

## **OIL ANALYSIS REPORT**

Sample Rating Trend

## NORMAL



## Component

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.

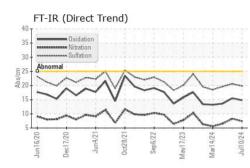
#### Fluid Condition

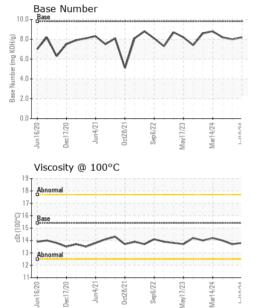
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0127182	GFL0122039	GFL0116562
Sample Date		Client Info		10 Jul 2024	06 Jun 2024	29 Mar 2024
Machine Age	hrs	Client Info		14803	14803	14334
Oil Age	hrs	Client Info		14803	469	13168
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
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	21	28	18
Chromium	ppm	ASTM D5185m	>4	<1	2	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	3	2	2
Lead	ppm	ASTM D5185m	>45	<1	<1	0
Copper	ppm	ASTM D5185m	>85	1	1	<1
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		•	0	0
	ppm	AGTIM DOTODIT		0	0	0
ADDITIVES	ppm	method	limit/base	current	history1	history2
	ppm		limit/base		-	-
ADDITIVES		method	0	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 20	history1 10	history2 13
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current 20 <1	history1 10 0	history2 13 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 20 <1 73	history1 10 0 65	history2 13 0 61
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 20 <1 73 0	history1 10 0 65 <1	history2 13 0 61 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	current 20 <1 73 0 1081	history1 10 0 65 <1 955 1177 936	history2 13 0 61 <1 946 1190 1032
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	Current 20 <1 73 0 1081 1396	history1 10 0 65 <1 955 1177	history2 13 0 61 <1 946 1190
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 ASTM D5185m	0 0 60 0 1010 1070 1150	Current 20 <1 73 0 1081 1396 1107	history1 10 0 65 <1 955 1177 936	history2 13 0 61 <1 946 1190 1032
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	Current 20 <1 73 0 1081 1396 1107 1447	history1 10 0 65 <1 955 1177 936 1239	history2 13 0 61 <1 946 1190 1032 1250
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 <b>method</b> ASTM D5185m	0 00 00 1010 1070 1150 1270 2060	Current 20 <1 73 0 1081 1396 1107 1447 3421	history1 10 0 65 <1 955 1177 936 1239 3042	history2 13 0 61 <1 946 1190 1032 1250 3498
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 <b>method</b> ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 Limit/base >30	current           20           <1           73           0           1081           1396           1107           1447           3421           current           19           1	history1           10           0           65           <1           955           1177           936           1239           3042           history1	history2         13         0         61         <1         946         1190         1032         1250         3498         history2         ▲ 44         2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	method ASTM D5185m 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 Limit/base >30	current           20           <1           73           0           1081           1396           1107           1447           3421           current           19	history1           10           0           65           <1           955           1177           936           1239           3042           history1           25	history2 13 0 61 <1 946 1190 1032 1250 3498 history2 ▲ 44
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 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 Limit/base >30	current           20           <1           73           0           1081           1396           1107           1447           3421           current           19           1	history1           10           0           65           <1           955           1177           936           1239           3042           history1           25           3	history2         13         0         61         <1         946         1190         1032         1250         3498         history2         ▲ 44         2
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> >30	current           20           <1           73           0           1081           1396           1107           1447           3421           current           19           1           3	history1           10           0           65           <1           955           1177           936           1239           3042           history1           25           3           4	history2         13         0         61         <1         946         1190         1032         1250         3498         history2         ▲ 44         2         <1
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >30 >20 <b>Imit/base</b> >33	Current 20 <1 73 0 1081 1396 1107 1447 3421 Current 19 1 3 Current	history1         10         0         65         <1         955         1177         936         1239         3042         history1         25         3         4         history1	history2 13 0 61 <1 946 1190 1032 1250 3498 history2 ↓ 44 2 <1 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>T</b> S	method           ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >30 >20 <b>Imit/base</b> >33	Current         20         <1         73         0         1081         1396         1107         1447         3421         current         19         1         3         current         0.4	history1           10           0           65           <1           955           1177           936           1239           3042           history1           25           3           4           history1           0.8	history2         13         0         61         <1         946         1190         1032         1250         3498         history2         ▲ 44         2         <1         history2         ▲ 11         1250         3498
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	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >30 200 <i>limit/base</i> >3 >20	Current         20         <1         73         0         1081         1396         1107         1447         3421         current         19         1         3         current         0.4         7.4	history1           10           0           65           <1           955           1177           936           1239           3042           history1           25           3           4           history1           0.8           8.3	history2         13         0         61         <1         946         1190         1032         1250         3498         history2         ▲ 44         2         <1         history2         ▲ 11         6.5
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	0 0 0 1010 1070 1150 1270 2060 <b>imit/base</b> >30 <b>imit/base</b> >3 20	Current         20         <1         73         0         1081         1396         1107         1447         3421         current         19         1         3         current         0.4         7.4         19.8	history1         10         0         65         <1         955         1177         936         1239         3042         history1         25         3         4         history1         0.8         8.3         20.6	history2         13         0         61         <1         946         1190         1032         1250         3498         history2         ▲ 44         2         <1         history2         ▲ 1190         1032         1032         1250         3498



# **OIL ANALYSIS REPORT**

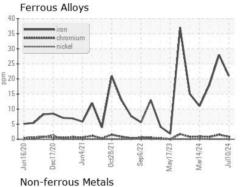


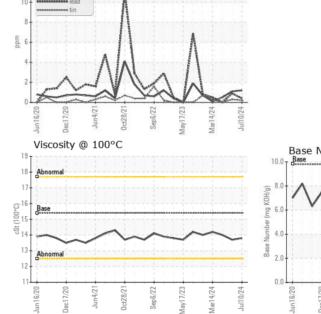


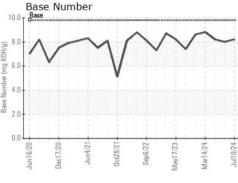
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	13.7	14.0
CDADUS						

GRAPHS

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Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 652 - Fredericksburg Hauling Sample No. : GFL0127182 Received : 15 Jul 2024 10954 Houser Drive Lab Number : 06235559 Tested : 15 Jul 2024 Fredericksburg, VA US 22408 Unique Number : 11124393 Diagnosed : 15 Jul 2024 - Wes Davis Test Package : FLEET Contact: WILLIAM MILO Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. wmilo@gflenv.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Report Id: GFL652 [WUSCAR] 06235559 (Generated: 07/15/2024 16:54:43) Rev: 1

Submitted By: TECHNICIAN ACCOUNT

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