

## **OIL ANALYSIS REPORT**

Sample Rating Trend



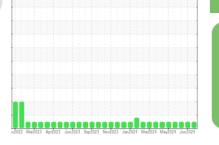


Machine Id 913005

Fluid

**Diesel Engine** PETRO CANADA DURON SHP 15W40 (12 GAL)

SAMPLE INFORMATION method





### 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.

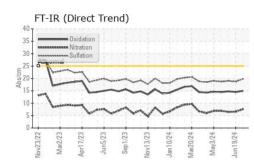
#### Fluid Condition

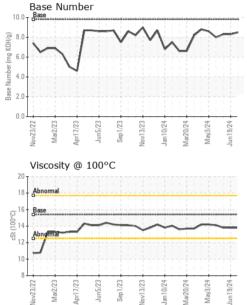
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Comple Number		Client Info		CEL 0105999		
Sample Number		Client Info		GFL0125888	GFL0125849	GFL0118692
Sample Date	la un	Client Info		09 Jul 2024	19 Jun 2024	30 May 2024
Machine Age	hrs	Client Info		5151	4721	4721
Oil Age	hrs	Client Info		956	600	300
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	7	6	0
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	<1	2	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	<1	3	<1
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	<1	1	<1
Tin	ppm	ASTM D5185m	>15	0	1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method				history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current <1	history1 1	history2 0
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	<1	1	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	<1 0	1	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 0 57	1 1 61	0 0 59
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 0 57 <1	1 1 61 <1	0 0 59 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 0 57 <1 986	1 1 61 <1 962	0 0 59 0 989
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	<1 0 57 <1 986 1078	1 1 61 <1 962 1074	0 0 59 0 989 1104
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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	<1 0 57 <1 986 1078 1013	1 1 61 <1 962 1074 997	0 0 59 0 989 1104 1072
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	0 0 60 0 1010 1070 1150 1270	<1 0 57 <1 986 1078 1013 1216	1 1 61 <1 962 1074 997 1208	0 0 59 0 989 1104 1072 1266
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 ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 0 57 <1 986 1078 1013 1216 3317	1 1 61 <1 962 1074 997 1208 2949	0 0 59 0 989 1104 1072 1266 3619
Boron 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 0 60 1010 1070 1150 1270 2060	<1 0 57 <1 986 1078 1013 1216 3317 current	1 1 61 <1 962 1074 997 1208 2949 history1	0 0 59 0 989 1104 1072 1266 3619 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b>	<1 0 57 <1 986 1078 1013 1216 3317 current 3	1 1 61 <1 962 1074 997 1208 2949 history1 5	0 0 59 0 989 1104 1072 1266 3619 history2 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b>	<1 0 57 <1 986 1078 1013 1216 3317 current 3 3 3	1 1 61 <1 962 1074 997 1208 2949 history1 5 2	0 0 59 0 989 1104 1072 1266 3619 history2 1 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b> >25 >20	<1 0 57 <1 986 1078 1013 1216 3317 current 3 3 <1	1 1 61 <1 962 1074 997 1208 2949 history1 5 2 3	0 0 59 0 989 1104 1072 1266 3619 history2 1 3 3 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 <u>limit/base</u> >20	<1 0 57 <1 986 1078 1013 1216 3317 current 3 3 <1 current	1 1 61 <1 962 1074 997 1208 2949 history1 5 2 3 history1	0 0 59 0 989 1104 1072 1266 3619 history2 1 3 <1 3 <1
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	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	<1 0 57 <1 986 1078 1013 1216 3317 current 3 3 <1 current 0.6	1 1 61 <1 962 1074 997 1208 2949 history1 5 2 3 history1 0.4	0 0 59 0 989 1104 1072 1266 3619 history2 1 3 <1 3 <1 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 imit/base >20	<1 0 57 <1 986 1078 1013 1216 3317 <i>current</i> 3 3 3 <1 <i>current</i> 0.6 7.6	1 1 61 <1 962 1074 997 1208 2949 history1 5 2 3 history1 0.4 6.6	0 0 59 0 989 1104 1072 1266 3619 history2 1 3 <1 3 <1 history2 0.3 6.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 220 20 20 20 20 20 20 20 20 20 20 20	<1 0 57 <1 986 1078 1013 1216 3317 current 3 3 3 <1 current 0.6 7.6 19.8 current	1 1 61 <1 962 1074 997 1208 2949 history1 5 2 3 history1 0.4 6.6 18.7 history1	0 0 59 0 989 1104 1072 1266 3619 history2 1 3 <1 5 history2 0.3 6.5 19.0 history2
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 20 20 20 20 20 20 20 20 20 20 20	<1 0 57 <1 986 1078 1013 1216 3317 current 3 3 <1 current 0.6 7.6 19.8	1 1 61 <1 962 1074 997 1208 2949 history1 5 2 3 history1 0.4 6.6 18.7	0 0 59 0 989 1104 1072 1266 3619 <b>history2</b> 1 3 <1 <b>history2</b> 0.3 6.5 19.0



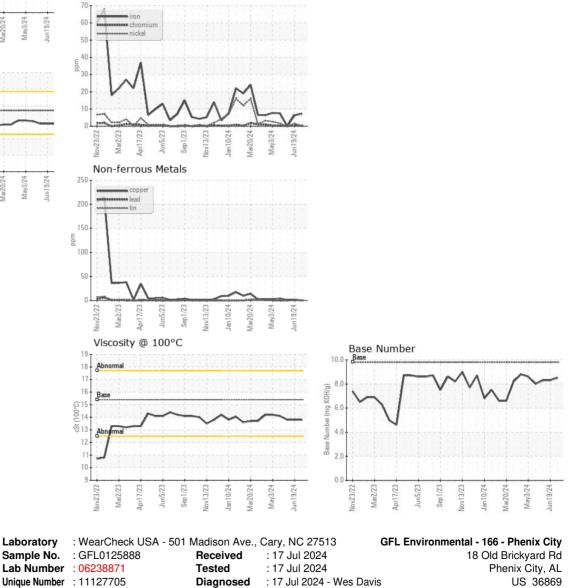
# **OIL ANALYSIS REPORT**





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
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.8	13.8
GRAPHS						

Ferrous Alloys





Unique Number : 11127705 Diagnosed : 17 Jul 2024 - Wes Davis Test Package : FLEET Contact: DEAN PEACE JR Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. dean.peace@gflenv.com \* - 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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Submitted By: DEAN PEACE JR Page 2 of 2

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