

# **OIL ANALYSIS REPORT**

Sample Rating Trend



#### Area (AS402G) Supermarket - Tractor Machine Id MACK 107A1881 Component

Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 GAL)

SAMPLE INFOR	MATION	method	limit/base	current	history1	history
Sample Number		Client Info		PCA0110983	PCA0099868	
Sample Date		Client Info		04 Jan 2024	03 Jul 2023	
Machine Age	mls	Client Info		383593	382734	
Oil Age	mls	Client Info		921	62	
Oil Changed		Client Info		Changed	Not Changd	
Sample Status				ABNORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history
Fuel		WC Method	>3.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history
Iron	ppm	ASTM D5185m	>120	35	12	
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>5	<u> </u>	4	
Titanium	ppm	ASTM D5185m	>2	0	0	
Silver	ppm		>2	0	0	
Aluminum	ppm	ASTM D5185m	>20	2	2	
Lead	ppm	ASTM D5185m	>40	0	0	
Copper	ppm	ASTM D5185m	>330	3	1	
Tin	ppm	ASTM D5185m		0	0	
Vanadium	ppm	ASTM D5185m	210	0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history
Boron	ppm	ASTM D5185m	2	13	0	
Barium	ppm	ASTM D5185m	0	3	0	
Molybdenum	ppm	ASTM D5185m	50	63	65	
Manganese	ppm	ASTM D5185m		0	<1	
Magnesium	le le					
	nnm					
-	ppm ppm	ASTM D5185m	950	928	934	
Calcium	ppm	ASTM D5185m ASTM D5185m	950 1050	928 1048	934 1105	
Calcium Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995	928 1048 1000	934 1105 1047	
Calcium	ppm	ASTM D5185m ASTM D5185m	950 1050	928 1048	934 1105	
Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180	928 1048 1000 1168	934 1105 1047 1278	
Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base	928 1048 1000 1168 3485	934 1105 1047 1278 3864	
Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	950 1050 995 1180 2600 limit/base	928 1048 1000 1168 3485 current	934 1105 1047 1278 3864 history1	   history
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ITS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	950 1050 995 1180 2600 limit/base	928 1048 1000 1168 3485 current 4	934 1105 1047 1278 3864 history1 4	   history
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm JTS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25	928 1048 1000 1168 3485 <u>current</u> 4 0	934 1105 1047 1278 3864 history1 4 0	   history  
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm <b>ITS</b> ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25 >20	928 1048 1000 1168 3485 <u>current</u> 4 0 2	934 1105 1047 1278 3864 history1 4 0 <1	   history 
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm <b>ITS</b> ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25 >20 limit/base >4	928 1048 1000 1168 3485 <u>current</u> 4 0 2 <u>current</u> 0.2	934 1105 1047 1278 3864 history1 4 0 <1 history1	  history  history
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm JTS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25 >20 limit/base >4 >20	928 1048 1000 1168 3485 current 4 0 2 2 current	934 1105 1047 1278 3864 history1 4 0 <1 -1 history1 0.1	  history  history
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm JTS 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	950 1050 995 1180 2600 limit/base >25 >20 limit/base >4 >20	928 1048 1000 1168 3485 <u>current</u> 4 0 2 <u>current</u> 0.2 5.0	934 1105 1047 1278 3864 history1 4 0 <1 history1 0.1 4.6	  history  history  history
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm JTS 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	950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >20 >30 <b>limit/base</b>	928 1048 1000 1168 3485 <u>current</u> 4 0 2 <u>current</u> 0.2 5.0 17.1	934 1105 1047 1278 3864 history1 4 0 <1 (1) history1 0.1 4.6 16.8	  history  history  history 

# DIAGNOSIS

### Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

## 🔺 Wear

Valve wear is indicated. All other component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

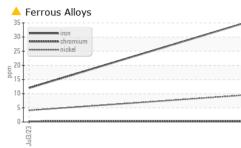
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service. **WEAR** 

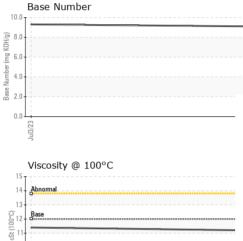


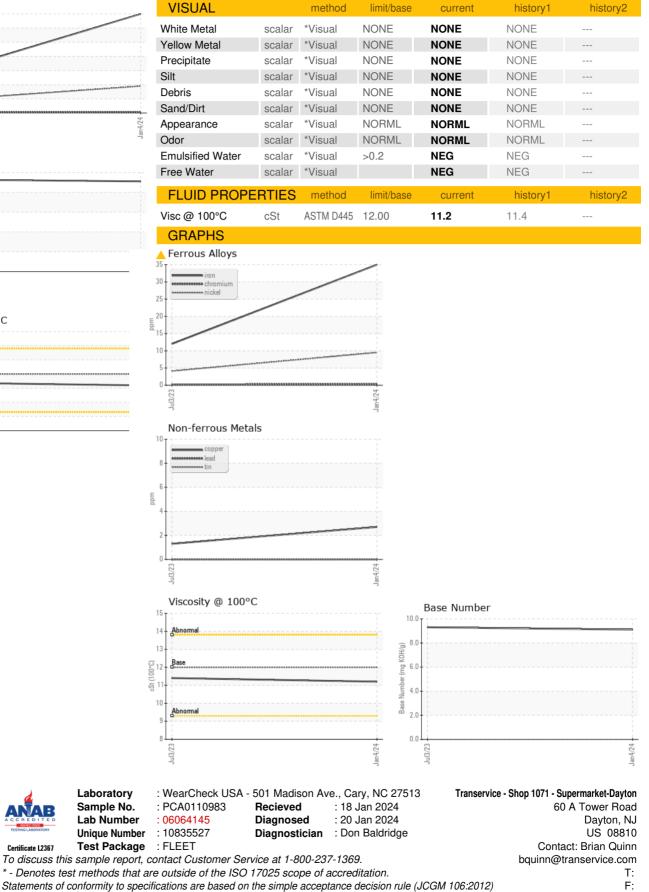
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Certificate L2367