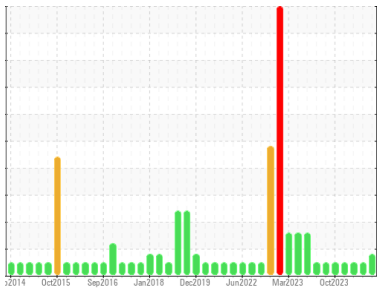
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
816 WCA South Arkansas
Machine Id
10297
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (40 GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Note that there appears to be a discrepancy in the total time on this component, when compared to the historical data.

Wear

An increase in the copper level is noted. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0102985**	GFL0074796	GFL0086415
Sample Date		Client Info		**25 Mar 2024**	13 Feb 2024	19 Dec 2023
Machine Age	hrs	Client Info		**18759**	1125	4999
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ATTENTION**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	**37**	23	12
Chromium	ppm	ASTM D5185m	>5	**1**	1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>15	**11**	7	5
Lead	ppm	ASTM D5185m	>25	**<1**	0	0
Copper	ppm	ASTM D5185m	>100	**47**	2	<1
Tin	ppm	ASTM D5185m	>4	**0**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**18**	4	6
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**65**	58	56
Manganese	ppm	ASTM D5185m	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**1023**	981	919
Calcium	ppm	ASTM D5185m	1070	**1205**	1034	980
Phosphorus	ppm	ASTM D5185m	1150	**1106**	1085	1077
Zinc	ppm	ASTM D5185m	1270	**1315**	1264	1245
Sulfur	ppm	ASTM D5185m	2060	**3824**	3184	3150

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**9**	6	4
Sodium	ppm	ASTM D5185m		**7**	6	4
Potassium	ppm	ASTM D5185m	>20	**12**	9	8

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**1.3**	0.9	0.6
Nitration	Abs/cm	*ASTM D7624	>20	**9.0**	7.7	6.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.1**	19.6	18.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.2**	14.3	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.4**	8.8	9.0

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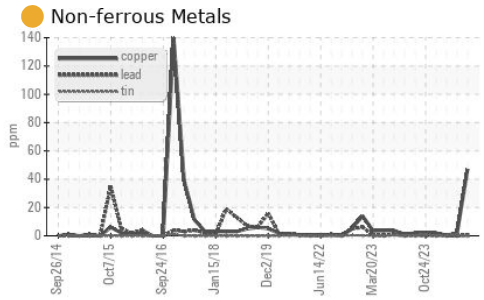
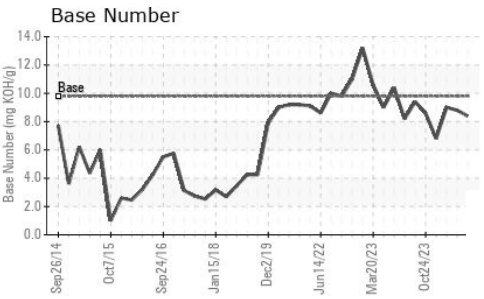
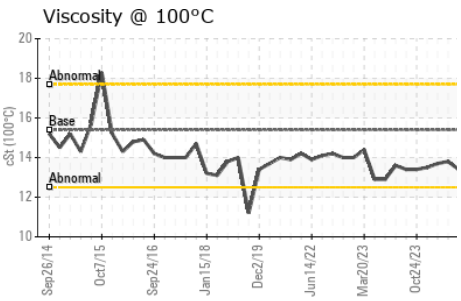


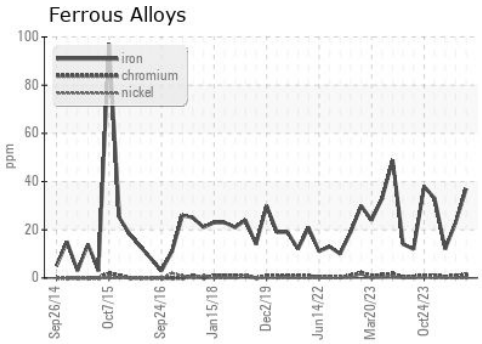


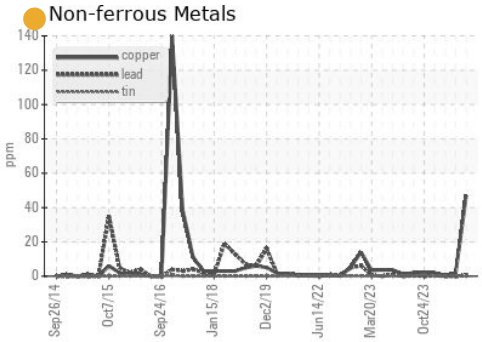


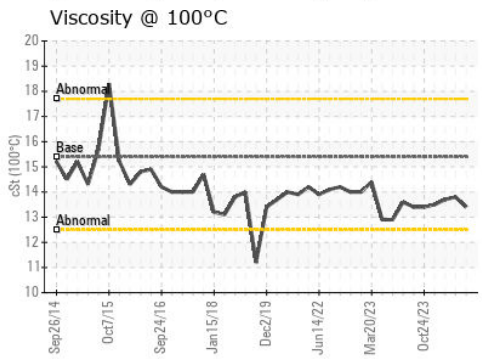
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

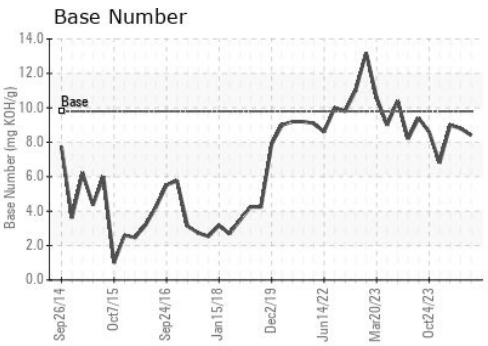
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.4**	13.8	13.7

GRAPHS









Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0102985
Lab Number : 06129810
Unique Number : 10949275
Test Package : FLEET

Received : 26 Mar 2024
Tested : 27 Mar 2024
Diagnosed : 29 Mar 2024 - Don Baldridge

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)

GFL Environmental - 814 - Little Rock Hauling
4005 Hwy 161 N.
LIttle Rock, AR
US 72117
Contact: Brad Koenig
bkoenig@gflenv.com
T:
F:

Report Id: GFL814 [WUSCAR] 06129810 (Generated: 03/29/2024 13:37:25) Rev: 1

Submitted By: Nicole Walls