

# **OIL ANALYSIS REPORT**

(Mc9792) 827068

Component **Diesel Engine** 

PETRO CANADA DURON SHP 15W40 (48 GAL)

# Sample Rating Trend



# DIAGNOSIS

# Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

# Contamination

There is no indication of any contamination in the

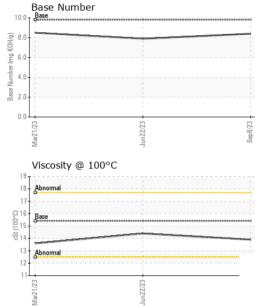
# **Fluid Condition**

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

Mar2023 Jun2023 Sep2023						
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0066048	GFL0066051	GFL0066111
Sample Date		Client Info		08 Sep 2023	22 Jun 2023	21 Mar 2023
Machine Age	mls	Client Info		0	0	0
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	22	11	29
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	2	<1
Lead	ppm	ASTM D5185m	>40	1	0	4
Copper	ppm	ASTM D5185m	>330	<1	1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
	-  - · · ·	710111120100111		U	O	Ü
ADDITIVES	le le tra	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method	limit/base			
		method ASTM D5185m		current	history1	history2
Boron	ppm	method ASTM D5185m	0	current 21	history1	history2
Boron Barium	ppm	method ASTM D5185m ASTM D5185m	0 0 60	current 21 0	history1 39 0	history2 18 0
Boron Barium Molybdenum	ppm ppm	method  ASTM D5185m  ASTM D5185m  ASTM D5185m	0 0 60	current 21 0 69	history1 39 0 44	history2 18 0 70
Boron Barium Molybdenum Manganese	ppm ppm ppm	method  ASTM D5185m  ASTM D5185m  ASTM D5185m  ASTM D5185m	0 0 60 0	current 21 0 69 <1	history1 39 0 44 <1	history2  18  0  70  <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	method  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 21 0 69 <1 910	history1 39 0 44 <1 741	history2  18  0  70  <1  980
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070	current 21 0 69 <1 910 1152	history1 39 0 44 <1 741 1474	history2  18  0  70  <1  980  1208
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150	current 21 0 69 <1 910 1152 1030	history1 39 0 44 <1 741 1474 1027	history2  18  0  70  <1  980  1208  1056
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 21 0 69 <1 910 1152 1030 1215	history1  39 0 44 <1 741 1474 1027 1299	history2  18  0  70  <1  980  1208  1056  1240
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current  21  0  69  <1  910  1152  1030  1215  3286  current  3	history1  39 0 44 <1 741 1474 1027 1299 3884	history2  18  0  70  <1  980  1208  1056  1240  3532  history2  4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current  21  0  69  <1  910  1152  1030  1215  3286  current	history1  39  0  44  <1  741  1474  1027  1299  3884  history1  5	history2  18  0  70  <1  980  1208  1056  1240  3532  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current  21  0  69  <1  910  1152  1030  1215  3286  current  3	history1  39  0  44  <1  741  1474  1027  1299  3884  history1  5	history2  18  0  70  <1  980  1208  1056  1240  3532  history2  4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	current  21  0 69 <1 910 1152 1030 1215 3286  current  3 3	history1  39  0  44  <1  741  1474  1027  1299  3884  history1  5  2  3  history1	history2  18  0  70  <1  980  1208  1056  1240  3532  history2  4  3  0  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current  21  0  69  <1  910  1152  1030  1215  3286  current  3  1	history1  39  0 44  <1 741 1474 1027 1299 3884 history1  5 2 3	history2  18  0  70  <1  980  1208  1056  1240  3532  history2  4  3  0
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	method  ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current  21  0 69 <1 910 1152 1030 1215 3286  current  3 1	history1  39  0  44  <1  741  1474  1027  1299  3884  history1  5  2  3  history1	history2  18  0  70  <1  980  1208  1056  1240  3532  history2  4  3  0  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m  method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 21 0 69 <1 910 1152 1030 1215 3286 current 3 1 current	history1  39  0  44  <1 741  1474  1027  1299  3884  history1  5  2  3  history1  0.5	history2  18  0  70  <1  980  1208  1056  1240  3532  history2  4  3  0  history2  0.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m  method  ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current  21 0 69 <1 910 1152 1030 1215 3286 current 3 1 current 1.4 8.1	history1  39 0 44 <1 741 1474 1027 1299 3884 history1 5 2 3 history1 0.5 8.6	history2  18  0  70  <1  980  1208  1056  1240  3532  history2  4  3  0  history2  0.7  10.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method  ASTM D5185m  method  ASTM D5185m ASTM D5185m  *ASTM D5185m ASTM D5185m  *ASTM D5185m ASTM D7844  *ASTM D7624  *ASTM D76145	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >6 >20 >30	current  21  0  69  <1  910  1152  1030  1215  3286  current  3  1  current  1.4  8.1  21.4	history1  39  0  44  <1 741  1474  1027  1299  3884  history1  5  2  3  history1  0.5  8.6  21.5	history2  18  0  70  <1  980  1208  1056  1240  3532  history2  4  3  0  history2  0.7  10.0  22.4



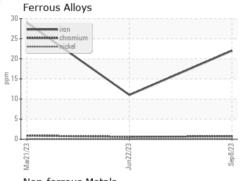
# **OIL ANALYSIS REPORT**

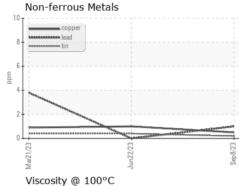


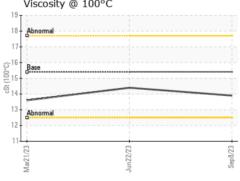
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

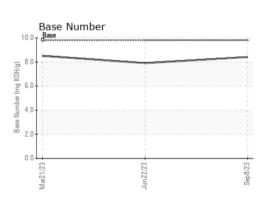
L LOID LUCK		memou			HISTOLAL	HISTOLA
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	14.4	13.6

# **GRAPHS**











Certificate L2367

Laboratory

Sample No. Lab Number Unique Number : 10657452 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0066048 : 05956239

Received Diagnosed

: 20 Sep 2023 : 21 Sep 2023 Diagnostician : Wes Davis

GFL Environmental - 904 - Chippewa Falls HC

11888 & 11863 30th Avenue Chippewa Falls, WI US 54729

Contact: Andy Kane

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)

T: (715)202-3420

F: