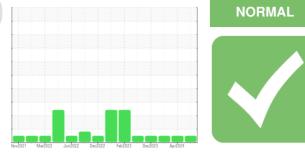


### **OIL ANALYSIS REPORT**

SAMPLE INFORMATION method

Sample Rating Trend



Machine Id

## 727092-310018

### Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (28 QTS)

#### 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.

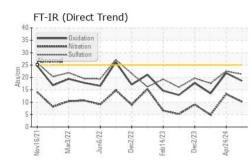
#### Fluid Condition

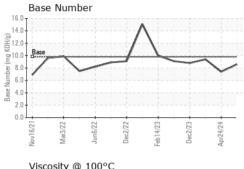
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

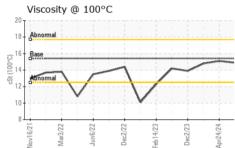
SAMPLE INFOR		method	iimii/base	current	nistory i	riistoryz
Sample Number		Client Info		GFL0121770	GFL0106738	GFL0092127
Sample Date		Client Info		25 Jun 2024	24 Apr 2024	03 Jan 2024
Machine Age	hrs	Client Info		18015	17712	160591
Oil Age	hrs	Client Info		600	0	154227
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
				-		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	>100	15	27	0
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m	0	<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m		4	3	<1
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m		<1	0	0
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current <1	history1 2	history2 2
	ppm ppm	ASTM D5185m				
Boron Barium		ASTM D5185m	0	<1	2	2
Boron	ppm	ASTM D5185m ASTM D5185m	0 0 60	<1 0	2	2 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 0 60	2 0 65	2 0 57
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 0 60 <1	2 0 65 <1	2 0 57 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 0 60 <1 998	2 0 65 <1 1025	2 0 57 <1 944
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	<1 0 60 <1 998 1108	2 0 65 <1 1025 1153	2 0 57 <1 944 1001
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	0 0 60 0 1010 1070 1150	<1 0 60 <1 998 1108 1103	2 0 65 <1 1025 1153 1086	2 0 57 <1 944 1001 1079
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	0 0 60 1010 1070 1150 1270 2060	<1 0 60 <1 998 1108 1103 1348 3404	2 0 65 <1 1025 1153 1086 1354 3597	2 0 57 <1 944 1001 1079 1228 3054
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 60 <1 998 1108 1103 1348 3404 current	2 0 65 <1 1025 1153 1086 1354 3597 history1	2 0 57 <1 944 1001 1079 1228 3054 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>	0 0 60 1010 1070 1150 1270 2060	<1 0 60 <1 998 1108 1103 1348 3404 <i>current</i> 7	2 0 65 <1 1025 1153 1086 1354 3597 history1 8	2 0 57 <1 944 1001 1079 1228 3054 history2 3
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 ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base	<1 0 60 <1 998 1108 1103 1348 3404 <u>current</u> 7 10	2 0 65 <1 1025 1153 1086 1354 3597 history1 8 8 8	2 0 57 <1 944 1001 1079 1228 3054 <b>history2</b> 3 <1
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 0 1010 1070 1150 1270 2060 <b>limit/base</b> >25	<1 0 60 <1 998 1108 1103 1348 3404 current 7 10 3	2 0 65 <1 1025 1153 1086 1354 3597 history1 8 8 8 8 2	2 0 57 <1 944 1001 1079 1228 3054 history2 3 <1 0
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >25	<1 0 60 <1 998 1108 1103 1348 3404 <i>current</i> 7 10 3 <i>current</i>	2 0 65 <1 1025 1153 1086 1354 3597 history1 8 8 8 2 2 history1	2 0 57 <1 944 1001 1079 1228 3054 <b>history2</b> 3 <1 0 <b>history2</b>
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>limit/base</b> >25	<1 0 60 <1 998 1108 1103 1348 3404 <i>current</i> 7 10 3 <i>current</i> 0.5	2 0 65 <1 1025 1153 1086 1354 3597 history1 8 8 8 2 history1 0.9	2 0 57 <1 944 1001 1079 1228 3054 <b>history2</b> 3 <1 0 <b>history2</b> 0.1
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 TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >25	<1 0 60 <1 998 1108 1103 1348 3404 <i>current</i> 7 10 3 <i>current</i> 0.5 10.2	2 0 65 <1 1025 1153 1086 1354 3597 history1 8 8 8 2 history1 0.9 13.3	2 0 57 <1 944 1001 1079 1228 3054 history2 3 <1 0 history2 0.1 4.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	<1 0 60 <1 998 1108 1103 1348 3404 <i>current</i> 7 10 3 <i>current</i> 0.5	2 0 65 <1 1025 1153 1086 1354 3597 history1 8 8 8 2 history1 0.9	2 0 57 <1 944 1001 1079 1228 3054 <b>history2</b> 3 <1 0 <b>history2</b> 0.1
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	<1 0 60 <1 998 1108 1103 1348 3404 <i>current</i> 7 10 3 <i>current</i> 0.5 10.2	2 0 65 <1 1025 1153 1086 1354 3597 history1 8 8 8 2 history1 0.9 13.3	2 0 57 <1 944 1001 1079 1228 3054 history2 3 <1 0 history2 0.1 4.9
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 <b>imit/base</b> >25 <b>imit/base</b> >3 >20 >3	<1 0 60 <1 998 1108 1103 1348 3404 <u>current</u> 7 10 3 <u>current</u> 0.5 10.2 21.3	2 0 65 <1 1025 1153 1086 1354 3597 history1 8 8 8 2 <u>history1</u> 0.9 13.3 22.5	2 0 57 <1 944 1001 1079 1228 3054 <b>history2</b> 3 <1 0 <b>history2</b> 0.1 4.9 17.6
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 D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 33 220 20 330 20 330	<1 0 60 <1 998 1108 1103 1348 3404 Current 7 10 3 Current 0.5 10.2 21.3 Current	2 0 65 <1 1025 1153 1086 1354 3597 history1 8 8 8 2 history1 0.9 13.3 22.5 history1	2 0 57 <1 944 1001 1079 1228 3054 <b>history2</b> 3 <1 0 <b>history2</b> 0.1 4.9 17.6 <b>history2</b>



# **OIL ANALYSIS REPORT**

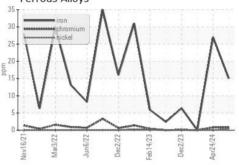


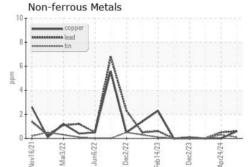


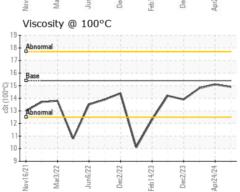


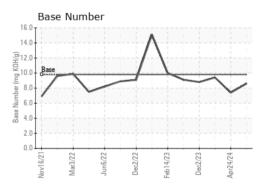
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	14.9	15.1	14.8
GRAPHS						

Ferrous Alloys









Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 856 - Houston South Sample No. : GFL0121770 Received : 27 Jun 2024 8515 Highway 6 South Lab Number : 06222186 Tested : 28 Jun 2024 Houston, TX Unique Number : 11100383 Diagnosed : 28 Jun 2024 - Wes Davis US 77083 Test Package : FLEET Contact: Apolinar Zacarias Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. pzacariascano@gflenv.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: 

Dec2/23

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: GFL856 [WUSCAR] 06222186 (Generated: 06/28/2024 10:54:29) Rev: 1

Submitted By: Apolinar Zacarias Page 2 of 2

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