

## **OIL ANALYSIS REPORT**

Sample Rating Trend





Machine Id 833067 Component Natural Gas Engine

### PETRO CANADA DURON GEO LD 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 condition of the oil is acceptable for the time in service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0094411		
Sample Date		Client Info		16 Jan 2024		
Machine Age	hrs	Client Info		1256		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
PQ		ASTM D8184*		0		
Iron	ppm	ASTM D5185(m)	>50	65		
Chromium	ppm	ASTM D5185(m)	>4	1		
Nickel	ppm	ASTM D5185(m)	>2	1		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)	>3	<1		
Aluminum	ppm	ASTM D5185(m)	>9	5		
Lead	ppm	ASTM D5185(m)	>30	2		
Copper	ppm	ASTM D5185(m)	>35	14		
Tin	ppm	ASTM D5185(m)	>4	2		
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
ADDITIVES Boron	ppm	ASTM D5185(m)	50	current 9	history1	history2
Boron Barium	ppm ppm	ASTM D5185(m) ASTM D5185(m)		9 2		
Boron Barium Molybdenum		ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50	9 2 90		
Boron Barium Molybdenum Manganese	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50 0	9 2 90 11		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560	9 2 90 11 663		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560 1510	9 2 90 11 663 1391		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560 1510 780	9 2 90 11 663 1391 723		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm 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 D5185(m)	50 5 50 0 560 1510 780 870	9 2 90 11 663 1391 723 832	  	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm 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 D5185(m)	50 5 50 0 560 1510 780 870 2040	9 2 90 11 663 1391 723 832 2214	   	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm 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 D5185(m)	50 5 50 0 560 1510 780 870 2040	9 2 90 11 663 1391 723 832		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm 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 D5185(m)	50 5 50 0 560 1510 780 870 2040	9 2 90 11 663 1391 723 832 2214		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm 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 D5185(m) ASTM D5185(m)	50 5 50 0 560 1510 780 870 2040	9 2 90 11 663 1391 723 832 2214 <1		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm ppm ppm ppm ppm 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 D5185(m) ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560 1510 780 870 2040	9 2 90 11 663 1391 723 832 2214 <1 current		     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) <b>method</b> ASTM D5185(m)	50 5 50 0 560 1510 780 870 2040	9 2 90 11 663 1391 723 832 2214 <1 current 23	      history1	       history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) <b>method</b> ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560 1510 780 870 2040 <b>iimit/base</b> >+100	9 2 90 11 663 1391 723 832 2214 <1 current 23 3	      history1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185(m) ASTM D5185(m)	50 50 50 560 1510 780 870 2040 <b>binit/base</b> >+100	9 2 90 11 663 1391 723 832 2214 <1 2214 <1 23 3 2	      history1  	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	50 50 50 560 1510 780 870 2040 <b>binit/base</b> >+100	9 2 90 11 663 1391 723 832 2214 <1 current 23 3 2 2 2 2 4 current	      history1  	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	50 5 50 0 560 1510 780 870 2040 2040 <b>Iinit/base</b> >20 <b>Iinit/base</b>	9 2 90 111 663 1391 723 832 2214 <1 current 23 3 2 2 2 2 4 current 0	      history1   history1  	     history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	50 50 00 560 1510 780 870 2040 2040 2040 2040 2040 2040 20 20 20 20 20 20 20 20 20 20 20 20 20	9 2 90 11 663 1391 723 832 2214 <1 current 23 3 2 2 2 3 2 2 0 current 0 11.2	      history1   history1  	     history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	50 50 560 1510 780 870 2040 2040 <b>imit/base</b> >+100 20 <b>imit/base</b>	9 2 90 11 663 1391 723 832 2214 <1 current 23 3 2 2 current 0 11.2 24.6		      history2  history2  history2



# **OIL ANALYSIS REPORT**

