

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend



### Machine Id 361098

Component Diesel Engine

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

#### 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

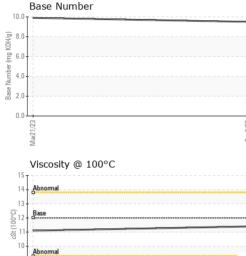
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

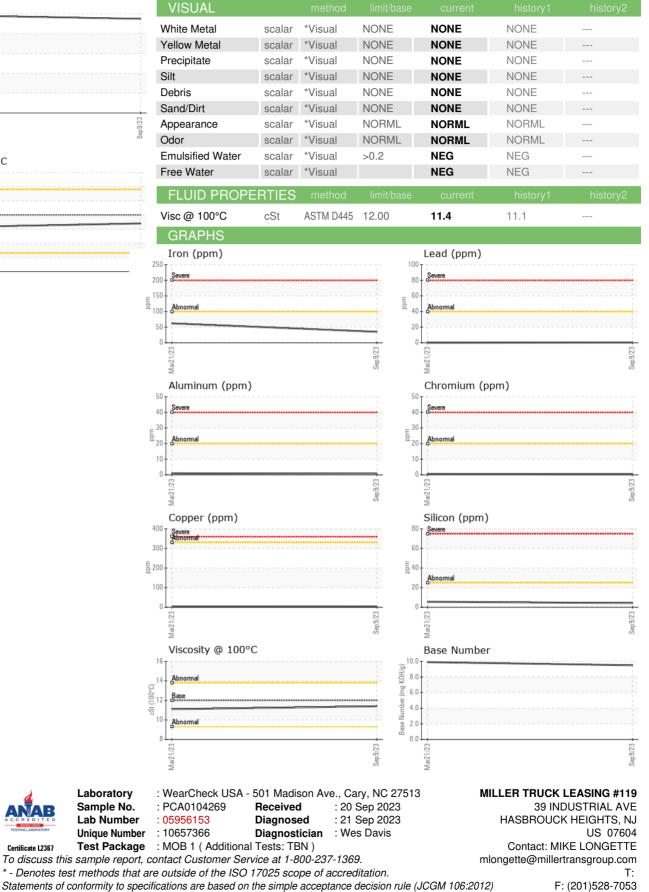
TS)			Mar2023	Sep2023		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0104269	PCA0094249	
Sample Date		Client Info		09 Sep 2023	21 Mar 2023	
Machine Age	mls	Client Info		107904	105980	
Oil Age	mls	Client Info		0	0	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATI	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	35	62	
Chromium	ppm	ASTM D5185m		<1	<1	
Nickel	ppm	ASTM D5185m	>4	<1	0	
Titanium	ppm	ASTM D5185m		<1	<1	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m		<1	1	
Lead	ppm	ASTM D5185m	>40	<1	0	
Copper	ppm	ASTM D5185m		2	3	
Tin	ppm	ASTM D5185m	>15	- <1	<1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method				history2
	ppm	method ASTM D5185m	limit/base	current	history1 12	history2
Boron	ppm ppm	ASTM D5185m				
Boron Barium	ppm		2	11	12	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	11 0	12 0	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50	11 0 64	12 0 57	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	11 0 64 <1	12 0 57 1	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	11 0 64 <1 890	12 0 57 1 1016	  
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	11 0 64 <1 890 1082	12 0 57 1 1016 1236	  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	11 0 64 <1 890 1082 1042	12 0 57 1 1016 1236 1049	   
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	2 0 50 0 950 1050 995 1180	11 0 64 <1 890 1082 1042 1251	12 0 57 1 1016 1236 1049 1390	    
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	2 0 50 0 950 1050 995 1180 2600 limit/base	11 0 64 <1 890 1082 1042 1251 3502	12 0 57 1 1016 1236 1049 1390 3621	
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 ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base	11 0 64 <1 890 1082 1042 1251 3502 current	12 0 57 1 1016 1236 1049 1390 3621 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 <b>method</b>	2 0 50 0 950 1050 995 1180 2600 limit/base >25	11 0 64 <1 890 1082 1042 1251 3502 current 4	12 0 57 1 1016 1236 1049 1390 3621 history1 6	    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	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 limit/base >25	11 0 64 <1 890 1082 1042 1251 3502 <u>current</u> 4 1	12 0 57 1 1016 1236 1049 1390 3621 history1 6 1	    history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20	11 0 64 <1 890 1082 1042 1251 3502 current 4 1 <1	12 0 57 1 1016 1236 1049 1390 3621 history1 6 1 4	    history2  
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25 >20 limit/base	11 0 64 <1 890 1082 1042 1251 3502 current 4 1 <1 <1	12 0 57 1 1016 1236 1049 1390 3621 history1 6 1 4 4 history1	    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	2 0 50 950 1050 995 1180 2600 limit/base >25 .20 limit/base >3 >20	11 0 64 <1 890 1082 1042 1251 3502 current 4 1 <1 <1 current 0.3	12 0 57 1 1016 1236 1049 1390 3621 history1 6 1 4 <b>history1</b> 0.3	    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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25 .20 limit/base >3 >20	11 0 64 <1 890 1082 1042 1251 3502 <i>current</i> 4 1 <1 <1 <i>current</i> 0.3 5.8	12 0 57 1 1016 1236 1049 1390 3621 history1 6 1 4 history1 0.3 6.0	    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	2 0 50 0 950 1050 995 1180 2600 imit/base >25 20 imit/base >3 >20 30	11 0 64 <1 890 1082 1042 1251 3502 <u>current</u> 4 1 <1 <1 0.3 5.8 17.2	12 0 57 1 1016 1236 1049 1390 3621 <b>history1</b> 6 1 4 <b>history1</b> 0.3 6.0 17.8	    history2  history2  history2



Mar21

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Certificate L2367

Contact/Location: MIKE LONGETTE - MILRUT