

# **OIL ANALYSIS REPORT**

### Sample Rating Trend





Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (--- GAL)

# DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

# Wear

All component wear rates are normal.

## Contamination

There is no indication of any contamination in the oil.

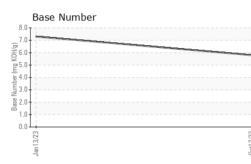
### Fluid Condition

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

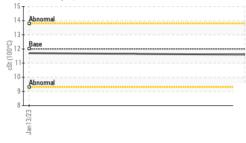
AL)			Jan2023	0ct2023		
SAMPLE INFORM	ΛΑΤΙΟΝ	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0108385	PCA0073232	
Sample Date		Client Info		13 Oct 2023	13 Jan 2023	
Machine Age	mls	Client Info		263993	219000	
Oil Age	mls	Client Info		263993	25000	
Oil Changed	1110	Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
	ON	method	limit/base	current	history1	history2
Fuel		WC Method		<1.0	<1.0	
Glycol		WC Method	20	NEG	NEG	
-			11 11 11			
WEAR METALS	5	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	27	19	
Chromium	ppm	ASTM D5185m	>20	3	2	
Nickel	ppm	ASTM D5185m	>4	<1	0	
Titanium	ppm	ASTM D5185m		8	0	
Silver	ppm	ASTM D5185m	>3	0	<1	
Aluminum	ppm	ASTM D5185m	>20	18	9	
Lead	ppm	ASTM D5185m	>40	0	0	
Copper	ppm	ASTM D5185m	>330	5	4	
Tin	ppm	ASTM D5185m	>15	<1	<1	
1.0.1	PP					
	ppm	ASTM D5185m		0	0	
Vanadium		ASTM D5185m ASTM D5185m		0 0	0	
Vanadium Cadmium ADDITIVES	ppm		limit/base			
Vanadium Cadmium	ppm	ASTM D5185m	limit/base	0	0	
Vanadium Cadmium ADDITIVES Boron	ppm ppm	ASTM D5185m method	2	0 current	0 history1	 history2
Vanadium Cadmium ADDITIVES Boron Barium	ppm ppm	ASTM D5185m method ASTM D5185m	2	0 current 4	0 history1 9	 history2 
Vanadium Cadmium ADDITIVES	ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	2 0 50	0 current 4 0	0 history1 9 2	 history2 
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	0 current 4 0 58	0 history1 9 2 58	 history2  
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	0 current 4 0 58 <1 888	0 history1 9 2 58 <1 853	 history2  
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	0 current 4 0 58 <1 888 1204	0 history1 9 2 58 <1 853 1063	 history2   
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	0 current 4 0 58 <1 888 1204 979	0 history1 9 2 58 <1 853 1063 916	 history2   
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180	0 current 4 0 58 <1 888 1204 979 1258	0 history1 9 2 58 <1 853 1063 916 1190	 history2     
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	0 current 4 0 58 <1 888 1204 979 1258 2984	0 history1 9 2 58 <1 853 1063 916 1190 3144	 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	0 current 4 0 58 <1 888 1204 979 1258 2984 current	0 history1 9 2 58 <1 853 1063 916 1190 3144 history1	 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	0 current 4 0 58 <1 888 1204 979 1258 2984 current 5	0 history1 9 2 58 <1 853 1063 916 1190 3144 history1 4	 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	0 current 4 0 58 <1 888 1204 979 1258 2984 current 5 3	0 history1 9 2 58 <1 853 1063 916 1190 3144 history1 4 3	 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	0 current 4 0 58 <1 888 1204 979 1258 2984 current 5	0 history1 9 2 58 <1 853 1063 916 1190 3144 history1 4	 history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	0 current 4 0 58 <1 888 1204 979 1258 2984 current 5 3	0 history1 9 2 58 <1 853 1063 916 1190 3144 history1 4 3	 history2      history2  history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	0 current 4 0 58 <1 888 1204 979 1258 2984 current 5 3 22 current 0.9	0 history1 9 2 58 <1 853 1063 916 1190 3144 history1 4 3 10 history1 0.6	 history2      history2  
Vanadium Cadmium ADDITIVES 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 <b>method</b> ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 .20 limit/base >3 >20	0 current 4 0 58 <1 888 1204 979 1258 2984 current 5 3 22 current	0 history1 9 2 58 <1 853 1063 916 1190 3144 history1 4 3 10 history1 0.6 9.1	history2
Vanadium Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 .20 limit/base >3 >20	0 current 4 0 58 <1 888 1204 979 1258 2984 current 5 3 22 current 0.9	0 history1 9 2 58 <1 853 1063 916 1190 3144 history1 4 3 10 history1 0.6	 history2     history2  history2  history2
Vanadium Cadmium ADDITIVES 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 <b>method</b> ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 .20 limit/base >3 >20	0 current 4 0 58 <1 888 1204 979 1258 2984 current 5 3 22 current 0.9 9.3	0 history1 9 2 58 <1 853 1063 916 1190 3144 history1 4 3 10 history1 0.6 9.1	history2 history2 history2 history2 history2
Vanadium Cadmium ADDITIVES 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 method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20 <b>imit/base</b> >3 >20 >30	0 current 4 0 58 <1 888 1204 979 1258 2984 current 5 3 22 current 0.9 9.3 21.6	0 history1 9 2 58 <1 853 1063 916 1190 3144 history1 4 3 10 history1 0.6 9.1 20.2	 history2      history2  history2  history2

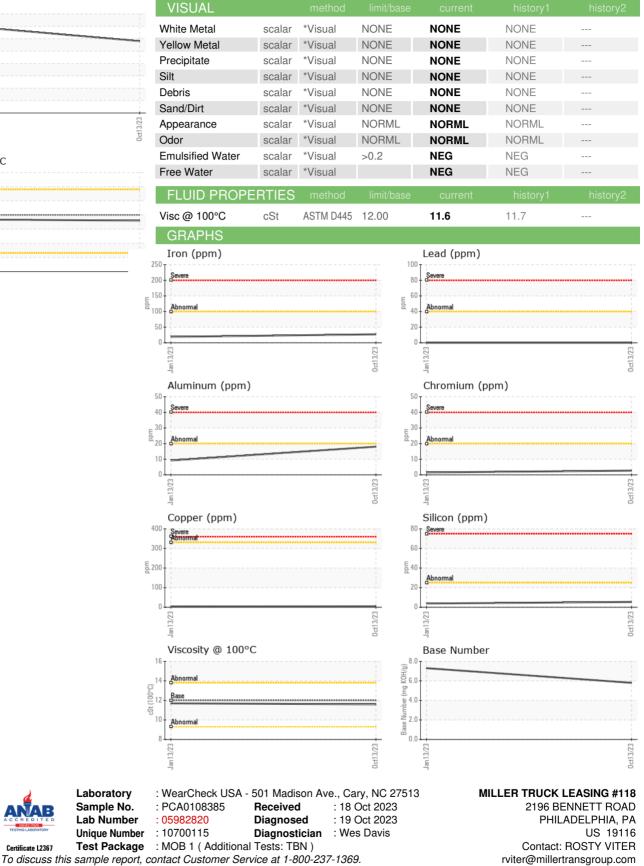


# **OIL ANALYSIS REPORT**









\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Certificate L2367

Laboratory

Sample No.

Lab Number

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