

## **OIL ANALYSIS REPORT**

SAMPLE INFORMATION method

Sample Rating Trend



#### Machine Id

### 926011-9035

# Diesel Engine

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.

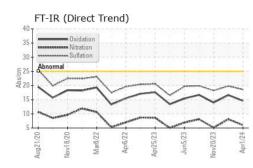
#### Fluid Condition

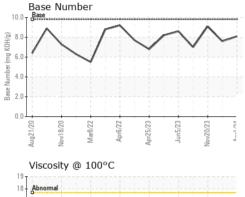
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

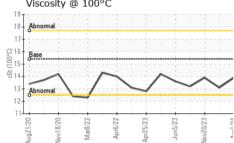
SAMPLE INFORI		method	limit/base	current	nistory i	nistory2
Sample Number		Client Info		GFL0112806	GFL0101318	GFL0101294
Sample Date		Client Info		01 Apr 2024	10 Jan 2024	20 Nov 2023
Machine Age	hrs	Client Info		19798	19177	18757
Oil Age	hrs	Client Info		0	0	18757
Oil Changed		Client Info		- Not Changd	Changed	Not Changd
Sample Status		0.00111 1.110		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	>120	4	7	2
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	3	1	1
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	1	1	<1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	<1	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 2	history1 2	history2 1
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	2	2	1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	2 0	2 0	1 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 0 55	2 0 61	1 0 62
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	2 0 55 <1	2 0 61 <1	1 0 62 <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	2 0 55 <1 931	2 0 61 <1 972	1 0 62 <1 1027
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	2 0 55 <1 931 1126	2 0 61 <1 972 1103	1 0 62 <1 1027 1122
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	2 0 55 <1 931 1126 1052	2 0 61 <1 972 1103 1010	1 0 62 <1 1027 1122 1081
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	2 0 55 <1 931 1126 1052 1206	2 0 61 <1 972 1103 1010 1246	1 0 62 <1 1027 1122 1081 1326
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 1010 1070 1150 1270 2060	2 0 55 <1 931 1126 1052 1206 3341	2 0 61 <1 972 1103 1010 1246 2826	1 0 62 <1 1027 1122 1081 1326 3386
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 1010 1070 1150 1270 2060	2 0 555 <1 931 1126 1052 1206 3341 current	2 0 61 <1 972 1103 1010 1246 2826 history1	1 0 62 <1 1027 1122 1081 1326 3386 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 1010 1070 1150 1270 2060 <b>limit/base</b>	2 0 55 <1 931 1126 1052 1206 3341 current 7	2 0 61 <1 972 1103 1010 1246 2826 history1 4	1 0 62 <1 1027 1122 1081 1326 3386 history2 4
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 <b>limit/base</b>	2 0 55 <1 931 1126 1052 1206 3341 current 7 3	2 0 61 <1 972 1103 1010 1246 2826 history1 4 4	1 0 62 <1 1027 1122 1081 1326 3386 history2 4 2
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 <b>limit/base</b> >25 >20	2 0 55 <1 931 1126 1052 1206 3341 <i>current</i> 7 3 2 2	2 0 61 <1 972 1103 1010 1246 2826 history1 4 4 4 <1 history1	1 0 62 <1 1027 1122 1081 1326 3386 <b>history2</b> 4 2 1 1 <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 <b>limit/base</b> >20	2 0 55 <1 931 1126 1052 1206 3341 <i>current</i> 7 3 2 <i>current</i> 0.2	2 0 61 <1 972 1103 1010 1246 2826 history1 4 4 <1 + history1 0.3	1 0 62 <1 1027 1122 1081 1326 3386 history2 4 2 1 history2 0.1
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 <b>imit/base</b> >25 >20 <b>imit/base</b> >20	2 0 55 <1 931 1126 1052 1206 3341 <i>current</i> 7 3 2 <i>current</i> 0.2 6.0	2 0 61 <1 972 1103 1010 1246 2826 history1 4 4 4 <1 history1 0.3 8.1	1 0 62 <1 1027 1122 1081 1326 3386 history2 4 2 1 history2 0.1 5.1
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 20 <b>imit/base</b> >4 >20	2 0 55 <1 931 1126 1052 1206 3341 <i>current</i> 7 3 2 2 <i>current</i> 0.2 6.0 18.6	2 0 61 <1 972 1103 1010 1246 2826 history1 4 4 4 <1 history1 0.3 8.1 19.8	1 0 62 <1 1027 1122 1081 1326 3386 <b>history2</b> 4 2 1 <b>history2</b> 0.1 5.1 18.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAC	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 2260 225 220 220 imit/base >4 >20 30 imit/base	2 0 55 <1 931 1126 1052 1206 3341 <i>current</i> 7 3 2 <i>current</i> 0.2 6.0 18.6	2 0 61 <1 972 1103 1010 1246 2826 history1 4 4 4 <1 history1 0.3 8.1 19.8 history1	1 0 62 <1 1027 1122 1081 1326 3386 history2 4 2 2 1 <i>history2</i> 0.1 5.1 18.2 history2
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 2060 225 20 220 220 20 20 20 20 20 20 20 20 20 2	2 0 55 <1 931 1126 1052 1206 3341 <i>current</i> 7 3 2 2 <i>current</i> 0.2 6.0 18.6	2 0 61 <1 972 1103 1010 1246 2826 history1 4 4 4 <1 history1 0.3 8.1 19.8	1 0 62 <1 1027 1122 1081 1326 3386 <b>history2</b> 4 2 1 <b>history2</b> 0.1 5.1 18.2



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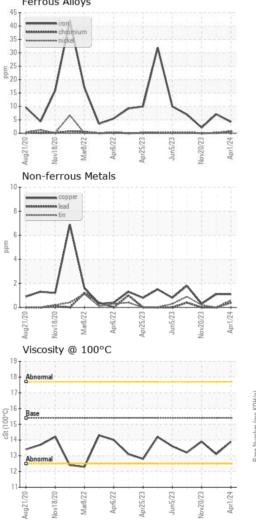


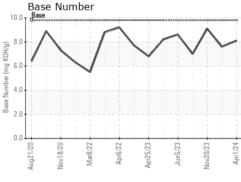




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	13.9	13.1	13.9
GRAPHS						

Ferrous Alloys





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 654 - Richmond Hauling Sample No. : GFL0112806 Received : 05 Apr 2024 11800 Lewis Road Lab Number : 06140555 Tested : 08 Apr 2024 Chester, VA Unique Number : 10965363 Diagnosed : 08 Apr 2024 - Wes Davis US 23831 Test Package : FLEET Contact: Jimmy Mayes Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. jmayes@gflenv.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: GFL654 [WUSCAR] 06140555 (Generated: 04/08/2024 11:41:41) Rev: 1

Submitted By: TECHNICIAN ACCOUNT

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