

## **OIL ANALYSIS REPORT**

Sample Rating Trend

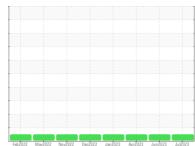




Machine Id 626M Component

Fluid

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





# DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: Current hours 10,527 )

### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

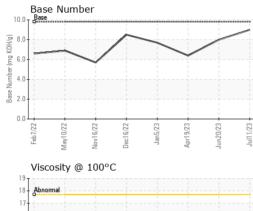
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

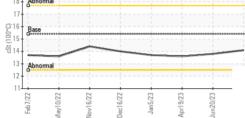
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0081258	GFL0082765	GFL0081294
Sample Date		Client Info		11 Jul 2023	20 Jun 2023	19 Apr 2023
Machine Age	hrs	Client Info		9557	9845	15601
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
-			1' 't /l			
WEAR METAL		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	3	7	12
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	0	2
Lead	ppm	ASTM D5185m	>40	0	2	1
Copper	ppm	ASTM D5185m	>330	0	1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		mathad	limit/booo		In the transmission	history?
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	current 2	nistory i 3	1 1
	ppm ppm					
Boron		ASTM D5185m	0	2	3	1
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	2 0	3 4	1 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 0 61	3 4 60	1 0 63
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	2 0 61 <1	3 4 60 <1	1 0 63 <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	2 0 61 <1 984	3 4 60 <1 989	1 0 63 <1 958
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	2 0 61 <1 984 1159	3 4 60 <1 989 1133	1 0 63 <1 958 1090
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	2 0 61 <1 984 1159 1060	3 4 60 <1 989 1133 1037	1 0 63 <1 958 1090 1031
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	2 0 61 <1 984 1159 1060 1252	3 4 60 <1 989 1133 1037 1284	1 0 63 <1 958 1090 1031 1312
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	2 0 61 <1 984 1159 1060 1252 3751	3 4 60 <1 989 1133 1037 1284 3544	1 0 63 <1 958 1090 1031 1312 3089
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	0 0 60 1010 1070 1150 1270 2060	2 0 61 <1 984 1159 1060 1252 3751 current	3 4 60 <1 989 1133 1037 1284 3544 history1	1 0 63 <1 958 1090 1031 1312 3089 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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	2 0 61 <1 984 1159 1060 1252 3751 current 6	3 4 60 <1 989 1133 1037 1284 3544 history1 4	1 0 63 <1 958 1090 1031 1312 3089 history2 4
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	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	2 0 61 <1 984 1159 1060 1252 3751 current 6 4	3 4 60 <1 989 1133 1037 1284 3544 <b>history1</b> 4 4	1 0 63 <1 958 1090 1031 1312 3089 history2 4 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 <b>limit/base</b> >25	2 0 61 <1 984 1159 1060 1252 3751 current 6 4 0	3 4 60 <1 989 1133 1037 1284 3544 history1 4 4 2	1 0 63 <1 958 1090 1031 1312 3089 history2 4 4 4 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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	2 0 61 <1 984 1159 1060 1252 3751 current 6 4 0 0	3 4 60 <1 989 1133 1037 1284 3544 history1 4 4 2 history1	1 0 63 <1 958 1090 1031 1312 3089 history2 4 4 1 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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	2 0 61 <1 984 1159 1060 1252 3751 current 6 4 0 current 0.2	3 4 60 <1 989 1133 1037 1284 3544 history1 4 4 2 <u>history1</u> 0.5	1 0 63 <1 958 1090 1031 1312 3089 history2 4 4 4 1 history2 0.6
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 <i>limit/base</i> >25 >20 <i>limit/base</i> >4 >20	2 0 61 <1 984 1159 1060 1252 3751 <i>current</i> 6 4 0 <i>current</i> 0.2 5.5	3 4 60 <1 989 1133 1037 1284 3544 history1 4 4 2 <u>history1</u> 0.5 7.9	1 0 63 <1 958 1090 1031 1312 3089 history2 4 4 4 1 history2 0.6 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 ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 25 20 220 20 20 20 20 20 20 20 20 20 20 20	2 0 61 <1 984 1159 1060 1252 3751 <i>current</i> 6 4 0 <i>current</i> 0.2 5.5 18.0	3 4 60 <1 989 1133 1037 1284 3544 history1 4 4 2 <u>history1</u> 0.5 7.9 20.8	1 0 63 <1 958 1090 1031 1312 3089 history2 4 4 4 1 1 history2 0.6 9.6 21.2
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 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	2 0 61 <1 984 1159 1060 1252 3751 <i>current</i> 6 4 0 <i>current</i> 0.2 5.5 18.0	3 4 60 <1 989 1133 1037 1284 3544 history1 4 4 2 history1 0.5 7.9 20.8 history1	1 0 63 <1 958 1090 1031 1312 3089 history2 4 4 4 1 history2 0.6 9.6 21.2 history2



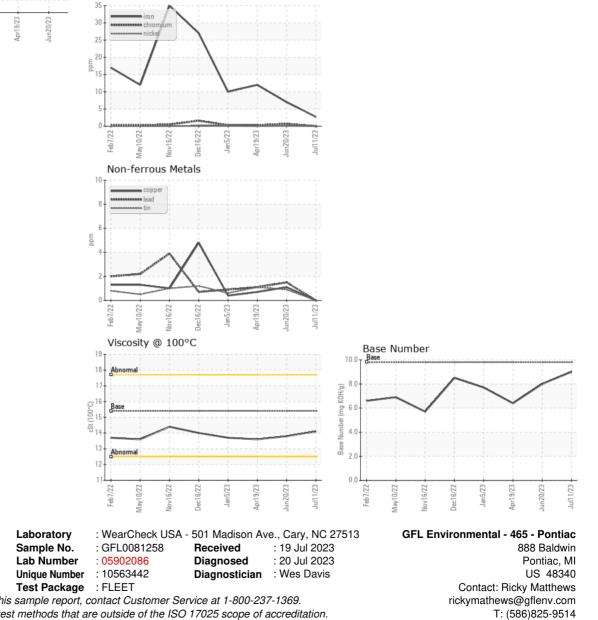
# **OIL ANALYSIS REPORT**

Ferrous Alloys





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	14.1	13.8	13.6
GRAPHS						





Certificate L2367 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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