

# **OIL ANALYSIS REPORT**

Sample Rating Trend





726048-18 Component Diesel Engine Fluid

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

### Recommendation

Resample at the next service interval to monitor.

Machine Id

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

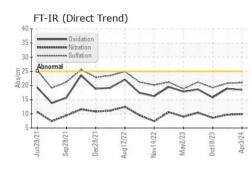
### Fluid Condition

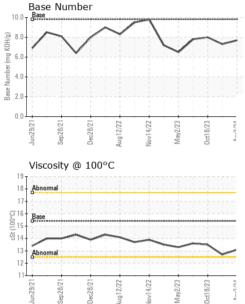
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0103111	GFL0103137	GFL0091945
Sample Date		Client Info		03 Apr 2024	18 Jan 2024	18 Oct 2023
Machine Age	hrs	Client Info		14034	13560	12973
Oil Age	hrs	Client Info		474	587	530
Oil Changed		Client Info		Changed	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
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	>130	14	17	18
Chromium	ppm	ASTM D5185m	>10	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	3	4
Lead	ppm	ASTM D5185m	>20	0	0	0
Copper	ppm	ASTM D5185m	>125	<1	1	<1
Tin	ppm	ASTM D5185m	>4	0	0	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	nnm	ASTM D5185m		•	0	0
Gaumum	ppm	A211/1 D21/02111		0	0	0
ADDITIVES	ррш	method	limit/base	current	0 history1	history2
	ppm		limit/base		-	-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 28	history1 2	history2 2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0	current 28 0	history1 2 0	history2 2 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 28 0 61	history1 2 0 61	history2 2 0 65
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 28 0 61 0	history1 2 0 61 <1	history2 2 0 65 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 28 0 61 0 894	history1 2 0 61 <1 1045	history2 2 0 65 0 982
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current     28     0     61     0     894     1120	history1 2 0 61 <1 1045 1057	history2 2 0 65 0 982 1113
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	current     28     0     61     0     894     1120     943	history1 2 0 61 <1 1045 1057 1073	history2 2 0 65 0 982 1113 1013
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	method 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	current     28     0     61     0     894     1120     943     1258     3450     current	history1     2     0     61     <1     1045     1057     1073     1345     3101     history1	history2 2 0 65 0 982 1113 1013 1313 3306 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method 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	current     28     0     61     0     894     1120     943     1258     3450     current     3	history1     2     0     61     <1     1045     1057     1073     1345     3101     history1     5	history2     2     0     65     0     982     1113     1013     1313     3306     history2     7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b>	current     28     0     61     0     894     1120     943     1258     3450     current     3     <1	history1     2     0     61     <1     1045     1057     1057     1073     1345     3101     history1     5     <1	history2     2     0     65     0     982     1113     1013     1313     3306     history2     7     0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>limit/base</b> >25 >20	current     28     0     61     0     894     1120     943     1258     3450     current     3	history1     2     0     61     <1     1045     1057     1073     1345     3101     history1     5     <1     <1	history2     2     0     65     0     982     1113     1013     1313     3306     history2     7     0     3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	current   28   0   61   0   894   1120   943   1258   3450   current   3   <1   <1   current	history1   2   0   61   <1   1045   1057   1057   1073   1345   3101   history1   5   <1   <1   history1	history2   2   0   65   0   982   1113   1013   1313   3306   history2   7   0   3   history2
ADDITIVES 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	method     ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	current   28   0   61   0   894   1120   943   1258   3450   current   3   <1   current   0.6	history1   2   0   61   <1   1045   1057   1057   1073   1345   3101   history1   5   <1   <1   history1   0.5	history2     2     0     65     0     982     1113     1013     1313     3306     history2     7     0     3     history2     0     3     0     3
ADDITIVES 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	method     ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 imit/base >20 imit/base >20	current     28     0     61     0     894     1120     943     1258     3450     current     3     <1     <1     current     0.6     9.9	history1   2   0   61   <1   1045   1057   1073   1345   3101   history1   5   <1   5   <1   0.5   9.7	history2   2   0   65   0   982   1113   103   3306   history2   7   0   3   history2   0   3   history2   0.6   8.6
ADDITIVES 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	method     ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	current   28   0   61   0   894   1120   943   1258   3450   current   3   <1   current   0.6	history1   2   0   61   <1   1045   1057   1057   1073   1345   3101   history1   5   <1   <1   history1   0.5	history2   2   0   65   0   982   1113   1013   1313   3306   history2   7   0   3   history2   0   0.6
ADDITIVES 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	method   ASTM D5185m   ASTM D7844   *ASTM D7624   *ASTM D7415   method	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 imit/base >20 imit/base >20	current     28     0     61     0     894     1120     943     1258     3450     current     3     <1     <1     current     0.6     9.9	history1   2   0   61   <1   1045   1057   1073   1345   3101   history1   5   <1   5   <1   0.5   9.7	history2   2   0   65   0   982   1113   1013   1313   3306   history2   7   0   3   history2   0   3   history2   0.6   8.6
ADDITIVES 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	method     ASTM D5185m     ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 <u>imit/base</u> >6 >20 20	current   28   0   61   0   894   1120   943   1258   3450   current   3   <1   <1   0.6   9.9   21.0	history1     2     0     61     <1     1045     1057     1057     3103     history1     5     <1     5     <1     0.5     9.7     20.8	history2   2   0   65   0   982   1113   1013   1313   3306   history2   7   0   3   history2   0.6   8.6   19.2

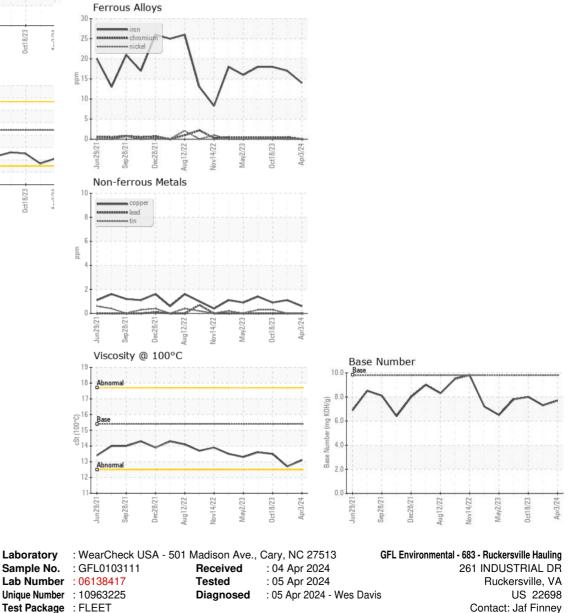


# **OIL ANALYSIS REPORT**





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	13.1	12.7	13.5
GRAPHS						



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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Certificate 12367

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