

### **OIL ANALYSIS REPORT**

#### Sample Rating Trend



# Machine Id

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.

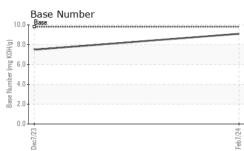
#### Fluid Condition

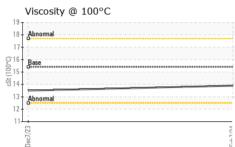
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

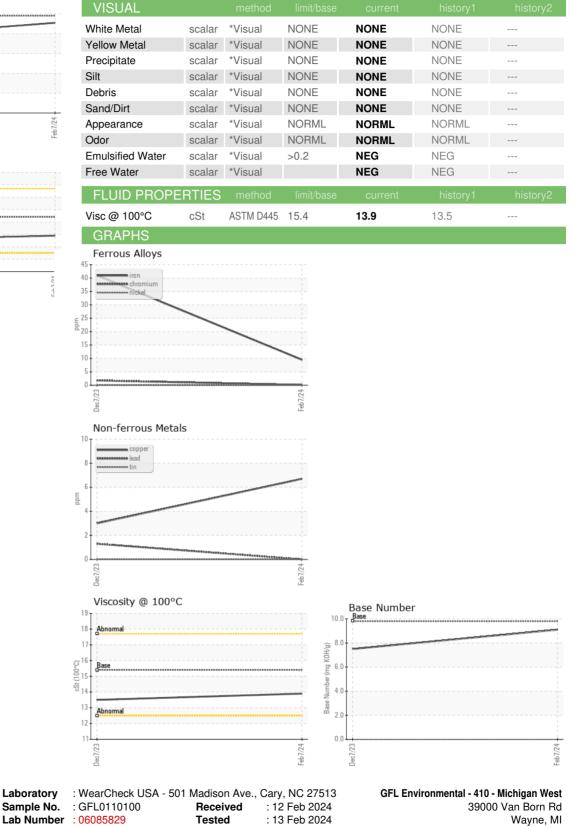
SAMPLE INFORM		method	limit/base	current	history1	history2
			minubase			
Sample Number		Client Info		GFL0110100	GFL0059297	
Sample Date	la wa	Client Info		07 Feb 2024	07 Dec 2023	
Machine Age	hrs	Client Info		18369	18369	
Oil Age	hrs	Client Info		600 Observed	18369 Observed	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	10	41	
Chromium	ppm		>20	<1	2	
Nickel	ppm	ASTM D5185m	>2	0	0	
Titanium	ppm	ASTM D5185m	>2	0	0	
Silver	ppm		>2	0	0	
Aluminum	ppm	ASTM D5185m	>20	2	3	
Lead	ppm	ASTM D5185m	>40	0	1	
Copper	ppm	ASTM D5185m	>330	7	3	
Tin	ppm	ASTM D5185m	>15	0	0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current	history1 <1	history2
	ppm ppm					
Boron		ASTM D5185m	0	6	<1	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	6 0	<1 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	6 0 56	<1 0 53	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	6 0 56 <1	<1 0 53 <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	6 0 56 <1 875	<1 0 53 <1 959	
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 56 <1 875 974	<1 0 53 <1 959 1036	   
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 56 <1 875 974 1021	<1 0 53 <1 959 1036 1015	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm 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 56 <1 875 974 1021 1183	<1 0 53 <1 959 1036 1015 1205	
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 56 <1 875 974 1021 1183 2904	<1 0 53 <1 959 1036 1015 1205 2770	
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	6 0 56 <1 875 974 1021 1183 2904 current	<1 0 53 <1 959 1036 1015 1205 2770 history1	
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 imit/base >25	6 0 56 <1 875 974 1021 1183 2904 current 5	<1 0 53 <1 959 1036 1015 1205 2770 history1 7	    history2
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 <b>method</b> ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 imit/base >25	6 0 56 <1 875 974 1021 1183 2904 <u>current</u> 5 3	<1 0 53 <1 959 1036 1015 1205 2770 history1 7 38	     history2
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	6 0 56 <1 875 974 1021 1183 2904 <b>current</b> 5 3 0 0	<1 0 53 <1 959 1036 1015 1205 2770 history1 7 38 <1	     history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	6 0 56 <1 875 974 1021 1183 2904 <u>current</u> 5 3 0 <u>current</u> 0.1	<1 0 53 <1 959 1036 1015 1205 2770 history1 7 38 <1 history1	     history2  history2  history2
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	6 0 56 <1 875 974 1021 1183 2904 <b>current</b> 5 3 0 0	<1 0 53 <1 959 1036 1015 1205 2770 history1 7 38 <1 history1 1	     history2    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 imit/base >20 imit/base >20	6 0 56 <1 875 974 1021 1183 2904 <i>current</i> 5 3 0 <i>current</i> 0.1 5.0	<1 0 53 <1 959 1036 1015 1205 2770 history1 7 38 <1 7 38 <1 1 13.4 24.8	history2 history2 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 D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 20 20 20 20 20 20 20 20 2	6 0 56 <1 875 974 1021 1183 2904 <i>current</i> 5 3 0 <i>current</i> 0.1 5.0 17.5	<1 0 53 <1 959 1036 1015 1205 2770 history1 7 38 <1 history1 1 13.4 24.8 history1	    history2  history2  history2  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 20 225 20 <b>imit/base</b> >6 >20 20	6 0 56 <1 875 974 1021 1183 2904 <u>current</u> 5 3 0 <u>current</u> 0.1 5.0 17.5	<1 0 53 <1 959 1036 1015 1205 2770 history1 7 38 <1 7 38 <1 1 13.4 24.8	    history2  history2  history2



## **OIL ANALYSIS REPORT**









Unique Number : 10873274 : 13 Feb 2024 - Wes Davis Diagnosed Test Package : FLEET Contact: Belal Dgheish Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. bdgheish@gflenv.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (734)714-2340 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

US 48184

F: