

## **OIL ANALYSIS REPORT**

Sample Rating Trend



## Machine Id 945033

Component Natural Gas Engine

PETRO CANADA DURON GEO LD 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.

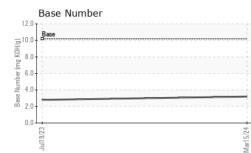
## Fluid Condition

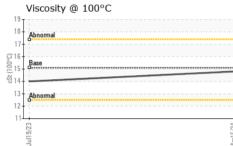
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

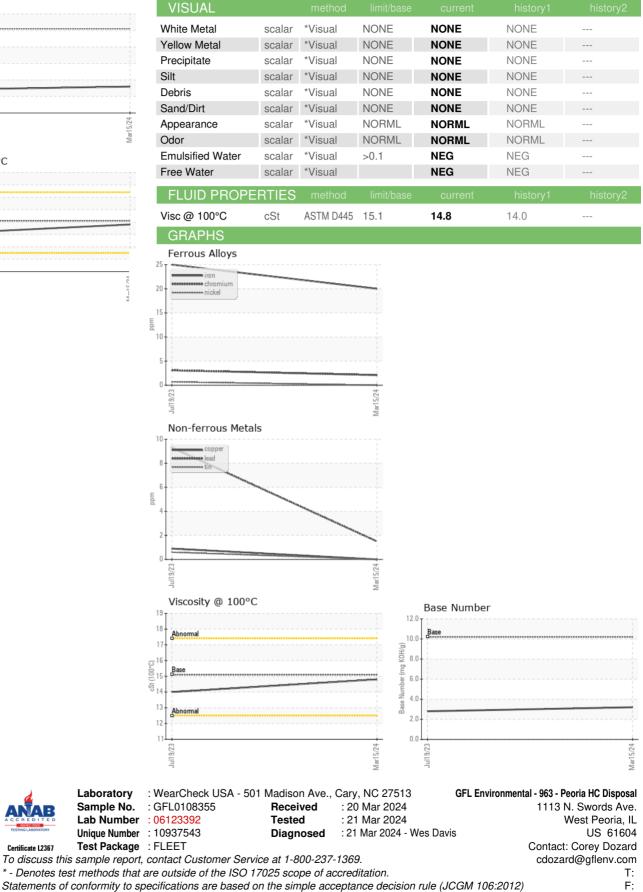
,			Jul2023	Mar2024		
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0108355	GFL0082272	
Sample Date		Client Info		15 Mar 2024	19 Jul 2023	
Machine Age	hrs	Client Info		13651	12465	
Oil Age	hrs	Client Info		1186	12465	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	20	25	
Chromium	ppm	ASTM D5185m	>4	2	3	
Nickel	ppm	ASTM D5185m	>2	0	<1	
Titanium	ppm	ASTM D5185m		0	<1	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>9	3	6	
Lead	ppm	ASTM D5185m	>30	2	9	
Copper	ppm	ASTM D5185m	>35	0	<1	
Tin	ppm	ASTM D5185m	>4	0	<1	
Vanadium	ppm	ASTM D5185m		0	<1	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		ام م مالح مدر		ourront	المرسمة ما ما	history?
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	50	5	nistory i 7	
	ppm ppm					
Boron		ASTM D5185m	50	5	7	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5	5 0	7 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	5 0 59	7 0 100	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	5 0 59 0	7 0 100 1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	5 0 59 0 638	7 0 100 1 690	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510	5 0 59 0 638 1906	7 0 100 1 690 1767	  
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	50 5 50 0 560 1510 780	5 0 59 0 638 1906 858	7 0 100 1 690 1767 789	   
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	50 5 50 0 560 1510 780 870	5 0 59 0 638 1906 858 1125	7 0 100 1 690 1767 789 995	    
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	50 50 00 560 1510 780 870 2040	5 0 59 0 638 1906 858 1125 3139	7 0 100 1 690 1767 789 995 3285	
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	50 50 50 560 1510 780 870 2040 >+100	5 0 59 0 638 1906 858 1125 3139 current	7 0 100 1 690 1767 789 995 3285 history1	     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	50 50 50 560 1510 780 870 2040 <b>limit/base</b> >+100	5 0 59 0 638 1906 858 1125 3139 current 5	7 0 100 1 690 1767 789 995 3285 3285 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 ASTM D5185m ASTM D5185m	50 50 50 560 1510 780 870 2040 <b>limit/base</b> >+100	5 0 59 0 638 1906 858 1125 3139 current 5 11	7 0 100 1 690 1767 789 995 3285 history1 7 11	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	50 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100	5 0 59 0 638 1906 858 1125 3139 current 5 11 0	7 0 100 1 690 1767 789 995 3285 history1 7 7 11 2	     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	50 5 50 0 560 1510 780 870 2040 2040 >+100 >20 >20 imit/base	5 0 59 0 638 1906 858 1125 3139 current 5 11 0 current	7 0 100 1 690 1767 789 995 3285 history1 7 11 <1 +istory1	     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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 2040 >+100 >20 >20 imit/base	5 0 59 0 638 1906 858 1125 3139 <u>current</u> 5 11 0 <u>current</u>	7 0 100 1 690 1767 789 995 3285 history1 7 11 <7 11 <1 history1 0.1	     history2   history2
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 ppm ppm	ASTM D5185m ASTM D5185m	50 50 00 560 1510 780 870 2040 <b>Iimit/base</b> >+100 20 <b>Iimit/base</b>	5 0 59 0 638 1906 858 1125 3139 current 5 11 0 current 0 12.0	7 0 100 1 690 1767 789 995 3285 history1 7 7 11 <7 11 <1 history1 0.1 11.3	     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	50 50 50 150 1510 780 870 2040 <b>imit/base</b> >+100 20 <b>imit/base</b> 220	5 0 59 0 638 1906 858 1125 3139 <u>current</u> 5 11 0 <u>current</u> 0 12.0 26.6	7 0 100 1 690 1767 789 995 3285 history1 7 11 <7 11 <1 history1 0.1 11.3 26.4	     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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	50 50 50 1510 780 870 2040 <b>imit/base</b> >+100 20 <b>imit/base</b> >20 <b>imit/base</b> >30	5 0 59 0 638 1906 858 1125 3139 current 5 11 0 current 0 12.0 26.6	7 0 100 1 690 1767 789 995 3285 history1 7 11 <1 4 history1 0.1 11.3 26.4 history1	     history2  history2  history2  history2



# **OIL ANALYSIS REPORT**







Certificate L2367