

# **OIL ANALYSIS REPORT**

Samp

Sample Rating Trend

NORMAL



Machine Id **612494** 

Component **Diesel Engine** 

PETRO CANADA DURON SHP 10W30 (--- GAL)

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

#### Wear

Metal levels are typical for a components first oil change.

## 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 oil.

## **Fluid Condition**

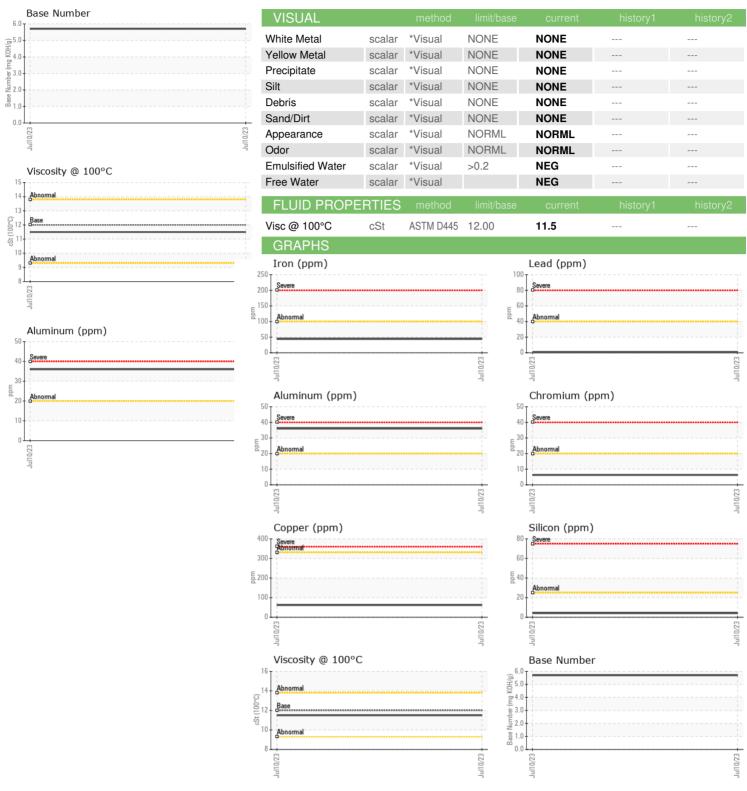
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number	GAL)				Jul2023		
Sample Date   Client Info   10 Jul 2023	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age         mls         Client Info         108896            Oil Changed         Client Info         108896            Sample Status         Client Info         Changed           CONTAMINATION           method         Ilmit/base         current         history1         history2           Fuel         WC Method         >5         <1.0	Sample Number		Client Info		PCA0100774		
Oil Age         mls         Client Info         108896	Sample Date		Client Info		10 Jul 2023		
Oil Changed   Client Info   Changed   NORMAL	•	mls	Client Info		108896		
Oil Changed Sample Status         Client Info         Changed NORMAL	Oil Age	mls	Client Info		108896		
CONTAMINATION         method         limit/base         current         history1         history2           Fuel         WC Method         >5         <1.0	Oil Changed		Client Info		Changed		
Fuel	Sample Status				NORMAL		
WEAR METALS	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >100         44	Fuel		WC Method	>5	<1.0		
Iron	Glycol		WC Method		NEG		
Chromium         ppm         ASTM D5185m         >20         6             Nickel         ppm         ASTM D5185m         >4         <1	WEAR METAL	.S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	44		
Titanium	Chromium	ppm	ASTM D5185m	>20	6		
Silver	Nickel	ppm	ASTM D5185m	>4	<1		
Aluminum	Titanium	ppm	ASTM D5185m		9		
Lead         ppm         ASTM D5185m         >40         <1             Copper         ppm         ASTM D5185m         >330         62             Tin         ppm         ASTM D5185m         >15         3             Vanadium         ppm         ASTM D5185m         <1	Silver	ppm	ASTM D5185m	>3	0		
Copper         ppm         ASTM D5185m         >330         62             Tin         ppm         ASTM D5185m         >15         3             Vanadium         ppm         ASTM D5185m         <1	Aluminum	ppm	ASTM D5185m	>20	36		
Tin         ppm         ASTM D5185m         >15         3             Vanadium         ppm         ASTM D5185m         <1             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         50         54             Manganese         ppm         ASTM D5185m         950         858             Calcium         ppm         ASTM D5185m         995         937             Phosphorus         ppm         ASTM D5185m         2995         937             Sulfur         ppm         ASTM D5185m         2600         2990             CONTAMINANTS         method         limit/base         current         history1	Lead	ppm	ASTM D5185m	>40	<1		
Vanadium         ppm         ASTM D5185m         <1             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         4             Barium         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         50         54             Magnesium         ppm         ASTM D5185m         950         858             Calcium         ppm         ASTM D5185m         950         858             Phosphorus         ppm         ASTM D5185m         995         937             Phosphorus         ppm         ASTM D5185m         290         2937             Sulfur         ppm         ASTM D5185m         2600         2990             CONTAMINANTS         method         limit/base         current         histo	Copper	ppm	ASTM D5185m	>330	62		
Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         4              Barium         ppm         ASTM D5185m         0         0         0              Molybdenum         ppm         ASTM D5185m         50         54              Manganese         ppm         ASTM D5185m         0         1              Magnesium         ppm         ASTM D5185m         950         858              Calcium         ppm         ASTM D5185m         950         858              Phosphorus         ppm         ASTM D5185m         995         937              Sulfur         ppm         ASTM D5185m         2600         2990 </td <td>Tin</td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;15</td> <th>3</th> <td></td> <td></td>	Tin	ppm	ASTM D5185m	>15	3		
ADDITIVES	Vanadium	ppm	ASTM D5185m		<1		
Boron	Cadmium	ppm	ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         50         54             Manganese         ppm         ASTM D5185m         0         1             Magnesium         ppm         ASTM D5185m         950         858             Calcium         ppm         ASTM D5185m         1050         1348             Phosphorus         ppm         ASTM D5185m         995         937             Zinc         ppm         ASTM D5185m         995         937             Sulfur         ppm         ASTM D5185m         1180         1209             Sulfur         ppm         ASTM D5185m         2600         2990             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         >20         71             Potassium         ppm	Boron	ppm	ASTM D5185m	2	4		
Manganese         ppm         ASTM D5185m         0         1             Magnesium         ppm         ASTM D5185m         950         858             Calcium         ppm         ASTM D5185m         1050         1348             Phosphorus         ppm         ASTM D5185m         995         937             Zinc         ppm         ASTM D5185m         1180         1209             Sulfur         ppm         ASTM D5185m         2600         2990             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         >5             Potassium         ppm         ASTM D5185m         >20         71             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20	Barium	ppm	ASTM D5185m	0	0		
Magnesium         ppm         ASTM D5185m         950         858             Calcium         ppm         ASTM D5185m         1050         1348             Phosphorus         ppm         ASTM D5185m         995         937             Zinc         ppm         ASTM D5185m         1180         1209             Sulfur         ppm         ASTM D5185m         2600         2990             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         5             Potassium         ppm         ASTM D5185m         >20         71             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         1.2             Nitration         Abs/cm         *ASTM D7415         >30	Molybdenum	ppm	ASTM D5185m	50	54		
Calcium         ppm         ASTM D5185m         1050         1348             Phosphorus         ppm         ASTM D5185m         995         937             Zinc         ppm         ASTM D5185m         1180         1209             Sulfur         ppm         ASTM D5185m         2600         2990             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         5             Potassium         ppm         ASTM D5185m         >20         71             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         1.2             Nitration         Abs/cm         *ASTM D7415         >30         23.7             FLUID DEGRADATION         *ASTM D7414         >25         1	Manganese	ppm	ASTM D5185m	0	1		
Phosphorus         ppm         ASTM D5185m         995         937             Zinc         ppm         ASTM D5185m         1180         1209             Sulfur         ppm         ASTM D5185m         2600         2990             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         5             Potassium         ppm         ASTM D5185m         >20         71             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20         10.9             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414 <td>Magnesium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>950</td> <th>858</th> <td></td> <td></td>	Magnesium	ppm	ASTM D5185m	950	858		
Zinc         ppm         ASTM D5185m         1180         1209             Sulfur         ppm         ASTM D5185m         2600         2990             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         5             Potassium         ppm         ASTM D5185m         >20         71             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         1.2             Nitration         Abs/cm         *ASTM D7624         >20         10.9             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414	Calcium	ppm	ASTM D5185m	1050	1348		
Sulfur         ppm         ASTM D5185m         2600         2990             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         >20         71             Potassium         ppm         ASTM D5185m         >20         71             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         1.2             Nitration         Abs/cm         *ASTM D7624         >20         10.9             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.6	Phosphorus	ppm	ASTM D5185m	995	937		
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         5             Potassium         ppm         ASTM D5185m         >20         71             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         1.2             Nitration         Abs/cm         *ASTM D7624         >20         10.9             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.6	Zinc	ppm	ASTM D5185m	1180	1209		
Silicon         ppm         ASTM D5185m         >25         4             Sodium         ppm         ASTM D5185m         5             Potassium         ppm         ASTM D5185m         >20         71             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         1.2             Nitration         Abs/cm         *ASTM D7624         >20         10.9             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.6	Sulfur	ppm	ASTM D5185m	2600	2990		
Sodium         ppm         ASTM D5185m         5             Potassium         ppm         ASTM D5185m         >20         71             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         1.2             Nitration         Abs/cm         *ASTM D7624         >20         10.9             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.6	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         71             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         1.2             Nitration         Abs/cm         *ASTM D7624         >20         10.9             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.6	Silicon	ppm	ASTM D5185m	>25	4		
INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         1.2             Nitration         Abs/cm         *ASTM D7624         >20         10.9             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.6	Sodium	ppm	ASTM D5185m		5		
Soot %         %         *ASTM D7844         >3         1.2             Nitration         Abs/cm         *ASTM D7624         >20         10.9             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.6	Potassium	ppm	ASTM D5185m	>20	71		
Nitration         Abs/cm         *ASTM D7624         >20         10.9             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.6	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         23.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         19.6	Soot %	%	*ASTM D7844	>3	1.2		
FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/.1mm *ASTM D7414 >25 19.6	Nitration	Abs/cm	*ASTM D7624	>20	10.9		
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	23.7		
	FLUID DEGRAI	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	19.6		
	Base Number (BN)	mg KOH/g	ASTM D2896				

Contact/Location: ROSTY VITER - MILPHINE



## **OIL ANALYSIS REPORT**







Laboratory Sample No. Lab Number **Unique Number** 

: PCA0100774 : 05903032

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 10564388

Received : 20 Jul 2023 Diagnosed : 20 Jul 2023 Diagnostician : Wes Davis

Test Package : MOB 1 ( Additional Tests: TBN )

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.

**MILLER TRUCK LEASING #118** 

2196 BENNETT ROAD PHILADELPHIA, PA US 19116

Contact: ROSTY VITER rviter@millertransgroup.com T: (215)552-9832

Contact/Location: ROSTY VITER - MILPHINE

F: (215)552-9892

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