb 2024	13 Sep 2023
Machine Age	hrs	Client Info		14039	13887	13410
Oil Age	hrs	Client Info		13	100	600
Filter Age	hrs	Client Info		0	100	600
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>110	21	12	17
Chromium	ppm	ASTM D5185m	>4	<1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	7	6	22
Lead	ppm	ASTM D5185m	>45	<1	0	<1
Copper	ppm	ASTM D5185m	>85	4	2	2
Tin	ppm	ASTM D5185m	>4	<1	0	0
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.

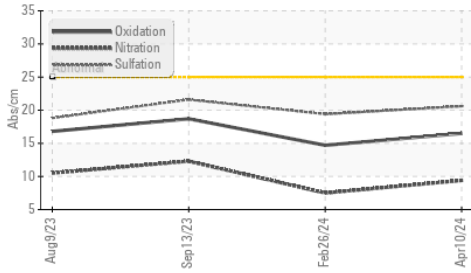
Silicon	ppm	ASTM D5185m	>30	8	7	6
Potassium	ppm	ASTM D5185m	>20	18	18	76
Fuel		WC Method	>5	<1.0	1.6	▲ 30.8
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.8	0.5	0
Nitration	Abs/cm	*ASTM D7624	>20	9.4	7.5	12.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	19.4	21.6
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

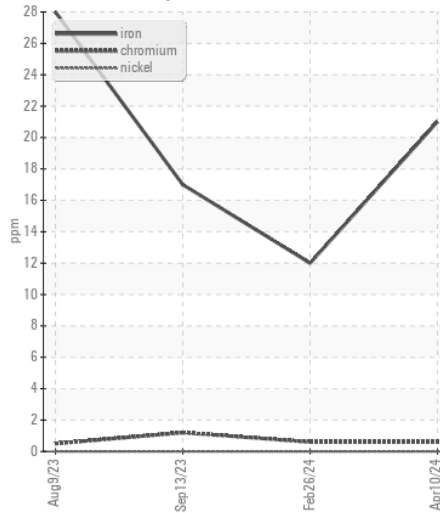
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		7	7	4
Boron	ppm	ASTM D5185m		9	10	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		57	55	37
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		898	858	● 534
Calcium	ppm	ASTM D5185m		1131	1020	● 680
Phosphorus	ppm	ASTM D5185m		1047	1017	● 611
Zinc	ppm	ASTM D5185m		1275	1201	● 753
Sulfur	ppm	ASTM D5185m		3641	3027	2090
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.5	14.7	18.7
Base Number (BN)	mg KOH/g	ASTM D2896		8.5	8.9	7.9
Visc @ 100°C	cSt	ASTM D445		12.9	13.0	▲ 6.4

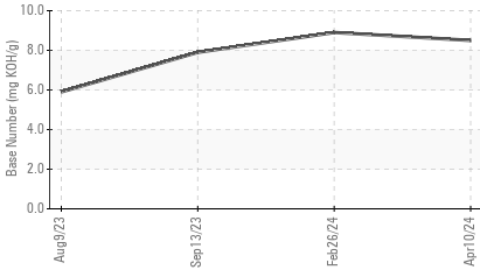
FT-IR (Direct Trend)



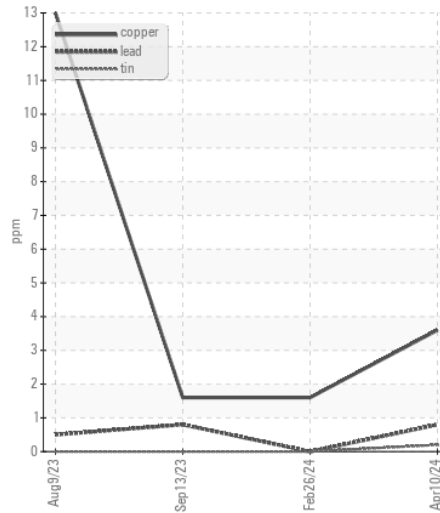
Ferrous Alloys



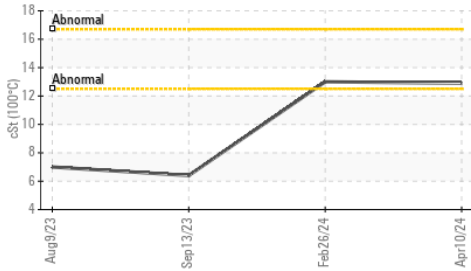
Base Number



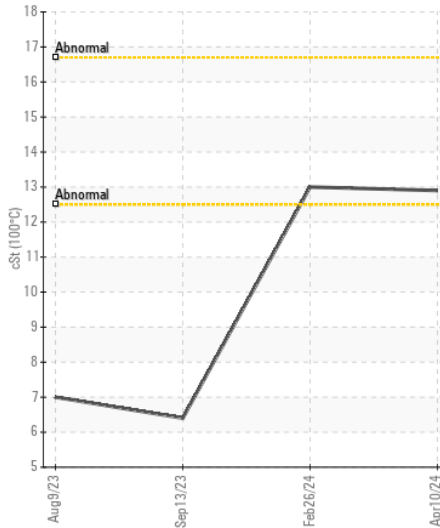
Non-ferrous Metals



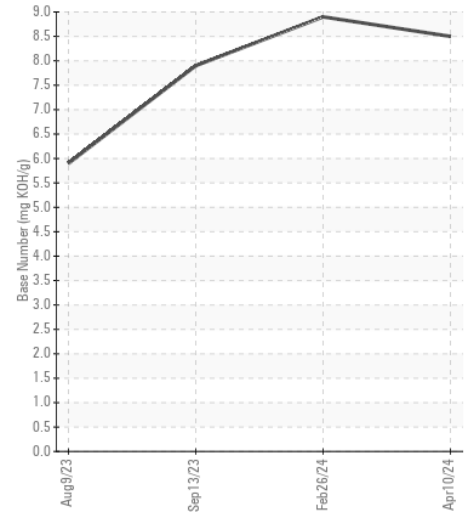
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0110980
Lab Number : 06147147
Unique Number : 10977225
Test Package : FLEET

Received : 12 Apr 2024
Tested : 15 Apr 2024
Diagnosed : 15 Apr 2024 - Wes Davis

GFL Environmental - 642- Grand Rapids Hauling
 5826 Alden Nash Ave SE
 Lowell, MI
 US 49331
 Contact: Josh Arnett
 joshuaarnett@gflenv.com

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)

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F: