

### **OIL ANALYSIS REPORT**

#### Sample Rating Trend

### NORMAL

# (AU770S) Supermarket - Tractor FREIGHTLINER 107A8829

Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (11 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.

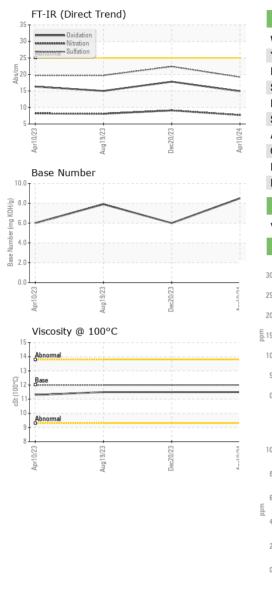
#### Fluid Condition

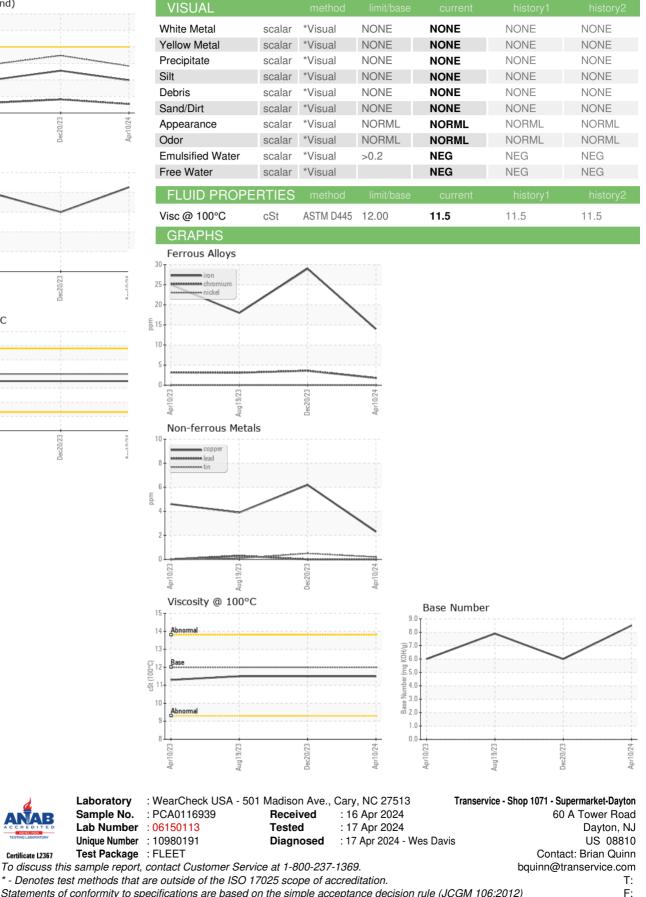
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0116939	PCA0110977	PCA0104104
Sample Date		Client Info		10 Apr 2024	20 Dec 2023	19 Aug 2023
Machine Age	mls	Client Info		277422	258816	239639
Oil Age	mls	Client Info		18606	37991	18814
Oil Changed		Client Info		Changed	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	14	29	18
Chromium	ppm	ASTM D5185m	>5	2	4	3
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	17	37	28
Lead	ppm	ASTM D5185m	>30	0	0	<1
Copper	ppm	ASTM D5185m	>150	2	6	4
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	nnm	ASTM D5185m		•	0	0
Gaumum	ppm	ASTIVI DOTODITI		0	0	0
ADDITIVES	ррш	method	limit/base	0 current	0 history1	0 history2
	ppm		limit/base	-	-	-
ADDITIVES		method ASTM D5185m		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 3	history1 2	history2 4
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0 50	current 3 0	history1 2 0	history2 4 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 3 0 66	history1 2 0 69	history2 4 0 68
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current     3     0     66     <1	history1 2 0 69 <1	history2 4 0 68 <1 1035 1175
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 3 0 66 <1 1043	history1 2 0 69 <1 943	history2 4 0 68 <1 1035
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current     3     0     66     <1     1043     1147	history1 2 0 69 <1 943 1170	history2 4 0 68 <1 1035 1175
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995	current     3     0     66     <1     1043     1147     1160	history1 2 0 69 <1 943 1170 996	history2 4 0 68 <1 1035 1175 1064
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	current     3     0     66     <1     1043     1147     1160     1363	history1 2 0 69 <1 943 1170 996 1191	history2     4     0     68     <1     1035     1175     1064     1336
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	Current 3 0 66 <1 1043 1147 1160 1363 3663	history1 2 0 69 <1 943 1170 996 1191 2562	history2     4     0     68     <1     1035     1175     1064     1336     3650
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	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	current     3     0     66     <1     1043     1147     1363     3663     current	history1 2 0 69 <1 943 1170 996 1191 2562 history1	history2   4   0   68   <1   1035   1175   1064   1336   3650   history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	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 <b>limit/base</b> >20	current     3     0     66     <1     1043     1147     1160     1363     3663     current     4	history1     2     0     69     <1     943     1170     996     1191     2562     history1     6	history2     4     0     68     <1     1035     1175     1064     1336     3650     history2     5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m 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 <b>limit/base</b> >20	current     3     0     66     <1     1043     1147     1160     1363     3663     current     4     2	history1     2     0     69     <1     943     1170     996     1191     2562     history1     6     <1	history2   4   0   68   <1   1035   1175   1064   1336   3650   history2   5   2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>imit/base</b> >20	current     3     0     66     <1     1043     1147     1363     3663     current     4     2     28	history1   2   0   69   <1   943   1170   996   1191   2562   history1   6   <1   80	history2   4   0   68   <1   1035   1175   1064   1336   3650   history2   5   2   57
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >20 >20 <b>Imit/base</b> >3	current     3     0     66     <1     1043     1147     1160     1363     3663     current     4     2     28     current	history1   2   0   69   <1   943   1170   996   1191   2562   history1   6   <1   80   history1	history2   4   0   68   <1   1035   1175   1064   1336   3650   history2   5   2   57   history2   0   0.8   8.1
ADDITIVES 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	method     ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >20 >20 <b>Imit/base</b> >3	current     3     0     66     <1     1043     1147     1160     1363     3663     current     4     2     28     current     0.7	history1   2   0   69   <1   943   1170   996   1191   2562   history1   6   <1   80   history1   1.4	history2   4   0   68   <1   1035   1175   1064   1336   3650   history2   5   2   57   history2   0   0.8
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 <b>TS</b> ppm ppm ppm	method     ASTM D5185m     ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >20 <i>imit/base</i> >20	current     3     0     66     <1     1043     1147     1160     1363     3663     current     4     2     28     current     0.7     7.7	history1   2   0   69   <1   943   1170   996   1191   2562   history1   6   <1   80   history1   1.4   9.1	history2   4   0   68   <1   1035   1175   1064   1336   3650   history2   5   2   57   history2   0   0.8   8.1
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 <b>TS</b> ppm ppm ppm	method     ASTM D5185m     ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >20 <b>imit/base</b> >3 >20 >30	current     3     0     66     <1     1043     1147     1160     1363     3663     current     4     2     28     current     0.7     7.7     19.2	history1   2   0   69   <1   943   1170   996   1191   2562   history1   6   <1   80   history1   1.4   9.1   22.4	history2   4   0   68   <1   1035   1175   1064   1336   3650   history2   5   2   57   history2   0.8   8.1   19.7



## **OIL ANALYSIS REPORT**





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

Certificate 12367