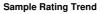


### **OIL ANALYSIS REPORT**



FUEL

# INTERNATIONAL 1186

Diesel Engine Fluid PETRO CANADA 15W40 (--- GAL)

#### DIAGNOSIS

#### Recommendation

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

#### Wear

All component wear rates are normal.

#### Contamination

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

#### Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

				0ct2023		
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PC0081558		
Sample Date		Client Info		16 Oct 2023		
Machine Age	kms	Client Info		202241		
Oil Age	kms	Client Info		3200		
Oil Changed		Client Info		Changed		
Sample Status				SEVERE		
CONTAMINATIO	NC	method	limit/base	current	history1	history2
Glycol		WC Method		NEG		
WEAR METALS	;	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>127	30		
Chromium	ppm	ASTM D5185(m)	>3	<1		
Nickel	ppm	ASTM D5185(m)	>30	<1		
Titanium	ppm	ASTM D5185(m)	>2	0		
Silver	ppm	ASTM D5185(m)	>2	<1		
Aluminum	ppm	ASTM D5185(m)	>59	3		
Lead	ppm	ASTM D5185(m)	>29	1		
Copper	ppm	ASTM D5185(m)	>135	<1		
Tin	ppm	ASTM D5185(m)	>2	0		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		2		
Barium	ppm	ASTM D5185(m)		<1		
Molybdenum	ppm	ASTM D5185(m)		55		
Manganese	ppm	ASTM D5185(m)		0		
Magnesium	ppm	ASTM D5185(m)		847		
Calcium	ppm	ASTM D5185(m)		915		
Phosphorus	ppm					
Zinc		ASTM D5185(m)		878		
		. ,		878 1042		
	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)				
Sulfur	ppm	ASTM D5185(m)		1042		
Sulfur	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base	1042 2225		
Sulfur Lithium CONTAMINANT	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	1042 2225 <1		
Sulfur Lithium CONTAMINANT Silicon	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method		1042 2225 <1 current	  history1	  history2
Sulfur Lithium CONTAMINANT Silicon Sodium	ppm ppm ppm S	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) <b>method</b> ASTM D5185(m)		1042 2225 <1 current 3	  history1	  history2
Sulfur Lithium CONTAMINANT Silicon Sodium Potassium	ppm ppm ppm S ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) Method ASTM D5185(m) ASTM D5185(m)	>18	1042 2225 <1 <u>current</u> 3 2	  history1 	  history2 
Sulfur Lithium CONTAMINANT Silicon Sodium Potassium	ppm ppm ppm S ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) Method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>18 >20	1042 2225 <1 <u>current</u> 3 2 0	  history1  	  history2  
Sulfur Lithium CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm S ppm ppm ppm %	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593*	>18 >20 >2.0 limit/base	1042 2225 <1 Current 3 2 0 0 10.5 Current	  history1   	  history2   
Sulfur Lithium CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm S ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593* <b>method</b> ASTM D7844*	>18 >20 >2.0 limit/base >3	1042 2225 <1 Current 3 2 0 10.5 Current 1.7	  history1    history1	 history2    history2 
Sulfur Lithium CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm S ppm ppm ppm %	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593*	>18 >20 >2.0 limit/base	1042 2225 <1 Current 3 2 0 0 10.5 Current	 history1    history1 	 history2
Sulfur Lithium CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm S ppm ppm % % Abs/cm Abs/.1mm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593* <b>method</b> ASTM D7844* ASTM D7624*	>18 >20 >2.0 limit/base >3 >20	1042 2225 <1 Current 3 2 0 10.5 Current 1.7 10.5	 history1    history1  history1	 history2    history2 history2
Sulfur Lithium CONTAMINANT Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm S ppm ppm % % Abs/cm Abs/.1mm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593* <b>method</b> ASTM D7844* ASTM D7624* ASTM D7624*	>18 >20 >2.0 <b>limit/base</b> >3 >20 >30	1042 2225 <1 Current 3 2 0 10.5 Current 1.7 10.5 25.6	 history1     history1  history1 	 history2    history2 history2



## **OIL ANALYSIS REPORT**

