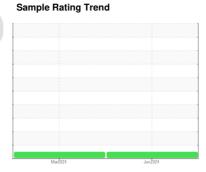


# **OIL ANALYSIS REPORT**

# (59083Z) Walgreens - Tractor [Walgreens - Tractor] 136A624199

**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

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. 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 INFORMATION   method   limit/base   current   history1   history2	GAL)			Mar2024	Jun2024		
Sample Date   Client Info   28 Jun 2024   0.5 Mar 2024	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Date   Client Info   28 Jun 2024   0.5 Mar 2024	Sample Number		Client Info		PCA0121287	PCA0106559	
Machine Age         mls         Client Info         93526         59613            Oil Age         mls         Client Info         33526         500000            Oil Changed         Client Info         No Changed         Changed            Sample Status         Imit by Changed         Imit by Changed			Client Info		28 Jun 2024	05 Mar 2024	
Oil Age         mls         Client Info         Not Changed Normal Changed Changed Changed Changed Changed NORMAL		mls			93526		
Sample Status         Morman         Norman         Norman         Inistory2           CONTAMINATION         method         imit/base         current         history1         history2           Fuel         WC Method         >5         <1.0         <1.0            Water         WC Method         NEG         NEG         NEG            Glycol         WC Method         Imit/base         current         history1         history2           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >80         39         71            Chromium         ppm         ASTM D5185m         >5         3         6            Nickel         ppm         ASTM D5185m         >2         0         2            Silver         ppm         ASTM D5185m         >30         69         158            Lead         ppm         ASTM D5185m         >30         <1         <1            Copper         ppm         ASTM D5185m         >150         49         225		mls	Client Info		33526	50000	
Sample Status         Morman         Norman         Norman         Inistory2           CONTAMINATION         method         imit/base         current         history1         history2           Fuel         WC Method         >5         <1.0         <1.0            Water         WC Method         NEG         NEG         NEG            Glycol         WC Method         Imit/base         current         history1         history2           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >80         39         71            Chromium         ppm         ASTM D5185m         >5         3         6            Nickel         ppm         ASTM D5185m         >2         0         2            Silver         ppm         ASTM D5185m         >30         69         158            Lead         ppm         ASTM D5185m         >30         <1         <1            Copper         ppm         ASTM D5185m         >150         49         225	Oil Changed		Client Info		Not Changd	Changed	
Fuel					NORMAL		
Water         WC Method         >0.2         NEG         NEG            WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >80         39         71            Chromium         ppm         ASTM D5185m         >5         3         6            Nickel         ppm         ASTM D5185m         >2         0         2            Silver         ppm         ASTM D5185m         >3         0         0            Silver         ppm         ASTM D5185m         >30         69         158            Aluminum         ppm         ASTM D5185m         >30         <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >80         39         71            Chromium         ppm         ASTM D5185m         >5         3         6            Nickel         ppm         ASTM D5185m         >2         0         2            Titanium         ppm         ASTM D5185m         >3         0         0            Silver         ppm         ASTM D5185m         >3         0         0            Aluminum         ppm         ASTM D5185m         >30         69         158            Lead         ppm         ASTM D5185m         >30         <1	Water		WC Method	>0.2	NEG	NEG	
Iron	Glycol		WC Method		NEG	NEG	
Chromium         ppm         ASTM D5185m         >5         3         6	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>80	39	71	
Titanium	Chromium	ppm	ASTM D5185m	>5	3	6	
Silver	Nickel	ppm	ASTM D5185m	>2	0	2	
Aluminum         ppm         ASTM D5185m         >30         69         158            Lead         ppm         ASTM D5185m         >30         <1	Titanium	ppm	ASTM D5185m		0	<1	
Lead         ppm         ASTM D5185m         >30         <1         <1	Silver	ppm	ASTM D5185m				
Copper         ppm         ASTM D5185m         >150         49         225            Tin         ppm         ASTM D5185m         >5         <1	Aluminum	ppm	ASTM D5185m	>30	69	158	
Tin         ppm         ASTM D5185m         >5         <1         6            Vanadium         ppm         ASTM D5185m         0         0            Cadmium         ppm         ASTM D5185m         0         0         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         7         39            Barium         ppm         ASTM D5185m         0         0         0            Molybdenum         ppm         ASTM D5185m         50         56         36            Manganese         ppm         ASTM D5185m         0         2         4            Magnesium         ppm         ASTM D5185m         950         922         618            Calcium         ppm         ASTM D5185m         1050         1380         1721            Phosphorus         ppm         ASTM D5185m         180         1201         931            Sulfur         ppm         ASTM D5185m         2600         2648         <	Lead	ppm	ASTM D5185m	>30			
Vanadium         ppm         ASTM D5185m         0         0            Cadmium         ppm         ASTM D5185m         0         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         7         39            Barium         ppm         ASTM D5185m         0         0         0         0            Molybdenum         ppm         ASTM D5185m         50         56         36             Manganese         ppm         ASTM D5185m         950         922         618            Magnesium         ppm         ASTM D5185m         950         922         618            Calcium         ppm         ASTM D5185m         950         922         618            Phosphorus         ppm         ASTM D5185m         995         972         799            Sulfur         ppm         ASTM D5185m         2600         2648         2272            CONTAMINANTS         method         limit/base	Copper	ppm	ASTM D5185m	>150	49	225	
Cadmium         ppm         ASTM D5185m         0         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         7         39            Barium         ppm         ASTM D5185m         0         0         0            Molybdenum         ppm         ASTM D5185m         50         56         36            Manganese         ppm         ASTM D5185m         0         2         4            Magnesium         ppm         ASTM D5185m         950         922         618            Calcium         ppm         ASTM D5185m         950         922         618            Calcium         ppm         ASTM D5185m         1050         1380         1721            Phosphorus         ppm         ASTM D5185m         995         972         799            Zinc         ppm         ASTM D5185m         2600         2648         2272            Sulfur         ppm         ASTM D5185m         >20         6				>5			
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         7         39            Barium         ppm         ASTM D5185m         0         0         0            Molybdenum         ppm         ASTM D5185m         50         56         36            Manganese         ppm         ASTM D5185m         0         2         4            Magnesium         ppm         ASTM D5185m         950         922         618            Calcium         ppm         ASTM D5185m         1050         1380         1721            Phosphorus         ppm         ASTM D5185m         995         972         799            Zinc         ppm         ASTM D5185m         2600         2648         2272            Sulfur         ppm         ASTM D5185m         2600         2648         2272            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m		ppm					
Boron         ppm         ASTM D5185m         2         7         39            Barium         ppm         ASTM D5185m         0         0         0            Molybdenum         ppm         ASTM D5185m         50         56         36            Manganese         ppm         ASTM D5185m         0         2         4            Magnesium         ppm         ASTM D5185m         950         922         618            Calcium         ppm         ASTM D5185m         1050         1380         1721            Phosphorus         ppm         ASTM D5185m         995         972         799            Zinc         ppm         ASTM D5185m         1180         1201         931            Sulfur         ppm         ASTM D5185m         2600         2648         2272            CONTAMINANTS         method         limit/base         current         history1         history2           Sodium         ppm         ASTM D5185m         >20         6         9            Sodium         ppm         ASTM D5185m	Cadmium	ppm	ASTM D5185m		0	0	
Barium         ppm         ASTM D5185m         0         0         0            Molybdenum         ppm         ASTM D5185m         50         56         36            Manganese         ppm         ASTM D5185m         0         2         4            Magnesium         ppm         ASTM D5185m         950         922         618            Calcium         ppm         ASTM D5185m         1050         1380         1721            Phosphorus         ppm         ASTM D5185m         995         972         799            Zinc         ppm         ASTM D5185m         1180         1201         931            Sulfur         ppm         ASTM D5185m         2600         2648         2272            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         6         9            Sodium         ppm         ASTM D5185m         >20         139         338            INFRA-RED         method         <	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         50         56         36            Manganese         ppm         ASTM D5185m         0         2         4            Magnesium         ppm         ASTM D5185m         950         922         618            Calcium         ppm         ASTM D5185m         1050         1380         1721            Phosphorus         ppm         ASTM D5185m         995         972         799            Zinc         ppm         ASTM D5185m         2600         2648         2272            Sulfur         ppm         ASTM D5185m         2600         2648         2272            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         6         9            Sodium         ppm         ASTM D5185m         >20         139         338            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844	Boron	ppm					
Manganese         ppm         ASTM D5185m         0         2         4            Magnesium         ppm         ASTM D5185m         950         922         618            Calcium         ppm         ASTM D5185m         1050         1380         1721            Phosphorus         ppm         ASTM D5185m         995         972         799            Zinc         ppm         ASTM D5185m         1180         1201         931            Sulfur         ppm         ASTM D5185m         2600         2648         2272            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         6         9            Sodium         ppm         ASTM D5185m         >20         6         9            Potassium         ppm         ASTM D5185m         >20         139         338            INFRA-RED         method         limit/base         current         history1         history2           Soot %         % ASTM D78	Barium	ppm	ASTM D5185m	0	0	0	
Magnesium         ppm         ASTM D5185m         950         922         618            Calcium         ppm         ASTM D5185m         1050         1380         1721            Phosphorus         ppm         ASTM D5185m         995         972         799            Zinc         ppm         ASTM D5185m         1180         1201         931            Sulfur         ppm         ASTM D5185m         2600         2648         2272            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         6         9            Sodium         ppm         ASTM D5185m         >20         6         9            Potassium         ppm         ASTM D5185m         >20         139         338            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20         9.6         10.8            Sulfation         Abs/.1mm         *AS	Molybdenum	ppm					
Calcium         ppm         ASTM D5185m         1050         1380         1721            Phosphorus         ppm         ASTM D5185m         995         972         799            Zinc         ppm         ASTM D5185m         1180         1201         931            Sulfur         ppm         ASTM D5185m         2600         2648         2272            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         6         9            Sodium         ppm         ASTM D5185m         >20         139         338            Potassium         ppm         ASTM D5185m         >20         139         338            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/:nm         *ASTM D7415         >30         21.5         22.9            FLUID DEGRADATION method	•	ppm			_		
Phosphorus         ppm         ASTM D5185m         995         972         799            Zinc         ppm         ASTM D5185m         1180         1201         931            Sulfur         ppm         ASTM D5185m         2600         2648         2272            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         6         9            Sodium         ppm         ASTM D5185m         >20         139         338            Potassium         ppm         ASTM D5185m         >20         139         338            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/:nm         *ASTM D7415         >30         21.5         22.9            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/:1mm	-						
Zinc         ppm         ASTM D5185m         1180         1201         931            Sulfur         ppm         ASTM D5185m         2600         2648         2272            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         6         9            Sodium         ppm         ASTM D5185m         4         7            Potassium         ppm         ASTM D5185m         >20         139         338            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/cm         *ASTM D7624         >20         9.6         10.8            Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5         22.9            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414 <td></td> <td>ppm</td> <td></td> <td></td> <th></th> <td></td> <td></td>		ppm					
Sulfur         ppm         ASTM D5185m         2600         2648         2272            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         6         9            Sodium         ppm         ASTM D5185m         4         7            Potassium         ppm         ASTM D5185m         >20         139         338            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/cm         *ASTM D7624         >20         9.6         10.8            Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5         22.9            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.6         25.8		• • • • • • • • • • • • • • • • • • • •					
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         6         9            Sodium         ppm         ASTM D5185m         4         7            Potassium         ppm         ASTM D5185m         >20         139         338            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/cm         *ASTM D7624         >20         9.6         10.8            Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5         22.9            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.6         25.8	-						
Silicon         ppm         ASTM D5185m         >20         6         9            Sodium         ppm         ASTM D5185m         4         7            Potassium         ppm         ASTM D5185m         >20         139         338            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/cm         *ASTM D7624         >20         9.6         10.8            Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5         22.9            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.6         25.8		• •					
Sodium         ppm         ASTM D5185m         4         7            Potassium         ppm         ASTM D5185m         >20         139         338            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/cm         *ASTM D7624         >20         9.6         10.8            Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5         22.9            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.6         25.8							•
Potassium         ppm         ASTM D5185m         >20         139         338            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/cm         *ASTM D7624         >20         9.6         10.8            Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5         22.9            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.6         25.8		• • • • • • • • • • • • • • • • • • • •		>20			
INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/cm         *ASTM D7624         >20         9.6         10.8            Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5         22.9            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.6         25.8				00			
Soot %         %         *ASTM D7844         >3         0.5         0.5            Nitration         Abs/cm         *ASTM D7624         >20         9.6         10.8            Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5         22.9            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.6         25.8		ррпі					
Nitration         Abs/cm         *ASTM D7624         >20         9.6         10.8            Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5         22.9            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.6         25.8						·	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         21.5         22.9            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         20.6         25.8							
FLUID DEGRADATION method limit/base current history1 history2       Oxidation     Abs/.1mm     *ASTM D7414 >25     20.6     25.8							
Oxidation					21.5	22.9	
	FLUID DEGRAD	DATION	method	limit/base		history1	history2
Base Number (BN)         mg KOH/g         ASTM D2896         6.2         5.8				>25			
	Base Number (BN)	mg KOH/g	ASTM D2896		6.2	5.8	



## **OIL ANALYSIS REPORT**





Certificate 12367

Laboratory Sample No. Lab Number : 06231003

: PCA0121287 Unique Number : 11114496 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 08 Jul 2024

**Tested** : 10 Jul 2024 Diagnosed : 10 Jul 2024 - Wes Davis

Transervice - Shop 1369 - Berkeley-Waxahachie 710 Ovilla Road Waxahachie, TX US 75167

Contact: Robert Beal rbeal@transervice.com T: (972)923-9928

To discuss this sample report, contact Customer Service at 1-800-237-1369.  $^st$  - 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) F: (972)923-9919 Contact/Location: Robert Beal - TSV1369

Report Id: TSV1369 [WUSCAR] 06231003 (Generated: 07/10/2024 00:42:41) Rev: 1