

## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

### 927053

#### Component Diesel Engine

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

#### 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.

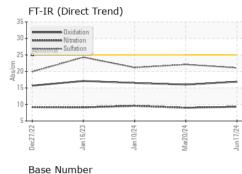
#### Fluid Condition

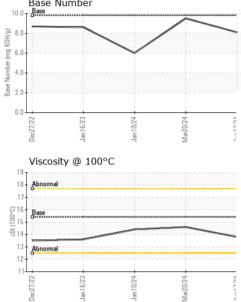
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0123764	GFL0112971	GFL0108414
Sample Date		Client Info		17 Jun 2024	20 Mar 2024	10 Jan 2024
Machine Age	hrs	Client Info		16931	16354	16029
Oil Age	hrs	Client Info		16931	16354	16029
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	>110	26	21	26
Chromium	ppm	ASTM D5185m	>4	1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	_	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	2	3
Lead	ppm	ASTM D5185m	>45	2	0	<1
Copper	ppm		>85	2	2	3
Tin	ppm	ASTM D5185m	>4	<1	0	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
	1-1-			•	0	
ADDITIVES	P P	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	-	-	history2
				current	history1	
Boron	ppm	ASTM D5185m	0	current	history1 1	1
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	current 10 0	history1 1 0	1 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 10 0 63	history1 1 0 56	1 0 63
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current           10           0           63           0	history1 1 0 56 <1	1 0 63 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 10 0 63 0 1025	history1 1 0 56 <1 962	1 0 63 0 995
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current           10           0           63           0           1025           1119	history1 1 0 56 <1 962 1060	1 0 63 0 995 1050
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm 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	Current 10 0 63 0 1025 1119 1124	history1 1 0 56 <1 962 1060 902	1 0 63 0 995 1050 1086
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm 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	current           10           0           63           0           1025           1119           1124           1375	history1 1 0 56 <1 962 1060 902 1291	1 0 63 0 995 1050 1086 1294
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	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	current           10           0           63           0           1025           1119           1124           1375           3127           current           7	history1           1           0           56           <1           962           1060           902           1291           3571           history1           6	1 0 63 0 995 1050 1086 1294 3004 <b>history2</b> 13
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm 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	current           10           0           63           0           1025           1119           1124           1375           3127           current	history1           1           0           56           <1           962           1060           902           1291           3571           history1	1 0 63 0 995 1050 1086 1294 3004 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b>	current           10           0           63           0           1025           1119           1124           1375           3127           current           7	history1           1           0           56           <1           962           1060           902           1291           3571           history1           6	1 0 63 0 995 1050 1086 1294 3004 <b>history2</b> 13
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm 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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b>	current           10           0           63           0           1025           1119           1124           1375           3127           current           7           3	history1           1           0           56           <1           962           1060           902           1291           3571           history1           6           4	1 0 63 0 995 1050 1086 1294 3004 <b>history2</b> 13 5 7 <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 ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >30 20 <b>Imit/base</b> >30	current           10           0           63           0           1025           1119           1124           1375           3127           current           7           3           8	history1           1           0           56           <1           962           1060           902           1291           3571           history1           6           4           6           history1           1.7	1 0 63 0 995 1050 1086 1294 3004 <b>history2</b> 13 5 7 <b>history2</b> 1.6
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 <b>Imit/base</b> >30 20 <b>Imit/base</b> >30	current           10           0           63           0           1025           1119           1124           1375           3127           current           7           3           8           current	history1         1         0         56         <1         962         1060         902         1291         3571         history1         6         4         6         history1	1 0 63 0 995 1050 1086 1294 3004 <b>history2</b> 13 5 7 <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 ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >30 20 <b>Imit/base</b> >30	current           10           0           63           0           1025           1119           1124           1375           3127           current           7           3           8           current           0.7	history1           1           0           56           <1           962           1060           902           1291           3571           history1           6           4           6           history1           1.7	1 0 63 0 995 1050 1086 1294 3004 <b>history2</b> 13 5 7 <b>history2</b> 1.6
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 <b>TS</b> ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >30 220 imit/base >3 >20	current           10           0           63           0           1025           1119           1124           1375           3127           current           7           3           8           current           0.7           9.3	history1           1           0           56           <1           962           1060           902           1291           3571           history1           6           4           6           history1           1.7           9.0	1 0 63 0 995 1050 1086 1294 3004 history2 13 5 7 7 history2 1.6 9.6
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 <b>TS</b> ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >30 20 <b>Imit/base</b> >3 >20	current           10           0           63           0           1025           1119           1124           1375           3127           current           7           3           8           current           0.7           9.3           21.1	history1         1         0         56         <1         962         1060         902         1291         3571         history1         6         4         6         history1         1.7         9.0         22.1	1 0 63 0 995 1050 1086 1294 3004 <b>history2</b> 13 5 7 <b>history2</b> 1.6 9.6 21.2

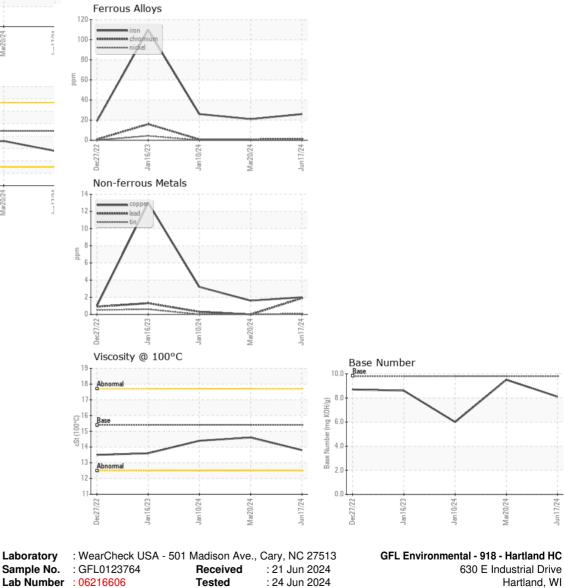


# **OIL ANALYSIS REPORT**





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
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	14.6	14.4
GRAPHS						





 Indigue Number
 : 11089470
 Diagnosed
 : 24 Jun 2024 - Wes Davis

 Certificate 12367
 Test Package
 : FLEET

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 data

 \* - 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)

630 E Industrial Drive Hartland, WI US 53029 Contact: David McCall david.mccall@gflenv.com T: (262)369-3069 106:2012) F:

Report Id: GFL918 [WUSCAR] 06216606 (Generated: 06/24/2024 08:48:34) Rev: 1

Submitted By: David McCall

Page 2 of 2