

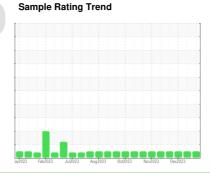
# **OIL ANALYSIS REPORT**



# MONTGOMERY Machine Id MACK 420042

Component
Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- LTR)





## DIAGNOSIS

## Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

## Contamination

There is no indication of any contamination in the oil

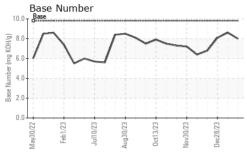
## **Fluid Condition**

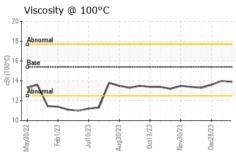
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0088644	GFL0081860	GFL0087967
Sample Date		Client Info		05 Feb 2024	18 Jan 2024	28 Dec 2023
Machine Age	hrs	Client Info		8446	8962	8847
Oil Age	hrs	Client Info		8446	235	120
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	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 METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	6	8	5
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	2	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	1	2	2
Lead	ppm	ASTM D5185m	>40	0	2	0
Copper	ppm	ASTM D5185m	>330	8	9	<1
Tin	ppm	ASTM D5185m	>15	<1	2	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current <b>7</b>	history1	history2
	ppm	ASTM D5185m				-
Boron		ASTM D5185m	0	7	7	2
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	7 0	7	2
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	7 0 59	7 1 62	2 0 63
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	7 0 59 <1	7 1 62 1	2 0 63 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	7 0 59 <1 922	7 1 62 1 969	2 0 63 0 1005
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	7 0 59 <1 922 932	7 1 62 1 969 1009	2 0 63 0 1005 1085 1018
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	7 0 59 <1 922 932 1005	7 1 62 1 969 1009 958	2 0 63 0 1005 1085 1018
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	7 0 59 <1 922 932 1005	7 1 62 1 969 1009 958 1245	2 0 63 0 1005 1085 1018
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	7 0 59 <1 922 932 1005 1241 2882	7 1 62 1 969 1009 958 1245 3125	2 0 63 0 1005 1085 1018 1272 3229 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	7 0 59 <1 922 932 1005 1241 2882	7 1 62 1 969 1009 958 1245 3125 history1	2 0 63 0 1005 1085 1018 1272 3229 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	7 0 59 <1 922 932 1005 1241 2882 current	7 1 62 1 969 1009 958 1245 3125 history1	2 0 63 0 1005 1085 1018 1272 3229 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	7 0 59 <1 922 932 1005 1241 2882 current 5	7 1 62 1 969 1009 958 1245 3125 history1 5	2 0 63 0 1005 1085 1018 1272 3229 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	7 0 59 <1 922 932 1005 1241 2882 current 5 2	7 1 62 1 969 1009 958 1245 3125 history1 5 0 2	2 0 63 0 1005 1085 1018 1272 3229 history2 5 2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	7 0 59 <1 922 932 1005 1241 2882 current 5 2 0	7 1 62 1 969 1009 958 1245 3125 history1 5 0 2	2 0 63 0 1005 1085 1018 1272 3229 history2 5 2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m  Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	7 0 59 <1 922 932 1005 1241 2882 current 5 2 0 current 0.3	7 1 62 1 969 1009 958 1245 3125 history1 5 0 2 history1 0.2	2 0 63 0 1005 1085 1018 1272 3229 history2 5 2 6 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m  Method  ASTM D5185m  Method  *ASTM D7844  *ASTM D7624  *ASTM D76145	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 limit/base	7 0 59 <1 922 932 1005 1241 2882 current 5 2 0 current 0.3 6.8	7 1 62 1 969 1009 958 1245 3125 history1 5 0 2 history1 0.2 5.5	2 0 63 0 1005 1085 1018 1272 3229 history2 5 2 6 history2 0.2 6.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m  Method  ASTM D5185m  Method  *ASTM D7844  *ASTM D7624  *ASTM D76145	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30	7 0 59 <1 922 932 1005 1241 2882 current 5 2 0 current 0.3 6.8 18.9	7 1 62 1 969 1009 958 1245 3125 history1 5 0 2 history1 0.2 5.5 18.2	2 0 63 0 1005 1085 1018 1272 3229 history2 5 2 6 history2 0.2 6.1 18.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m  METHOD  ASTM D5185m  METHOD  *ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m  METHOD  *ASTM D7844  *ASTM D7624  *ASTM D7415  METHOD	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30 limit/base	7 0 59 <1 922 932 1005 1241 2882 current 5 2 0 current 0.3 6.8 18.9 current	7 1 62 1 969 1009 958 1245 3125 history1 5 0 2 history1 0.2 5.5 18.2 history1	2 0 63 0 1005 1085 1018 1272 3229 history2 5 2 6 history2 0.2 6.1 18.2



## **OIL ANALYSIS REPORT**

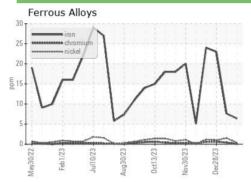


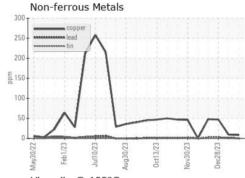


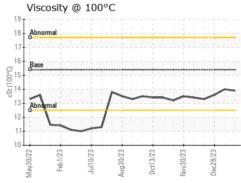
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

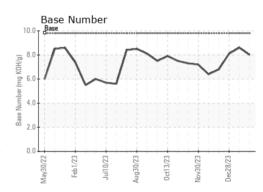
FLUID PROPI	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	14.0	13.6

## **GRAPHS**













Laboratory Sample No.

: GFL0088644 Lab Number : 06083014 Unique Number : 10870459 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 07 Feb 2024 **Tested** : 08 Feb 2024

Diagnosed : 08 Feb 2024 - Wes Davis

GFL Environmental - 955 - Montgomery

1121 Wilbanks St Montgomery, AL US 36108

Contact: LISA REEVES

Certificate L2367 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: