

## **OIL ANALYSIS REPORT**

Sample Rating Trend

## NORMAL

#### Machine Id

728047-361698

#### Component Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (8 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.

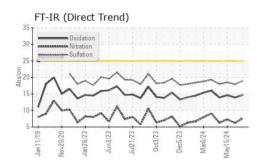
## Fluid Condition

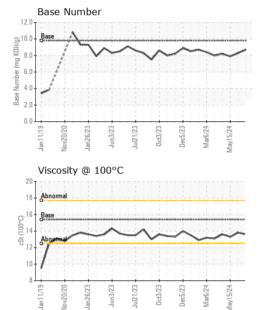
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0121482	GFL0105336	GFL0105099
Sample Date		Client Info		14 Jun 2024	31 May 2024	15 May 2024
Machine Age	hrs	Client Info		15288	15125	14982
Oil Age	hrs	Client Info		200	150	600
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	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 METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	7	8	8
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	3	1	1
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	2	2	2
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 0	history1 <1	history2 0
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	0	<1	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	0 1	<1 0	0 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 1 61	<1 0 58	0 0 59
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 1 61 <1	<1 0 58 <1	0 0 59 <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	0 1 61 <1 890	<1 0 58 <1 893	0 0 59 <1 988
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	0 1 61 <1 890 1036	<1 0 58 <1 893 1028	0 0 59 <1 988 1094
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	0 1 61 <1 890 1036 1035	<1 0 58 <1 893 1028 1021	0 0 59 <1 988 1094 1069
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	0 1 61 <1 890 1036 1035 1203	<1 0 58 <1 893 1028 1021 1198	0 0 59 <1 988 1094 1069 1288
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	0 1 61 <1 890 1036 1035 1203 3004	<1 0 58 <1 893 1028 1021 1198 3447	0 0 59 <1 988 1094 1069 1288 3747
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	0 1 61 <1 890 1036 1035 1203 3004 current	<1 0 58 <1 893 1028 1021 1198 3447 history1	0 0 59 <1 988 1094 1069 1288 3747 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	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	0 1 61 <1 890 1036 1035 1203 3004 current 5	<1 0 58 <1 893 1028 1021 1198 3447 history1 4	0 0 59 <1 988 1094 1069 1288 3747 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	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	0 1 61 <1 890 1036 1035 1203 3004 current 5 22	<1 0 58 <1 893 1028 1021 1198 3447 history1 4 13	0 0 59 <1 988 1094 1069 1288 3747 history2 4 18
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>limit/base</b> >25 >20	0 1 61 <1 890 1036 1035 1203 3004 <u>current</u> 5 22 25	<1 0 58 <1 893 1028 1021 1198 3447 <b>history1</b> 4 13 9	0 0 59 <1 988 1094 1069 1288 3747 history2 4 18 9
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 <b>limit/base</b> >20	0 1 61 <1 890 1036 1035 1203 3004 current 5 22 25 current	<1 0 58 <1 893 1028 1021 1198 3447 history1 4 13 9 history1	0 0 59 <1 988 1094 1069 1288 3747 history2 4 18 9 9 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 <b>limit/base</b> >20	0 1 61 <1 890 1036 1035 1203 3004 <i>current</i> 5 22 25 <i>current</i> 0.3	<1 0 58 <1 893 1028 1021 1198 3447 history1 4 13 9 history1 0.2	0 0 59 <1 988 1094 1069 1288 3747 history2 4 18 9 history2 0.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc 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> >3 >20	0 1 61 <1 890 1036 1035 1203 3004 <i>current</i> 5 22 25 <i>current</i> 0.3 7.7	<1 0 58 <1 893 1028 1021 1198 3447 history1 4 13 9 history1 0.2 6.2	0 0 59 <1 988 1094 1069 1288 3747 history2 4 18 9 history2 0.2 7.3
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 <b>imit/base</b> >25 <b>imit/base</b> >3 >20	0 1 61 <1 890 1036 1035 1203 3004 <i>current</i> 5 22 25 <i>current</i> 0.3 7.7 19.0	<1 0 58 <1 893 1028 1021 1198 3447 history1 4 13 9 history1 0.2 6.2 17.9	0 0 59 <1 988 1094 1069 1288 3747 <b>history2</b> 4 18 9 <b>history2</b> 0.2 7.3 18.5



# **OIL ANALYSIS REPORT**



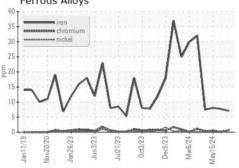


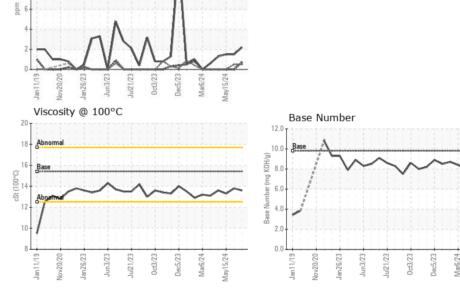
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	13.6	13.8	13.3
GRAPHS						

Ferrous Alloys

Non-ferrous Metals

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Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 821 - Ozarks Hauling Sample No. : GFL0121482 Received : 25 Jun 2024 33924 Olath Drive Lab Number : 06219283 Tested : 25 Jun 2024 Lebanon, MO US 65536 Unique Number : 11097480 Diagnosed : 25 Jun 2024 - Wes Davis Test Package : FLEET Contact: Landen Johnson Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. landen.johnson@gflenv.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (417)664-0010 

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: GFL821 [WUSCAR] 06219283 (Generated: 06/25/2024 16:36:11) Rev: 1

Submitted By: Gary Southard

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