



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**823030 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		<b>GFL0115237</b>	GFL0061431	GFL0102206
Sample Date		Client Info		<b>20 May 2024</b>	26 Feb 2024	14 Nov 2023
Machine Age	hrs	Client Info		<b>8851</b>	8490	0
Oil Age	hrs	Client Info		<b>23</b>	337	600
Filter Age	hrs	Client Info		<b>23</b>	337	600
Oil Changed		Client Info		<b>Changed</b>	Not Changd	Changed
Filter Changed		Client Info		<b>Changed</b>	Not Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>110	<b>17</b>	11	11
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>2</b>	2	1
Lead	ppm	ASTM D5185m	>45	<b>1</b>	1	4
Copper	ppm	ASTM D5185m	>85	<b>1</b>	1	1
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

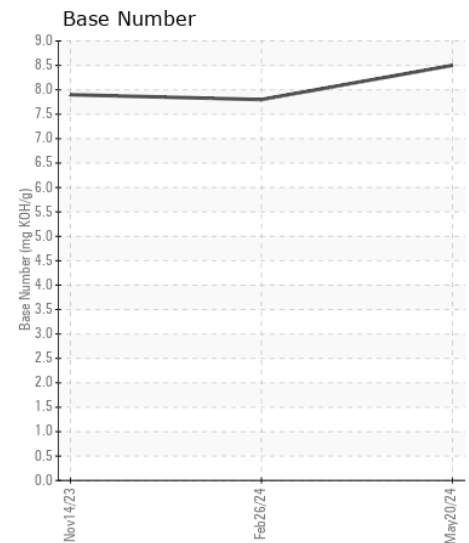
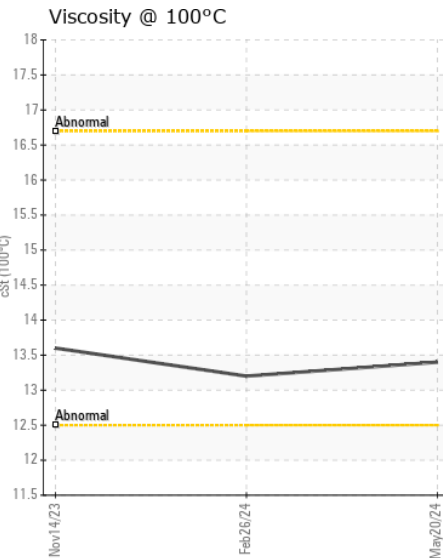
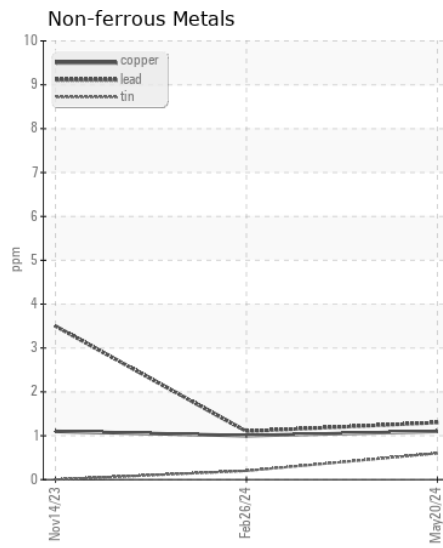
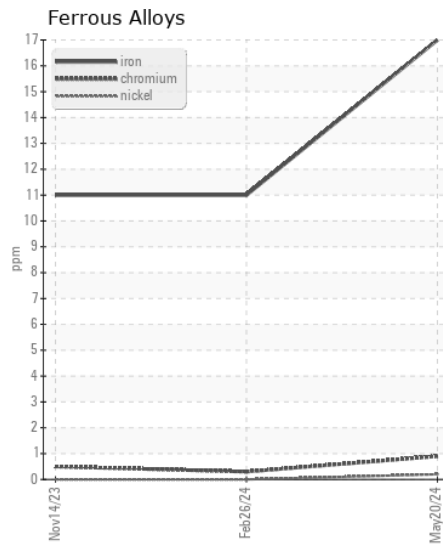
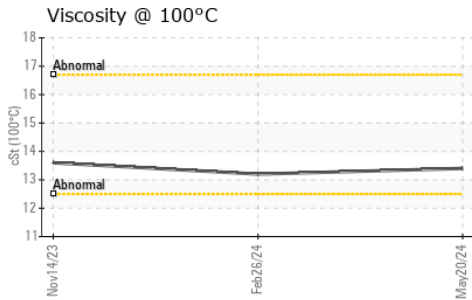
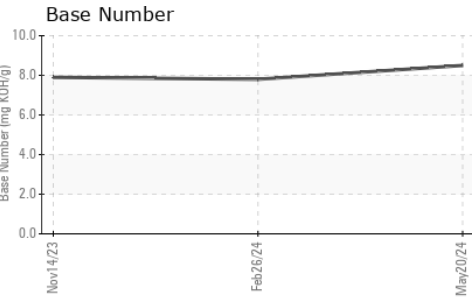
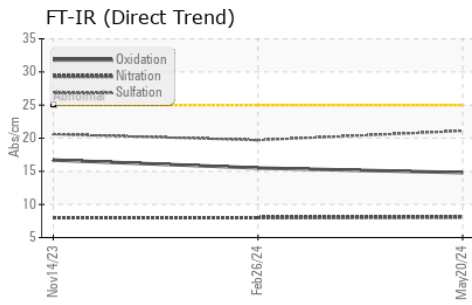
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>30	<b>5</b>	5	4
Potassium	ppm	ASTM D5185m	>20	<b>24</b>	1	3
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>1.2</b>	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.1</b>	8.0	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.1</b>	19.7	20.6
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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		<b>11</b>	3	2
Boron	ppm	ASTM D5185m		<b>8</b>	15	6
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>54</b>	57	58
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>838</b>	871	880
Calcium	ppm	ASTM D5185m		<b>1070</b>	1061	1083
Phosphorus	ppm	ASTM D5185m		<b>1074</b>	1015	950
Zinc	ppm	ASTM D5185m		<b>1220</b>	1226	1202
Sulfur	ppm	ASTM D5185m		<b>3471</b>	2972	3069
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.8</b>	15.5	16.7
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.5</b>	7.8	7.9
Visc @ 100°C	cSt	ASTM D445		<b>13.4</b>	13.2	13.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0115237  
**Lab Number** : 06189987  
**Unique Number** : 11046739  
**Test Package** : FLEET

**Received** : 23 May 2024  
**Tested** : 31 May 2024  
**Diagnosed** : 31 May 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: