

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

#### 642039 Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- QTS)

## DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

Metal levels are typical for a new component breaking in.

#### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. No other contaminants were detected in the oil.

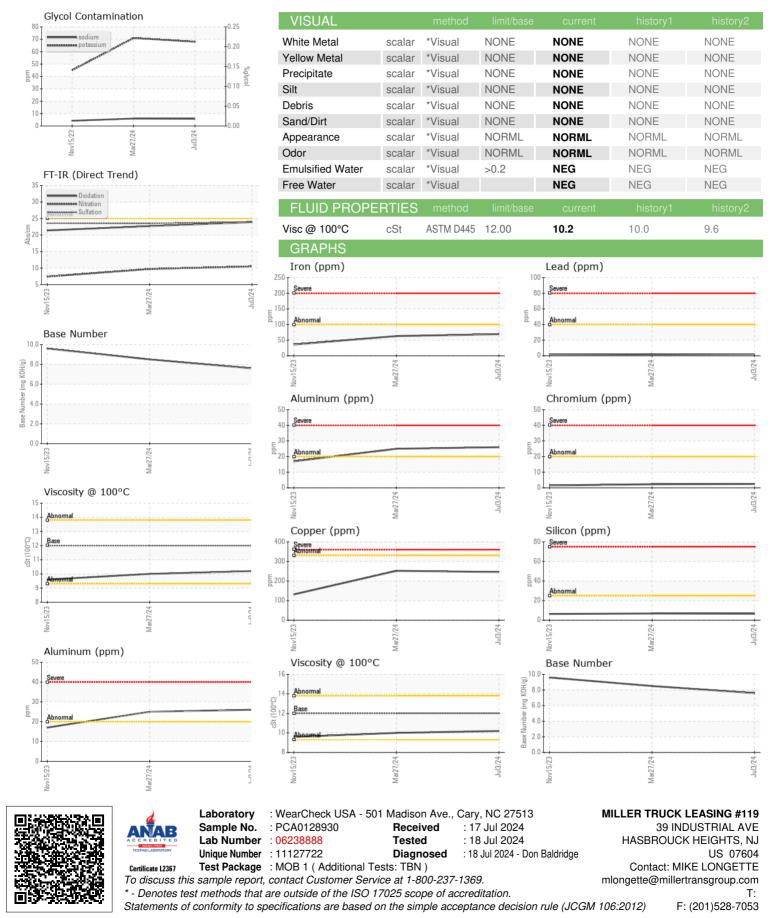
### Fluid Condition

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

SAMPLE INFORM		method	limit/base	current	history1	history2
		Client Info	IIIIII/Dase	PCA0128930	PCA0120707	PCA0113358
Sample Number Sample Date		Client Info		03 Jul 2024	27 Mar 2024	15 Nov 2023
Machine Age	mls	Client Info		19696	13608	6587
Oil Age	mls	Client Info		0	0	0
Oil Changed	11115	Client Info		N/A	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI		method	limit/base	current	history1	history2
Fuel		WC Method		<1.0	<1.0	<1.0
Water		WC Method		<1.0 NEG	NEG	NEG
Glycol		WC Method	20.2	NEG	NEG	NEG
-	~			-		
WEAR METALS	5	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	69	63	36
Chromium	ppm	ASTM D5185m		2	2	2
Nickel	ppm	ASTM D5185m	>4	<1	1	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	<1	<1	1
Aluminum	ppm	ASTM D5185m	>20	26	25	17
Lead	ppm	ASTM D5185m	>40	1	2	1
Copper	ppm	ASTM D5185m	>330	246	252	132
Tin	ppm	ASTM D5185m	>15	5	5	6
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	28	41	46
Barium	ppm	ASTM D5185m	0	<1	0	0
Molybdenum						
- ,	ppm	ASTM D5185m	50	43	45	39
Manganese	ppm ppm	ASTM D5185m ASTM D5185m		43 3	45 4	39 3
-				-		
Manganese	ppm	ASTM D5185m	0	3	4	3
Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950	3 556	4 541 1889 790	3 494 1620 666
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180	3 556 1710 741 879	4 541 1889 790 927	3 494 1620 666 860
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995	3 556 1710 741	4 541 1889 790	3 494 1620 666
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180	3 556 1710 741 879	4 541 1889 790 927	3 494 1620 666 860
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 950 1050 995 1180 2600	3 556 1710 741 879 2228 current 7	4 541 1889 790 927 2476 history1 7	3 494 1620 666 860 2037 history2 6
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 <b>limit/base</b>	3 556 1710 741 879 2228 current	4 541 1889 790 927 2476 history1	3 494 1620 666 860 2037 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 950 1050 995 1180 2600 <b>limit/base</b>	3 556 1710 741 879 2228 current 7	4 541 1889 790 927 2476 history1 7	3 494 1620 666 860 2037 history2 6
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25	3 556 1710 741 879 2228 current 7 6	4 541 1889 790 927 2476 history1 7 6	3 494 1620 666 860 2037 history2 6 4
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	3 556 1710 741 879 2228 current 7 6 6 68	4 541 1889 790 927 2476 history1 7 6 71	3 494 1620 666 860 2037 history2 6 4 45
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b>	3 556 1710 741 879 2228 current 7 6 6 68 current	4 541 1889 790 927 2476 history1 7 6 71 history1	3 494 1620 666 860 2037 history2 6 4 45 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm 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 ASTM D5185m	0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3	3 556 1710 741 879 2228 current 7 6 6 68 current 0.9	4 541 1889 790 927 2476 history1 7 6 71 6 71 0.8	3 494 1620 666 860 2037 history2 6 4 45 history2 0.4
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20	3 556 1710 741 879 2228 current 7 6 6 68 current 0.9 10.5	4 541 1889 790 927 2476 history1 7 6 71 6 71 0.8 9.7	3 494 1620 666 860 2037 history2 6 4 45 history2 0.4 7.4
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20 <b>imit/base</b> >3 >20 >30	3 556 1710 741 879 2228 <u>current</u> 7 6 6 68 <u>current</u> 0.9 10.5 24.0	4 541 1889 790 927 2476 history1 7 6 71 6 71 0.8 9.7 23.5	3 494 1620 666 860 2037 history2 6 4 45 history2 0.4 7.4 23.6
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm 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 *ASTM D7844 *ASTM D7624 *ASTM D7415	0 950 1050 995 1180 2600 imit/base >25 20 imit/base >3 >20 >30 imit/base	3 556 1710 741 879 2228 current 7 6 6 68 current 0.9 10.5 24.0 current	4 541 1889 790 927 2476 history1 7 6 71 6 71 history1 0.8 9.7 23.5 history1	3 494 1620 666 860 2037 history2 6 4 4 45 history2 0.4 7.4 23.6 history2



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