

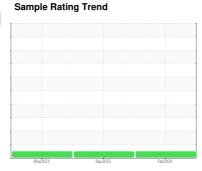
# **OIL ANALYSIS REPORT**



# (AS401G) Supermarket - Tractor MACK 107A1880

Component **Diesel Engine** 

PETRO CANADA DURON SHP 10W30 (11 GAL)





### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

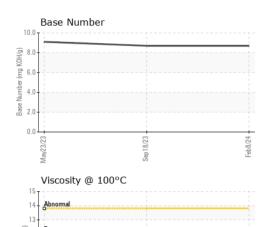
### **Fluid Condition**

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

Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age     mls     Client Info     296549     291643     291304       Oil Age     mls     Client Info     4906     1788     1449       Oil Changed     Client Info     Changed     Changed     NoRMAL       Sample Status     NORMAL     NORMAL     NORMAL       CONTAMINATION     method     Imitibase     current       Fuel     WC Method     >3.0     <1.0	Sample Number		Client Info		PCA0116974	PCA0104090	PCA0097069
Oil Age     mls     Client Info     4906     1788     1449       Oil Changed     Client Info     Changed     Not Chard       Sample Status     Normal     Normal     Normal     Normal       CONTAMINATION     method     limit/base     current     history1     history1       Fuel     WC Method     >3.0     <1.0     <1.0     <1.0     <1.0       Water     WC Method     >0.2     NEG     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     history1     history1       Iron     ppm     ASTM D5185m     >120     17     32     14       Chromium     ppm     ASTM D5185m     >20     <1     <1     <1       Uron     ppm     ASTM D5185m     >20     <1     <1     <1       Chromium     ppm     ASTM D5185m     >20     <1     <1     <1       Iron     ppm     ASTM D5185m     >20     <1     <1     <1  <	Sample Date		Client Info		08 Feb 2024	18 Sep 2023	23 May 2023
Oil Changed Sample Status     Client Info     Changed NORMAL     Not Changed NORMAL     NEG     NE	Machine Age	mls	Client Info		296549	291643	291304
NORMAL   NORMAL   NORMAL   CONTAMINATION   method   limit/base   current   history1	Oil Age	mls	Client Info		4906	1788	1449
CONTAMINATION     method     limit/base     current     history1     history1       Fuel     WC Method     >3.0     <1.0     <1.0     <1.0     <1.0       Water     WC Method     >0.2     NEG     NEG     NEG     NEG       Glycol     WC Method     NEG     NEG     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     history1     history1       Iron     ppm     ASTM D5185m     >12.0     17     32     14       Chromium     ppm     ASTM D5185m     >20     <1     <1     <1       Nickel     ppm     ASTM D5185m     >2     0     0     <1     <1       Silver     ppm     ASTM D5185m     >2     0     0     <1     <1     <1       Aluminum     ppm     ASTM D5185m     >20     2     3     2        Lead     ppm     ASTM D5185m     >20     0     <1     <1     <1     <	Oil Changed		Client Info		Changed	Changed	Not Changd
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol     WC Method     >0.2     NEG NEG     NEG NEG       WEAR METALS     method     limit/base     current     history1     history1       Iron     ppm     ASTM D5185m     >120     17     32     14       Chromium     ppm     ASTM D5185m     >20     <1	CONTAMINATI	ON	method	limit/base	current	history1	history2
WEAR METALS   method   limit/base   current   history1   history	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS     method     limit/base     current     history1     history1       Iron     ppm     ASTM D5185m     >120     17     32     14       Chromium     ppm     ASTM D5185m     >20     <1	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium     ppm     ASTM D5185m     >20     <1	WEAR METALS	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>120	17	32	14
Titanium     ppm     ASTM D5185m     >2     0     0     <1       Silver     ppm     ASTM D5185m     >2     0     0     <1	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>5	0	<1	<1
Aluminum     ppm     ASTM D5185m     >20     2     3     2       Lead     ppm     ASTM D5185m     >40     0     0     <1	Titanium	ppm	ASTM D5185m	>2	0	0	<1
Aluminum     ppm     ASTM D5185m     >20     2     3     2       Lead     ppm     ASTM D5185m     >40     0     0     <1	Silver				0	0	<1
Lead     ppm     ASTM D5185m     >40     0     0     <1       Copper     ppm     ASTM D5185m     >330     <1     1     <1       Tin     ppm     ASTM D5185m     >15     0     <1     <1       Vanadium     ppm     ASTM D5185m     0     0     <1     <1       Cadmium     ppm     ASTM D5185m     0     0     0     <1       ADDITIVES     method     limit/base     current     history1     history1       Boron     ppm     ASTM D5185m     0     0     0     <1       ADDITIVES     method     limit/base     current     history1     history1       Boron     ppm     ASTM D5185m     0     <1     0     0       ADDITIVES     method     limit/base     current     history1     history1       Boron     ppm     ASTM D5185m     0     61     66     63       Molybdenum     ppm     ASTM D5185m     950     805     960	Aluminum	ppm	ASTM D5185m	>20	2	3	2
Copper     ppm     ASTM D5185m     >330     <1     1     <1       Tin     ppm     ASTM D5185m     >15     0     <1	Lead			>40	0	0	<1
Tin     ppm     ASTM D5185m     >15     0     <1     <1       Vanadium     ppm     ASTM D5185m     0     0     <1     <1       Cadmium     ppm     ASTM D5185m     0     0     0     <1       ADDITIVES     method     limit/base     current     history1     history1       ADDITIVES     method     limit/base     current     histo	Copper		ASTM D5185m	>330	<1	1	<1
Vanadium     ppm     ASTM D5185m     0     0     <1       Cadmium     ppm     ASTM D5185m     0     0     <1       ADDITIVES     method     limit/base     current     history1     history1       Boron     ppm     ASTM D5185m     2     31     33     28       Barium     ppm     ASTM D5185m     0     <1	• •				0	<1	<1
Cadmium     ppm     ASTM D5185m     0     < 1       ADDITIVES     method     limit/base     current     history1     history1       Boron     ppm     ASTM D5185m     2     31     33     28       Barium     ppm     ASTM D5185m     0     <1	Vanadium		ASTM D5185m			0	<1
Boron     ppm     ASTM D5185m     2     31     33     28       Barium     ppm     ASTM D5185m     0     <1     0     0       Molybdenum     ppm     ASTM D5185m     50     61     66     63       Manganese     ppm     ASTM D5185m     0     0     <1     <1       Magnesium     ppm     ASTM D5185m     950     805     960     924       Calcium     ppm     ASTM D5185m     1050     993     1165     1077       Phosphorus     ppm     ASTM D5185m     995     881     1089     1034       Zinc     ppm     ASTM D5185m     995     881     1089     1034       Zinc     ppm     ASTM D5185m     2600     2886     3968     3844       CONTAMINANTS     method     limit/base     current     history1     history1       Silicon     ppm     ASTM D5185m     >20     2     4     6       Sodium     ppm     ASTM D5185m     >20 <td>Cadmium</td> <td></td> <td></td> <td></td> <th>0</th> <td></td> <td>&lt;1</td>	Cadmium				0		<1
Barium     ppm     ASTM D5185m     0     <1	ADDITIVES		method	limit/base	current	history1	history2
Barium     ppm     ASTM D5185m     0     <1     0     0       Molybdenum     ppm     ASTM D5185m     50     61     66     63       Manganese     ppm     ASTM D5185m     0     0     <1	Boron	ppm	ASTM D5185m	2	31	33	28
Manganese     ppm     ASTM D5185m     0     0     <1     <1       Magnesium     ppm     ASTM D5185m     950     805     960     924       Calcium     ppm     ASTM D5185m     1050     993     1165     1077       Phosphorus     ppm     ASTM D5185m     995     881     1089     1034       Zinc     ppm     ASTM D5185m     995     886     3968     3844       CONTAMINANTS     method     limit/base     current     history1     history1       Silicon     ppm     ASTM D5185m     >25     2     4     6       Sodium     ppm     ASTM D5185m     >20     2     <1	Barium		ASTM D5185m	0	<1	0	0
Magnesium     ppm     ASTM D5185m     950     805     960     924       Calcium     ppm     ASTM D5185m     1050     993     1165     1077       Phosphorus     ppm     ASTM D5185m     995     881     1089     1034       Zinc     ppm     ASTM D5185m     1180     1107     1304     1240       Sulfur     ppm     ASTM D5185m     2600     2886     3968     3844       CONTAMINANTS     method     limit/base     current     history1     history1       Silicon     ppm     ASTM D5185m     >25     2     4     6       Sodium     ppm     ASTM D5185m     >20     2     <1	Molybdenum	ppm	ASTM D5185m	50	61	66	63
Magnesium     ppm     ASTM D5185m     950     805     960     924       Calcium     ppm     ASTM D5185m     1050     993     1165     1077       Phosphorus     ppm     ASTM D5185m     995     881     1089     1034       Zinc     ppm     ASTM D5185m     1180     1107     1304     1240       Sulfur     ppm     ASTM D5185m     2600     2886     3968     3844       CONTAMINANTS     method     limit/base     current     history1     history1       Silicon     ppm     ASTM D5185m     >25     2     4     6       Sodium     ppm     ASTM D5185m     >20     2     <1	Manganese		ASTM D5185m	0	0	<1	<1
Calcium     ppm     ASTM D5185m     1050     993     1165     1077       Phosphorus     ppm     ASTM D5185m     995     881     1089     1034       Zinc     ppm     ASTM D5185m     1180     1107     1304     1240       Sulfur     ppm     ASTM D5185m     2600     2886     3968     3844       CONTAMINANTS     method     limit/base     current     history1     history1       Silicon     ppm     ASTM D5185m     >25     2     4     6       Sodium     ppm     ASTM D5185m     >20     2     <1	Magnesium		ASTM D5185m	950	805	960	924
Phosphorus     ppm     ASTM D5185m     995     881     1089     1034       Zinc     ppm     ASTM D5185m     1180     1107     1304     1240       Sulfur     ppm     ASTM D5185m     2600     2886     3968     3844       CONTAMINANTS     method     limit/base     current     history1     history1       Silicon     ppm     ASTM D5185m     >25     2     4     6       Sodium     ppm     ASTM D5185m     >20     2     <1	-		ASTM D5185m	1050	993	1165	1077
Zinc     ppm     ASTM D5185m     1180     1107     1304     1240       Sulfur     ppm     ASTM D5185m     2600     2886     3968     3844       CONTAMINANTS     method     limit/base     current     history1     history1       Silicon     ppm     ASTM D5185m     >25     2     4     6       Sodium     ppm     ASTM D5185m     >20     1     3       Potassium     ppm     ASTM D5185m     >20     2     <1	Phosphorus		ASTM D5185m	995	881	1089	1034
Sulfur     ppm     ASTM D5185m     2600     2886     3968     3844       CONTAMINANTS     method     limit/base     current     history1     history1       Silicon     ppm     ASTM D5185m     >25     2     4     6       Sodium     ppm     ASTM D5185m     0     1     3       Potassium     ppm     ASTM D5185m     >20     2     <1			ASTM D5185m	1180	1107	1304	1240
Silicon     ppm     ASTM D5185m     >25     2     4     6       Sodium     ppm     ASTM D5185m     0     1     3       Potassium     ppm     ASTM D5185m     >20     2     <1     2       INFRA-RED     method     limit/base     current     history1     history1     history1       Soot %     %     *ASTM D7844     >4     0.2     0.1     0.1       Nitration     Abs/cm     *ASTM D7624     >20     6.4     5.6     5.4       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.7     17.2     17.5       FLUID DEGRADATION method     limit/base     current     history1     history1	Sulfur		ASTM D5185m	2600	2886	3968	3844
Sodium     ppm     ASTM D5185m     0     1     3       Potassium     ppm     ASTM D5185m     >20     2     <1     2       INFRA-RED     method     limit/base     current     history1     history1       Soot %     %     *ASTM D7844     >4     0.2     0.1     0.1       Nitration     Abs/cm     *ASTM D7624     >20     6.4     5.6     5.4       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.7     17.2     17.5       FLUID DEGRADATION     method     limit/base     current     history1     history1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Sodium     ppm     ASTM D5185m     0     1     3       Potassium     ppm     ASTM D5185m     >20     2     <1     2       INFRA-RED     method     limit/base     current     history1     history1       Soot %     %     *ASTM D7844     >4     0.2     0.1     0.1       Nitration     Abs/cm     *ASTM D7624     >20     6.4     5.6     5.4       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.7     17.2     17.5       FLUID DEGRADATION     method     limit/base     current     history1     history1	Silicon	ppm	ASTM D5185m	>25	2	4	6
Potassium     ppm     ASTM D5185m     >20     2     <1     2       INFRA-RED     method     limit/base     current     history1     history1       Soot %     %     *ASTM D7844     >4     0.2     0.1     0.1       Nitration     Abs/cm     *ASTM D7624     >20     6.4     5.6     5.4       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.7     17.2     17.5       FLUID DEGRADATION method     limit/base     current     history1     history1							
Soot %     %     *ASTM D7844     >4     0.2     0.1     0.1       Nitration     Abs/cm     *ASTM D7624     >20     6.4     5.6     5.4       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.7     17.2     17.5       FLUID DEGRADATION method limit/base current history1     history1     history1     history1				>20		<1	2
Nitration     Abs/cm     *ASTM D7624     >20     6.4     5.6     5.4       Sulfation     Abs/.1mm     *ASTM D7415     >30     17.7     17.2     17.5       FLUID DEGRADATION     method     limit/base     current     history1     history1	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 17.7 17.2 17.5   FLUID DEGRADATION method limit/base current history1 history1	Soot %	%	*ASTM D7844	>4	0.2	0.1	0.1
Sulfation Abs/.1mm *ASTM D7415 >30 17.7 17.2 17.5   FLUID DEGRADATION method limit/base current history1 history1	Nitration	Abs/cm	*ASTM D7624	>20	6.4		5.4
·							
Oxidation Abs/.1mm *ASTM D7414 >25 <b>13.4</b> 13.1 13.0	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.4	13.1	13.0
<b>Base Number (BN)</b> mg KOH/g ASTM D2896 <b>8.7</b> 8.7 9.1							



# **OIL ANALYSIS REPORT**

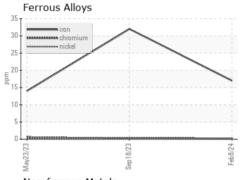


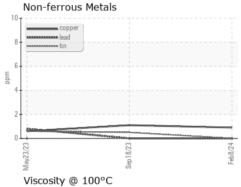
Sep18/23

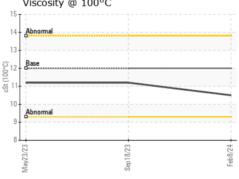
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

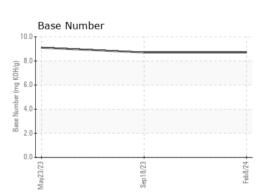
FLUID PROPE	RHES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	12.00	10.5	11.2	11.2

### **GRAPHS**











Laboratory Sample No.

Lab Number : 06095252 Unique Number : 10888105

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0116974

Received **Tested** Diagnosed

: 21 Feb 2024 : 21 Feb 2024 : 21 Feb 2024 - Wes Davis

Transervice - Shop 1071 - Supermarket-Dayton

60 A Tower Road Dayton, NJ US 08810 Contact: Brian Quinn

Test Package : FLEET Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - 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)

bquinn@transervice.com

T:

F: