

## **OIL ANALYSIS REPORT**

SAMPLE INFORMATION method

Sample Rating Trend



Machine Id

# 728051-361690

### 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.

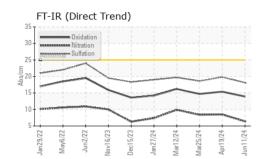
### Fluid Condition

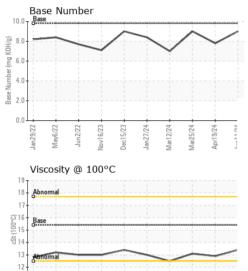
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI		method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0107994	GFL0108012	GFL0108005
Sample Date		Client Info		11 Jun 2024	19 Apr 2024	25 Mar 2024
Machine Age	mls	Client Info		0	0	0
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
		ام م ال م ما			Internet	histow.0
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	4	8	5
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	<1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	6	41	30
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 6	history1 2	history2 0
	ppm ppm					
Boron Barium		ASTM D5185m	0	6	2	0
Boron	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	6 0	2 0	0 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	6 0 60	2 0 62	0 <1 62
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	6 0 60 0	2 0 62 <1	0 <1 62 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	6 0 60 0 894	2 0 62 <1 915	0 <1 62 0 930
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	6 0 60 0 894 1057	2 0 62 <1 915 1062	0 <1 62 0 930 1038
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	6 0 60 0 894 1057 1055	2 0 62 <1 915 1062 1003	0 <1 62 0 930 1038 1004
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	6 0 60 0 894 1057 1055 1257	2 0 62 <1 915 1062 1003 1202	0 <1 62 0 930 1038 1004 1262
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 0 1010 1070 1150 1270 2060	6 0 60 0 894 1057 1055 1257 3620	2 0 62 <1 915 1062 1003 1202 3131	0 <1 62 0 930 1038 1004 1262 3515
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 0 1010 1070 1150 1270 2060	6 0 60 0 894 1057 1055 1257 3620 current	2 0 62 <1 915 1062 1003 1202 3131 history1	0 <1 62 0 930 1038 1004 1262 3515 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>	0 0 60 0 1010 1070 1150 1270 2060 <b>limit/base</b>	6 0 60 0 894 1057 1055 1257 3620 current 4	2 0 62 <1 915 1062 1003 1202 3131 history1 3	0 <1 62 0 930 1038 1004 1262 3515 history2 2
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 <b>limit/base</b>	6 0 60 0 894 1057 1055 1257 3620 current 4 3	2 0 62 <1 915 1062 1003 1202 3131 history1 3 4	0 <1 62 0 930 1038 1004 1262 3515 <b>history2</b> 2 3
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>Imit/base</b> >25	6 0 60 0 894 1057 1055 1257 3620 current 4 3 2	2 0 62 <1 915 1062 1003 1202 3131 history1 3 4 0	0 <1 62 0 930 1038 1004 1262 3515 history2 2 3 3 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	6 0 60 0 894 1057 1055 1257 3620 current 4 3 2 2	2 0 62 <1 915 1062 1003 1202 3131 history1 3 4 0 bistory1	0 <1 62 0 930 1038 1004 1262 3515 <b>history2</b> 2 3 3 0 <b>history2</b>
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	6 0 60 0 894 1057 1055 1257 3620 current 4 3 2 current 0.3	2 0 62 <1 915 1062 1003 1202 3131 history1 3 4 0 history1 0.4	0 <1 62 0 930 1038 1004 1262 3515 history2 2 3 0 0 history2 0.3
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 ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	6 0 60 0 894 1057 1055 1257 3620 current 4 3 2 current 0.3 6.4	2 0 62 <1 915 1062 1003 1202 3131 history1 3 4 0 history1 0.4 8.5	0 <1 62 0 930 1038 1004 1262 3515 history2 2 2 3 3 0 history2 0.3 8.4
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	ASTM D5185m ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 3 20 20 20 20 20 20 20 20 20 20 20 20 20	6 0 60 0 894 1057 1055 1257 3620 <u>current</u> 4 3 2 <u>current</u> 0.3 6.4 18.1	2 0 62 <1 915 1062 1003 1202 3131 history1 3 4 0 history1 0.4 8.5 19.8 history1	0 <1 62 0 930 1038 1004 1262 3515 history2 2 3 3 0 <b>history2</b> 0.3 8.4 18.6 <b>history2</b>
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 20 20 30 20 30 20 30 20 20 30 20 20 20 20 20 20 20 20 20 20 20 20 20	6 0 60 0 894 1057 1055 1257 3620 current 4 3 2 current 0.3 6.4 18.1	2 0 62 <1 915 1062 1003 1202 3131 history1 3 4 0 <u>history1</u> 0.4 8.5 19.8	0 <1 62 0 930 1038 1004 1262 3515 <b>history2</b> 2 3 3 0 <b>history2</b> 0.3 8.4 18.6



# **OIL ANALYSIS REPORT**





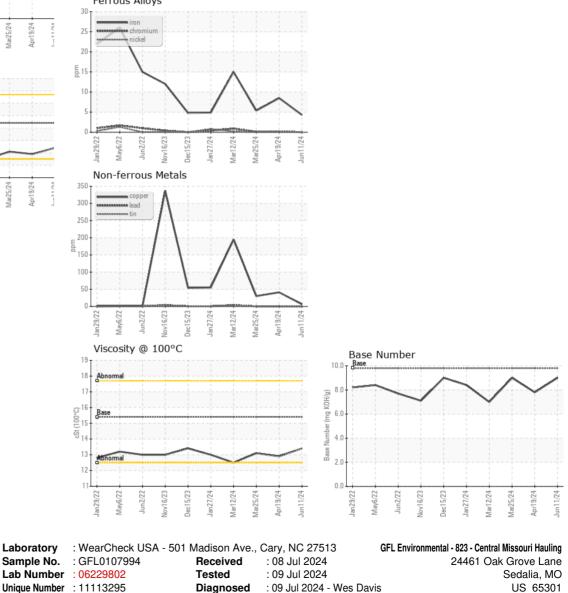
v16/23 lec15/23 an27/24

Jan29/22 Mav6/27 un2/22 Apr19/24

Mar12/24 Aar25/24

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	13.4	12.9	13.1
GRAPHS						

Ferrous Alloys



Unique Number : 11113295 Diagnosed : 09 Jul 2024 - Wes Davis Test Package : FLEET Contact: Terry Randolph Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. trandolph@gflenv.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (660)631-2116 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: GFL823 [WUSCAR] 06229802 (Generated: 07/09/2024 07:56:43) Rev: 1

Contact/Location: Terry Randolph - GFL823

Page 2 of 2

F: