

## **OIL ANALYSIS REPORT**

# (97J3WG) 920084-205324

Component **Diesel Engine** 

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

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

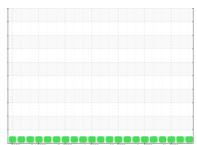
All component wear rates are normal.

#### 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 Rating Trend



NORMAL

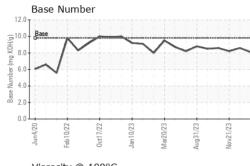
## 1000 Feb2022 0ct2022 .lac2023 Mac2023 Auc2023 Mac2023

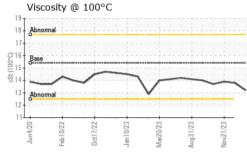
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0108127	GFL0102440	GFL0098639
Sample Date		Client Info		22 Jan 2024	05 Jan 2024	21 Nov 2023
Machine Age	hrs	Client Info		18721	18583	18253
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	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	>100	15	9	10
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	2	2
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	<1	0	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		•	0	4
eadman	ppm	AGTIVI DOTODITI		0	0	<1
ADDITIVES	ppin	method	limit/base	0 current	0 history1	<1 history2
	ppm		limit/base 0	-	-	
ADDITIVES		method	0	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current	history1 3	history2 3
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current <1 0	history1 3 0	history2 3 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current <1 0 56	history1 3 0 55	history2 3 0 60
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<pre>current &lt;1 0 56 &lt;1</pre>	history1 3 0 55 <1	history2 3 0 60 <1
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	<pre>current &lt;1 0 56 &lt;1 850</pre>	history1 3 0 55 <1 907	history2 3 0 60 <1 933
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current           <1           0           56           <1           850           959	history1 3 0 55 <1 907 986	history2 3 0 60 <1 933 1094
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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           <1           0           56           <1           850           959           968	history1 3 0 55 <1 907 986 1069	history2 3 0 60 <1 933 1094 961
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           <1           0           56           <1           850           959           968           1112	history1 3 0 55 <1 907 986 1069 1235	history2         3         0         60         <1         933         1094         961         1201
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current           <1           0           56           <1           850           959           968           1112           2797	history1 3 0 55 <1 907 986 1069 1235 3054	history2 3 0 60 <1 933 1094 961 1201 3286
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current           <1           0           56           <1           850           959           968           1112           2797           current	history1 3 0 55 <1 907 986 1069 1235 3054 history1	history2         3         0         60         <1         933         1094         961         1201         3286         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 1010 1070 1150 1270 2060 kimit/base >25	current           <1           0           56           <1           850           959           968           1112           2797           current           9	history1           3           0           55           <1           907           986           1069           1235           3054           history1           6	history2         3         0         60         <1         933         1094         961         1201         3286         history2         3
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 kimit/base >25	current         <1         0         56         <1         850         959         968         1112         2797         current         9         4	history1         3         0         55         <1         907         986         1069         1235         3054         history1         6         2	history2         3         0         60         <1         933         1094         961         1201         3286         history2         3         0
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 <i>limit/base</i> >25	current           <1           0           56           <1           850           959           968           1112           2797           current           9           4           <1	history1           3           0           55           <1           907           986           1069           1235           3054           history1           6           2           1	history2         3         0         60         <1         933         1094         961         1201         3286         history2         3         0         2         history2         0.6
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 >20 <b>limit/base</b> >20	current         <1         0         56         <1         850         959         968         1112         2797         current         9         4         <1         current	history1         3         0         55         <1         907         986         1069         1235         3054         history1         6         2         1         history1	history2         3         0         60         <1         933         1094         961         1201         3286         history2         3         0         2         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 <b>limit/base</b> >20	current         <1         0         56         <1         850         959         968         1112         2797         current         9         4         <1         current         0         0.7	history1         3         0         55         <1         907         986         1069         1235         3054         history1         6         2         1         history1         0         0.5	history2         3         0         60         <1         933         1094         961         1201         3286         history2         3         0         2         history2         0.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m           ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	current         <1         0         56         <1         850         959         968         1112         2797         current         9         4         <1         current         0	history1         3         0         55         <1         907         986         1069         1235         3054         history1         6         2         1         history1         0         0.5         6.4	history2         3         0         60         <1         933         1094         961         1201         3286         history2         3         0         2         history2         0.6         7.2
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 <b>imit/base</b> >25 <b>imit/base</b> >3 >20	current         <1         0         56         <1         850         959         968         1112         2797         current         9         4         <1         current         0.7         7.1         19.6	history1         3         0         55         <1         907         986         1069         1235         3054         history1         6         2         1         history1         0.5         6.4         18.8	history2         3         0         60         <1         933         1094         961         1201         3286         history2         3         0         2         history2         0.6         7.2         19.8

Contact/Location: See also GFL823, 834, 837, 840 - Robert Hart - GFL836

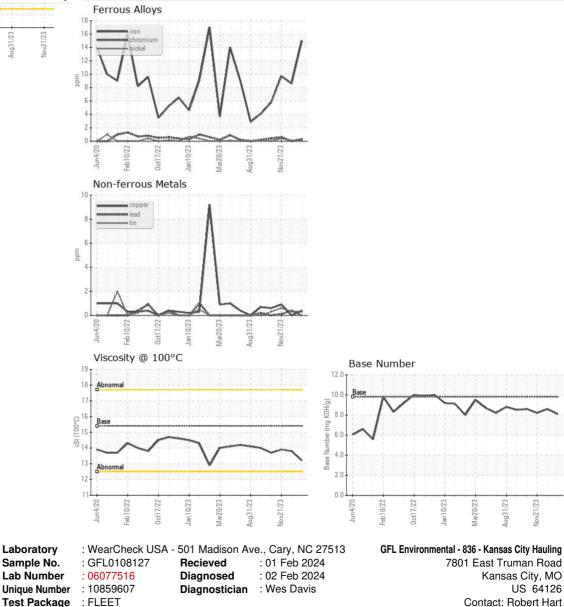


## **OIL ANALYSIS REPORT**





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	13.2	13.8	13.9
GRAPHS						





 Certificate L2367
 Test Package
 : FLEET

 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)

Contact/Location: See also GFL823, 834, 837, 840 - Robert Hart - GFL836

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