

# **OIL ANALYSIS REPORT**



Machine Id

# 527078

## Diesel Engine

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

### 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

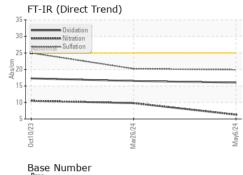
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

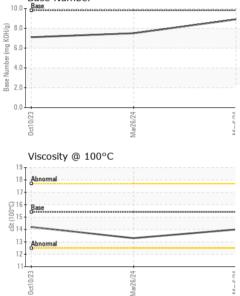
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0108518	GFL0108444	GFL0066032
Sample Date		Client Info		06 May 2024	26 Mar 2024	10 Oct 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>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	>80	12	40	58
Chromium	ppm	ASTM D5185m	>5	<1	2	4
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		<1	5	71
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	2	4	16
Lead	ppm	ASTM D5185m	>30	<1	5	9
Copper	ppm	ASTM D5185m	>150	<1	<1	3
Tin	ppm	ASTM D5185m	>5	0	<1	1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 0	history1 5	history2 17
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0	5	17
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	0 0	5 0	17 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 0 58	5 0 58	17 0 13
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 0 58 <1	5 0 58 <1	17 0 13 1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	0 0 58 <1 975	5 0 58 <1 929	17 0 13 1 554 1675 1089
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	0 0 58 <1 975 1108	5 0 58 <1 929 1175	17 0 13 1 554 1675
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	0 0 60 0 1010 1070 1150	0 0 58 <1 975 1108 1049	5 0 58 <1 929 1175 1067	17 0 13 1 554 1675 1089
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 ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	0 0 58 <1 975 1108 1049 1208	5 0 58 <1 929 1175 1067 1266	17 0 13 1 554 1675 1089 1310
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 1010 1070 1150 1270 2060	0 0 58 <1 975 1108 1049 1208 3738 current 4	5 0 58 <1 929 1175 1067 1266 3465 history1 6	17 0 13 1 554 1675 1089 1310 3816 history2 11
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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> ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base	0 0 58 <1 975 1108 1049 1208 3738 current	5 0 58 <1 929 1175 1067 1266 3465 history1	17 0 13 1 554 1675 1089 1310 3816 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 1010 1070 1150 1270 2060 kimit/base	0 0 58 <1 975 1108 1049 1208 3738 current 4	5 0 58 <1 929 1175 1067 1266 3465 history1 6	17 0 13 1 554 1675 1089 1310 3816 history2 11
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	0 0 60 1010 1070 1150 1270 2060 kimit/base	0 0 58 <1 975 1108 1049 1208 3738 current 4 3	5 0 58 <1 929 1175 1067 1266 3465 <b>history1</b> 6 2	17 0 13 1 554 1675 1089 1310 3816 history2 11 4
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 >20 >20	0 0 58 <1 975 1108 1049 1208 3738 current 4 3 0	5 0 58 <1 929 1175 1067 1266 3465 <b>history1</b> 6 2 3	17 0 13 1 554 1675 1089 1310 3816 <b>history2</b> 11 4 20 <b>history2</b> 1.5
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 2060 2060 220 20 20 20 20 20 20	0 0 58 <1 975 1108 1049 1208 3738 current 4 3 0 0	5 0 58 <1 929 1175 1067 1266 3465 history1 6 2 3 3 history1	17 0 13 1 554 1675 1089 1310 3816 history2 11 4 20 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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 2060 220 20 20 20 20 20 20	0 0 58 <1 975 1108 1049 1208 3738 current 4 3 0 current 0.5	5 0 58 <1 929 1175 1067 1266 3465 history1 6 2 3 3 <i>history1</i> 1	17 0 13 1 554 1675 1089 1310 3816 <b>history2</b> 11 4 20 <b>history2</b> 1.5
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> >20 <i>limit/base</i> >20	0 0 58 <1 975 1108 1049 1208 3738 <i>current</i> 4 3 0 <i>current</i> 0.5 6.3	5 0 58 <1 929 1175 1067 1266 3465 history1 6 2 3 3 history1 1 9.8	17 0 13 1 554 1675 1089 1310 3816 history2 11 4 20 history2 1.5 1.5 10.5
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> >20 <b>imit/base</b> >3 >20 >3 >20	0 0 58 <1 975 1108 1049 1208 3738 <u>current</u> 4 3 0 <u>current</u> 0.5 6.3 19.9	5 0 58 <1 929 1175 1067 1266 3465 history1 6 2 3 3 <u>history1</u> 1 9.8 20.2	17 0 13 1 554 1675 1089 1310 3816 <b>history2</b> 11 4 20 <b>history2</b> 1.5 10.5 25.0
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 2060 2060 200 200 200 200 200 200 200	0 0 58 <1 975 1108 1049 1208 3738 <i>current</i> 4 3 0 <i>current</i> 0.5 6.3 19.9 <i>current</i>	5 0 58 <1 929 1175 1067 1266 3465 history1 6 2 3 6 2 3 <i>history1</i> 1 9.8 20.2 <i>history1</i>	17 0 13 1 554 1675 1089 1310 3816 history2 11 4 20 history2 1.5 10.5 25.0 history2

Contact/Location: See also GFL904,A,B,C, 927, 938) - Andy Kane - GFL904 Page 1 of 2

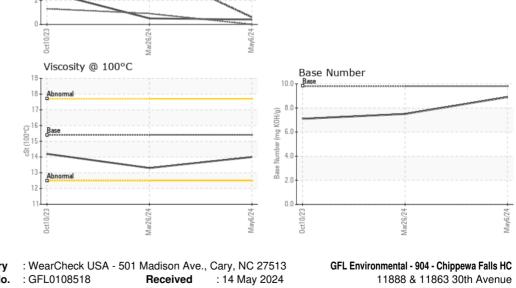


# **OIL ANALYSIS REPORT**





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	ERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.0	13.3	14.2
GRAPHS						
Ferrous Alloys						
iron						
nickel						
40						
30						
20 -						
			<b>\</b>			
10	8/24		624 X			
	Mar26/24		May6/24			
Non-ferrous Meta	_		May6/24			
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	_		May6.24			
Non-ferrous Meta	_		May6/24			



Laboratory Sample No. Lab Number : 06178358 Tested : 14 May 2024 Chippewa Falls, WI Unique Number : 11029684 Diagnosed : 14 May 2024 - Wes Davis US 54729 Test Package : FLEET Contact: Andy Kane Certificate 12367 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. T: (715)202-3420 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Report Id: GFL904 [WUSCAR] 06178358 (Generated: 05/14/2024 18:35:30) Rev: 1

Contact/Location: See also GFL904,A,B,C, 927, 938) - Andy Kane - GFL904