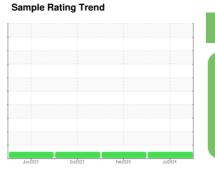


# **OIL ANALYSIS REPORT**

# (AU670W) Supermarket - Tractor FREIGHTLINER 107A1816

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

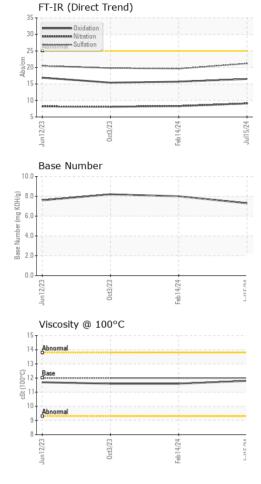
### **Fluid Condition**

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

Cample Number   Client Info   PCA0124720   PCA0116500   PCA0104800   PCA0104800	AAL)		Junzuz	3 0012023	1602024 JI	312024	
Sample Date	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Machine Age   mls   Client Info   367116   339319   316845   Oil Age   mis   Client Info   27797   22474   16669   Oil Changed   Client Info   Changed   Changed   Changed   Changed   NORMAL   NORMAL	Sample Number		Client Info		PCA0124720	PCA0116500	PCA0104806
Oil Age         mls         Client Info         27797         22474         16669           Oil Changed         Change	Sample Date		Client Info		15 Jul 2024	14 Feb 2024	03 Oct 2023
Cilient Info	Machine Age	mls	Client Info		367116	339319	316845
NORMAL   NORMAL   NORMAL   CONTAMINATION   method   limit/base   current   history1   history2   history2   water   WC Method   >5   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0   <1.0	Oil Age	mls	Client Info		27797	22474	16669
CONTAMINATION	Oil Changed		Client Info		Changed	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water         WC Method         >0.2         NEG         NEG         NEG         NEG           Glycol         WC Method         Imitibase         Current         history1         history2           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >80         16         13         16           Chromium         ppm         ASTM D5185m         >5         1         1         <1           Nickel         ppm         ASTM D5185m         >2         0         0         <1           Silver         ppm         ASTM D5185m         >2         0         0         <1           OSilver         ppm         ASTM D5185m         >30         0         0         0           Aluminum         ppm         ASTM D5185m         >30         0         0         <1           Capper         ppm         ASTM D5185m         >5         0         0         <1           Vanadium         ppm         ASTM D5185m         >5         0         0         <1           Vanadium         ppm         ASTM D5185m         >5         0         0 <td>CONTAMINA</td> <td>TION</td> <td>method</td> <td>limit/base</td> <th>current</th> <td>history1</td> <td>history2</td>	CONTAMINA	TION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Irron	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAI	LS	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>80	16	13	16
Description	Chromium	ppm	ASTM D5185m	>5	1	1	<1
Silver	Nickel	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	Titanium	ppm	ASTM D5185m		0	<1	0
Lead	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper         ppm         ASTM D5185m         >150         2         2         2         2           Tin         ppm         ASTM D5185m         >5         0         0         <1	Aluminum	ppm	ASTM D5185m	>30	6	7	6
Tin	Lead	ppm	ASTM D5185m	>30	0	0	<1
Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         1         <1         2           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         50         65         59         59           Manganese         ppm         ASTM D5185m         0         0         <1         <1           Magnesium         ppm         ASTM D5185m         950         978         934         954           Calcium         ppm         ASTM D5185m         995         937         982         1051           Zinc         ppm         ASTM D5185m         995         937         982         1051           Zinc         ppm         ASTM D5185m         2600         2594         2751         2986           CONTAMINANTS         method         limit/base         current         <	Copper	ppm	ASTM D5185m	>150	2	2	2
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         1         <1	Tin	ppm	ASTM D5185m	>5	0	0	<1
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	0
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         50         65         59         59           Manganese         ppm         ASTM D5185m         0         0         <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         50         65         59         59           Manganese         ppm         ASTM D5185m         0         0         <1         <1           Magnesium         ppm         ASTM D5185m         950         978         934         954           Calcium         ppm         ASTM D5185m         1050         1116         1077         1063           Phosphorus         ppm         ASTM D5185m         995         937         982         1051           Zinc         ppm         ASTM D5185m         1180         1242         1161         1282           Sulfur         ppm         ASTM D5185m         2600         2594         2751         2986           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         4         4         5           Sodium         ppm         ASTM D5185m         20         4         4         5           Sodium         ppm         ASTM D5185m         >20         4         0         4           INFRA-RED         method         limit/base <t< td=""><td>Boron</td><td>ppm</td><td>ASTM D5185m</td><td>2</td><th>1</th><td>&lt;1</td><td>2</td></t<>	Boron	ppm	ASTM D5185m	2	1	<1	2
Manganese         ppm         ASTM D5185m         0         0         <1         <1           Magnesium         ppm         ASTM D5185m         950         978         934         954           Calcium         ppm         ASTM D5185m         1050         1116         1077         1063           Phosphorus         ppm         ASTM D5185m         995         937         982         1051           Zinc         ppm         ASTM D5185m         1180         1242         1161         1282           Sulfur         ppm         ASTM D5185m         2600         2594         2751         2986           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         4         4         5           Sodium         ppm         ASTM D5185m         >20         4         0         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.9         0.8         0.8           Nitration         Abs/cm         *ASTM D7845<	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium         ppm         ASTM D5185m         950         978         934         954           Calcium         ppm         ASTM D5185m         1050         1116         1077         1063           Phosphorus         ppm         ASTM D5185m         995         937         982         1051           Zinc         ppm         ASTM D5185m         1180         1242         1161         1282           Sulfur         ppm         ASTM D5185m         2600         2594         2751         2986           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         4         4         5           Sodium         ppm         ASTM D5185m         1         2         2         2           Potassium         ppm         ASTM D5185m         >20         4         0         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20         9.1         8.3         8.1           Sulfation         Abs/.1mm         *ASTM D7415	Molybdenum	ppm	ASTM D5185m	50	65	59	59
Calcium         ppm         ASTM D5185m         1050         1116         1077         1063           Phosphorus         ppm         ASTM D5185m         995         937         982         1051           Zinc         ppm         ASTM D5185m         1180         1242         1161         1282           Sulfur         ppm         ASTM D5185m         2600         2594         2751         2986           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         4         4         5           Sodium         ppm         ASTM D5185m         >20         4         0         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.9         0.8         0.8           Nitration         Abs/cm         *ASTM D7624         >20         9.1         8.3         8.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.2         19.6         19.8           FLUID DEGRADATION	Manganese	ppm	ASTM D5185m	0	0	<1	<1
Phosphorus         ppm         ASTM D5185m         995         937         982         1051           Zinc         ppm         ASTM D5185m         1180         1242         1161         1282           Sulfur         ppm         ASTM D5185m         2600         2594         2751         2986           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         4         4         5           Sodium         ppm         ASTM D5185m         1         2         2         2           Potassium         ppm         ASTM D5185m         >20         4         0         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.9         0.8         0.8           Nitration         Abs/cm         *ASTM D7624         >20         9.1         8.3         8.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.2         19.6         19.8           FLUID DEGRADATION         method <td>Magnesium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>950</td> <th>978</th> <td>934</td> <td>954</td>	Magnesium	ppm	ASTM D5185m	950	978	934	954
Zinc         ppm         ASTM D5185m         1180         1242         1161         1282           Sulfur         ppm         ASTM D5185m         2600         2594         2751         2986           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         4         4         5           Sodium         ppm         ASTM D5185m         >20         4         0         4           Potassium         ppm         ASTM D5185m         >20         4         0         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.9         0.8         0.8           Nitration         Abs/cm         *ASTM D7624         >20         9.1         8.3         8.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.2         19.6         19.8           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm	Calcium	ppm	ASTM D5185m	1050	1116	1077	1063
Sulfur         ppm         ASTM D5185m         2600         2594         2751         2986           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         4         4         5           Sodium         ppm         ASTM D5185m         1         2         2           Potassium         ppm         ASTM D5185m         >20         4         0         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.9         0.8         0.8           Nitration         Abs/cm         *ASTM D7624         >20         9.1         8.3         8.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.2         19.6         19.8           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.5         15.7         15.4	Phosphorus	ppm	ASTM D5185m	995	937	982	1051
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         4         4         5           Sodium         ppm         ASTM D5185m         1         2         2           Potassium         ppm         ASTM D5185m         >20         4         0         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.9         0.8         0.8           Nitration         Abs/cm         *ASTM D7624         >20         9.1         8.3         8.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.2         19.6         19.8           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.5         15.7         15.4	Zinc	ppm	ASTM D5185m	1180	1242	1161	1282
Silicon         ppm         ASTM D5185m         >20         4         4         5           Sodium         ppm         ASTM D5185m         1         2         2           Potassium         ppm         ASTM D5185m         >20         4         0         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.9         0.8         0.8           Nitration         Abs/cm         *ASTM D7624         >20         9.1         8.3         8.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.2         19.6         19.8           FLUID DEGRADATION method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.5         15.7         15.4	Sulfur	ppm	ASTM D5185m	2600	2594	2751	2986
Sodium         ppm         ASTM D5185m         1         2         2           Potassium         ppm         ASTM D5185m         >20         4         0         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.9         0.8         0.8           Nitration         Abs/cm         *ASTM D7624         >20         9.1         8.3         8.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.2         19.6         19.8           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.5         15.7         15.4	CONTAMINA	NTS	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         4         0         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.9         0.8         0.8           Nitration         Abs/cm         *ASTM D7624         >20         9.1         8.3         8.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.2         19.6         19.8           FLUID DEGRADATION method limit/base current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.5         15.7         15.4	Silicon	ppm	ASTM D5185m	>20	4	4	5
INFRA-RED	Sodium	ppm	ASTM D5185m		1	2	2
Soot %         %         *ASTM D7844 >3         0.9         0.8         0.8           Nitration         Abs/cm         *ASTM D7624 >20         9.1         8.3         8.1           Sulfation         Abs/.1mm         *ASTM D7415 >30         21.2         19.6         19.8           FLUID DEGRADATION method limit/base current history1         history2           Oxidation         Abs/.1mm         *ASTM D7414 >25         16.5         15.7         15.4	Potassium	ppm	ASTM D5185m	>20	4	0	4
Nitration         Abs/cm         *ASTM D7624         >20         9.1         8.3         8.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.2         19.6         19.8           FLUID DEGRADATION method limit/base current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.5         15.7         15.4	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         21.2         19.6         19.8           FLUID DEGRADATION method limit/base current history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.5         15.7         15.4	Soot %	%	*ASTM D7844	>3	0.9	0.8	0.8
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 15.7 15.4	Nitration	Abs/cm	*ASTM D7624	>20	9.1	8.3	8.1
Oxidation Abs/.1mm *ASTM D7414 >25 <b>16.5</b> 15.7 15.4	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.2	19.6	19.8
	FLUID DEGRA	NOITAG	method	limit/base	current	history1	history2
<b>Base Number (BN)</b> mg KOH/g ASTM D2896 <b>7.3</b> 8.0 8.2	Oxidation	Abs/.1mm	*ASTM D7414	>25	16.5	15.7	15.4
	Base Number (BN)	mg KOH/g	ASTM D2896		7.3	8.0	8.2



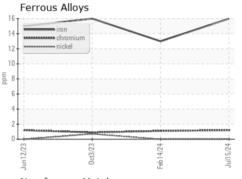
# **OIL ANALYSIS REPORT**

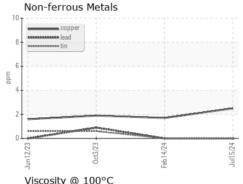


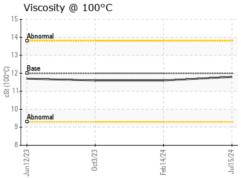
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

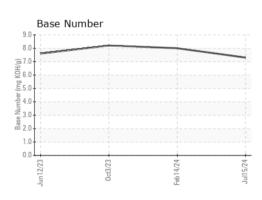
FLUID FROF	CULICO	memod			HISTORY	HISTORYZ
Visc @ 100°C	cSt	ASTM D445	12.00	11.8	11.6	11.6

### **GRAPHS**













Certificate 12367

Laboratory Sample No.

Lab Number : 06241148 Unique Number : 11129982 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0124720 Received **Tested** 

: 18 Jul 2024 : 19 Jul 2024 Diagnosed : 19 Jul 2024 - Wes Davis

Transervice - Shop 1072 - Supermarket-Elizabeth 505 Division Street Elizabeth, NJ

US 07207 Contact: Normand Brizak nbrizak@transervice.com

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)

T:

F: