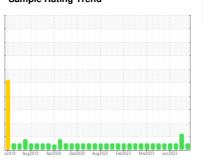


# **OIL ANALYSIS REPORT**

Sample Rating Trend



NORMAL



**429049-402451** 

Component

**Diesel Engine** 

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

## DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

### Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

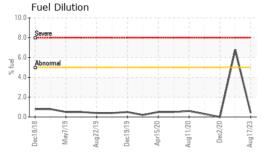
#### **Fluid Condition**

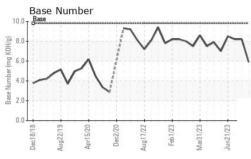
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

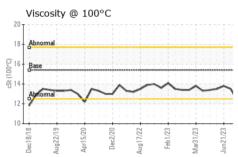
GAL)						
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0090642	GFL0087148	GFL0087198
Sample Date		Client Info		17 Aug 2023	07 Aug 2023	17 Jul 2023
Machine Age	hrs	Client Info		14559	14447	14316
Oil Age	hrs	Client Info		600	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	20	10	12
Chromium	ppm	ASTM D5185m	>4	2	<1	1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	5	2	2
Lead	ppm	ASTM D5185m	>45	4	<1	<1
Copper	ppm	ASTM D5185m	>85	2	1	<1
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	1-1-	method	limit/base	current	history1	history2
7100111110						
Boron	maa	ASTM D5185m	0	2	<1	2
	ppm	ASTM D5185m ASTM D5185m	0		<1 0	2 <1
Barium	ppm	ASTM D5185m	0	0	0	<1
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0 60	0 70	0 60	<1 65
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0	0 70 <1	0 60 <1	<1 65 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	0 70 <1 1085	0 60 <1 870	<1 65 <1 1047
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	0 70 <1 1085 1230	0 60 <1 870 1024	<1 65 <1 1047 1155
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150	0 70 <1 1085 1230 1167	0 60 <1 870 1024 971	<1 65 <1 1047 1155 1104
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	0 70 <1 1085 1230	0 60 <1 870 1024	<1 65 <1 1047 1155
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	0 60 0 1010 1070 1150 1270	0 70 <1 1085 1230 1167 1422	0 60 <1 870 1024 971 1158	<1 65 <1 1047 1155 1104 1362
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm 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 60 0 1010 1070 1150 1270 2060	0 70 <1 1085 1230 1167 1422 3693	0 60 <1 870 1024 971 1158 3050	<1 65 <1 1047 1155 1104 1362 3717
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	0 70 <1 1085 1230 1167 1422 3693 current	0 60 <1 870 1024 971 1158 3050 history1	<1 65 <1 1047 1155 1104 1362 3717 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base	0 70 <1 1085 1230 1167 1422 3693 current 15	0 60 <1 870 1024 971 1158 3050 history1	<1 65 <1 1047 1155 1104 1362 3717 history2 11 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	0 70 <1 1085 1230 1167 1422 3693 current	0 60 <1 870 1024 971 1158 3050 history1	<1 65 <1 1047 1155 1104 1362 3717 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >30	0 70 <1 1085 1230 1167 1422 3693  current 15 2	0 60 <1 870 1024 971 1158 3050 history1 3 2	<1 65 <1 1047 1155 1104 1362 3717 history2 11 2 1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >30 >5	0 70 <1 1085 1230 1167 1422 3693  current 15 2 0.4  current	0 60 <1 870 1024 971 1158 3050 history1 3 2 3 ▲ 6.8	<1 65 <1 1047 1155 1104 1362 3717 history2 11 2 1 <1.0 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm	ASTM D5185m ASTM D7844	0 60 0 1010 1070 1150 1270 2060 limit/base >30 >20 >5	0 70 <1 1085 1230 1167 1422 3693  current 15 2 2 0.4  current 0.4	0 60 <1 870 1024 971 1158 3050 history1 3 2 3 ▲ 6.8 history1	<1 65 <1 1047 1155 1104 1362 3717 history2 11 2 1 <1.0 history2 0.3
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >30 >5	0 70 <1 1085 1230 1167 1422 3693  current 15 2 0.4  current	0 60 <1 870 1024 971 1158 3050 history1 3 2 3 ▲ 6.8	<1 65 <1 1047 1155 1104 1362 3717 history2 11 2 1 <1.0 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 60 0 1010 1070 1150 1270 2060 limit/base >30 >5 limit/base	0 70 <1 1085 1230 1167 1422 3693  current 15 2 2 0.4  current 0.4 11.5	0 60 <1 870 1024 971 1158 3050 history1 3 2 3 ▲ 6.8 history1 0.4 7.0	<1 65 <1 1047 1155 1104 1362 3717 history2 11 2 1 <1.0 history2 0.3 9.8
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm	ASTM D5185m ASTM D7824 *ASTM D7844 *ASTM D7624 *ASTM D7415 method	0 60 0 1010 1070 1150 1270 2060  limit/base >30 >20 >5  limit/base >3 >20 >3 limit/base	0 70 <1 1085 1230 1167 1422 3693  current 15 2 0.4  current 0.4 11.5 23.5  current	0 60 <1 870 1024 971 1158 3050 history1 3 2 3 ▲ 6.8 history1 0.4 7.0 18.3 history1	<1 65 <1 1047 1155 1104 1362 3717 history2 11 2 1 <1.0 history2 0.3 9.8 20.0 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	0 60 0 1010 1070 1150 1270 2060 limit/base >30 >20 >5 limit/base >3 >20 >3 limit/base >25	0 70 <1 1085 1230 1167 1422 3693  current 15 2 0.4  current 0.4 11.5 23.5	0 60 <1 870 1024 971 1158 3050 history1 3 2 3 ▲ 6.8 history1 0.4 7.0 18.3	<1 65 <1 1047 1155 1104 1362 3717 history2 11 2 1 <1.0 history2 0.3 9.8 20.0



# **OIL ANALYSIS REPORT**



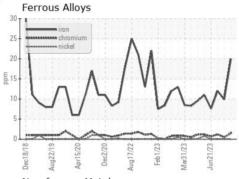


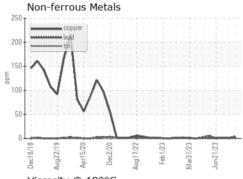


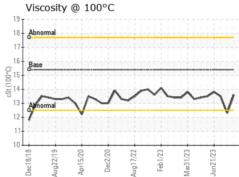
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

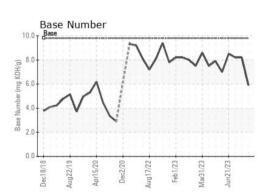
FLUID PROPERTIES		method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	<b>12.3</b>	13.5

### **GRAPHS**













Laboratory Sample No. Lab Number **Unique Number** 

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 05934174

: GFL0090642 : 10619445

Received : 24 Aug 2023 Diagnosed Diagnostician : Wes Davis

: 28 Aug 2023

Test Package : FLEET ( Additional Tests: PercentFuel ) 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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