

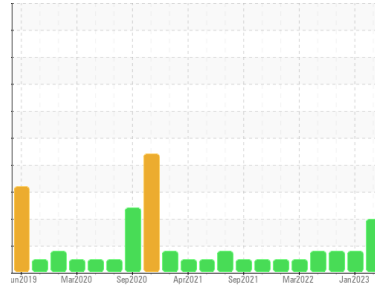


PROBLEM SUMMARY



Machine Id
2447 MACK granite
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (48 QTS)

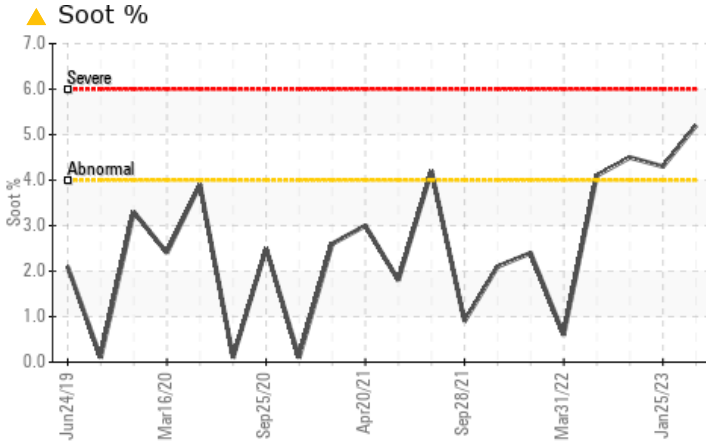
Sample Rating Trend



DEGRADATION



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.
 NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	ABNORMAL	ABNORMAL
Soot %	%	*ASTM D7844 >4	▲ 5.2	▲ 4.3	▲ 4.5
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	▲ 0.0	6.4	8.2

Customer Id: GFL001
 Sample No.: GFL0056692
 Lab Number: 05835896
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Don Baldrige +1
don.b505@comcast.net

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Alert	---	---	?	NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.
Check Combustion	---	---	?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.
Other Action (see Note)	DONE	May 04 2023	?	No recommended actions

HISTORICAL DIAGNOSIS

25 Jan 2023 Diag: Sean Felton

SOOT



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

[view report](#)



04 Nov 2022 Diag: Jonathan Hester

SOOT



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

[view report](#)



04 May 2022 Diag: Wes Davis

SOOT



The oil change at the time of sampling has been noted. All component wear rates are normal. Light concentration of carbon/soot present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

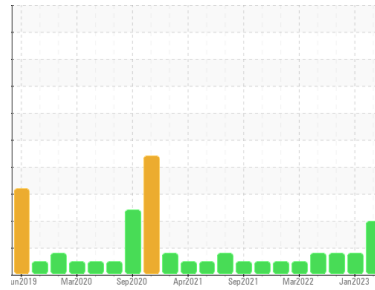
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OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION



Machine Id
2447 MACK granite
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (48 QTS)

DIAGNOSIS

Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Wear

All component wear rates are normal.

Contamination

There is an abnormal amount of solids and carbon present in the oil.

Fluid Condition

The BN level is low.

SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		GFL0056692	GFL0056632	GFL0056509
Sample Date	Client Info		21 Apr 2023	25 Jan 2023	04 Nov 2022
Machine Age	hrs	Client Info	42574	41860	41244
Oil Age	hrs	Client Info	786	832	216
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history 1	history 2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >120	42	48	41
Chromium	ppm	ASTM D5185m >20	0	<1	<1
Nickel	ppm	ASTM D5185m >5	0	<1	<1
Titanium	ppm	ASTM D5185m >2	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	<1	2	1
Lead	ppm	ASTM D5185m >40	5	3	3
Copper	ppm	ASTM D5185m >330	8	31	16
Tin	ppm	ASTM D5185m >15	0	3	2
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m 0	3	6	4
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	61	62	60
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	994	908	908
Calcium	ppm	ASTM D5185m 1070	1165	1040	1080
Phosphorus	ppm	ASTM D5185m 1150	1010	918	918
Zinc	ppm	ASTM D5185m 1270	1248	1201	1192
Sulfur	ppm	ASTM D5185m 2060	3147	3181	3078

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >25	4	4	3
Sodium	ppm	ASTM D5185m	0	1	4
Potassium	ppm	ASTM D5185m >20	0	0	0

INFRA-RED

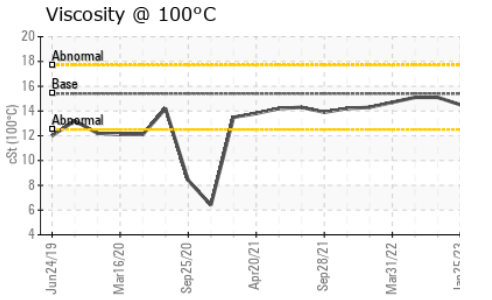
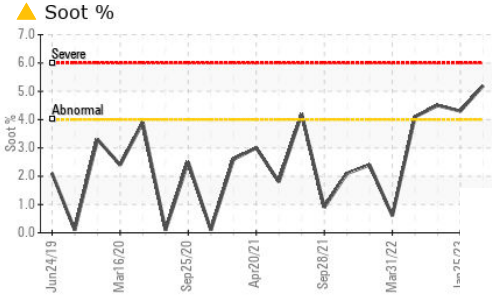
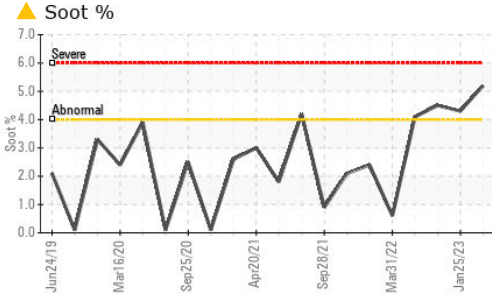
	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844 >4	▲ 5.2	▲ 4.3	▲ 4.5
Nitration	Abs/cm	*ASTM D7624 >20	13.7	11.7	11.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	29.0	26.3	28.3

FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414 >25	21.7	16.5	16.3
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	▲ 0.0	6.4	8.2



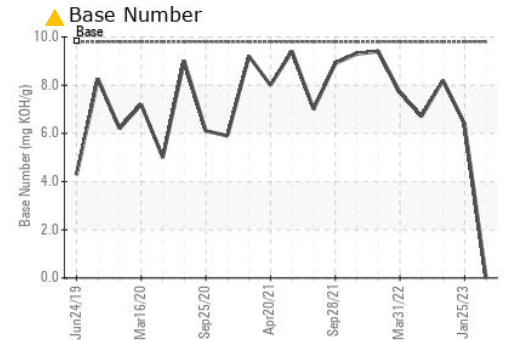
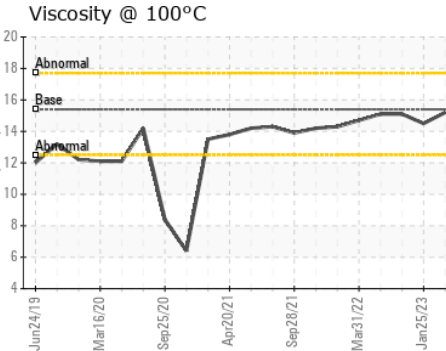
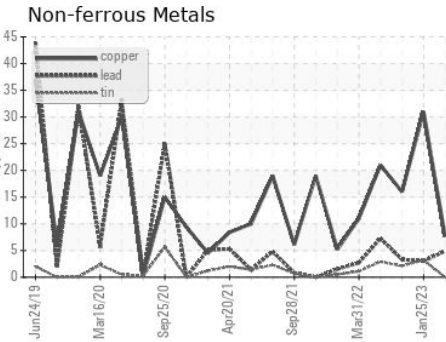
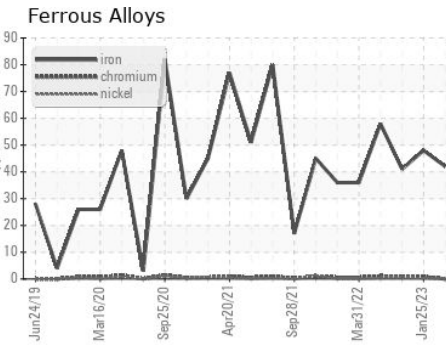
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.4	15.2	14.5

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0056692
Lab Number : 05835896
Unique Number : 10454699
Test Package : FLEET

Received : 02 May 2023
Diagnosed : 04 May 2023
Diagnostician : Don Baldrige

3741 Conquest Drive
 Garner, NC
 US 27529

Contact: Craig Johnson
 craig.johnson@gflenv.com

T: (919)662-7100
 F: (919)662-7130

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)