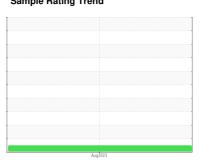


# **OIL ANALYSIS REPORT**

Sample Rating Trend



NORMAL



Machine Id **439218** 

Component **Diesel Engine** 

PETRO CANADA DURON SHP 10W30 (--- 0

## DIAGNOSIS

### Recommendation

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

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

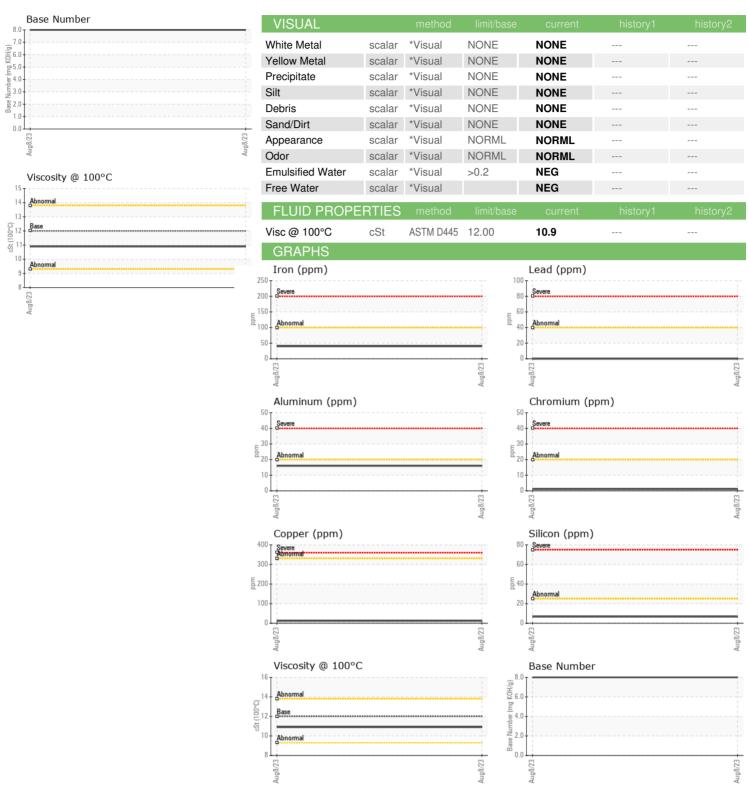
### **Fluid Condition**

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

Oil Changed Sample Status         Client Info         N/A	GAL)				Aug2023		
Sample Date   Client Info   08 Aug 2023	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age         mls         Client Info         0	Sample Number		Client Info		PCA0099117		
Machine Age         mls         Client Info         0			Client Info		08 Aug 2023		
Contamped   Client Info   N/A   NORMAL   Sample Status   Norman   Norman	•	mls	Client Info		_		
Contamped   Client Info   N/A   NORMAL   NORMA	Oil Age	mls	Client Info		0		
CONTAMINATION         method         limit/base         current         history1         history2           Fuel         WC Method         >5         <1.0	Oil Changed		Client Info		N/A		
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         >10         40             Chromium         ppm         ASTM D5185m         >20         1             Nickel         ppm         ASTM D5185m         >20         1             Titanium         ppm         ASTM D5185m         >3         0             Silver         ppm         ASTM D5185m         >20         16             Lead         ppm         ASTM D5185m         >20         12             Copper         ppm         ASTM D5185m         >15         2             Cadium         ppm         ASTM D5185m         0         0 <td>Fuel</td> <td></td> <td>WC Method</td> <td>&gt;5</td> <th>&lt;1.0</th> <td></td> <td></td>	Fuel		WC Method	>5	<1.0		
Tron	Glycol		WC Method		NEG		
Chromium   ppm   ASTM D5185m   >20	WEAR METAL	.S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	40		
Titanium         ppm         ASTM D5185m         <1             Silver         ppm         ASTM D5185m         >3         0             Aluminum         ppm         ASTM D5185m         >20         16             Lead         ppm         ASTM D5185m         >40         0             Copper         ppm         ASTM D5185m         >15         2             Vanadium         ppm         ASTM D5185m         <1	Chromium	ppm	ASTM D5185m	>20	1		
Silver	Nickel	ppm	ASTM D5185m	>4	0		
Aluminum	Titanium	ppm	ASTM D5185m		<1		
Lead	Silver	ppm	ASTM D5185m	>3	0		
Copper         ppm         ASTM D5185m         >330         12             Tin         ppm         ASTM D5185m         >15         2             Vanadium         ppm         ASTM D5185m         0             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         0         0             Marganese         ppm         ASTM D5185m         0         3             Magnesium         ppm         ASTM D5185m         950         975             Calcium         ppm         ASTM D5185m         995         1071             Sulfur         ppm         ASTM D5185m         180         1278	Aluminum	ppm	ASTM D5185m	>20	16		
Tin	Lead	ppm	ASTM D5185m	>40	0		
Vanadium         ppm         ASTM D5185m         <1             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         11             Barium         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         50         68             Manganese         ppm         ASTM D5185m         950         975             Calcium         ppm         ASTM D5185m         950         975             Phosphorus         ppm         ASTM D5185m         1050         1290             Zinc         ppm         ASTM D5185m         295         1071             Sulfur         ppm         ASTM D5185m         2600         3625             CONTAMINANTS         method         limit/base         current         history1	Copper	ppm	ASTM D5185m	>330	12		
Cadmium         ppm         ASTM D5185m         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         11             Barium         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         50         68             Manganese         ppm         ASTM D5185m         0         3             Magnesium         ppm         ASTM D5185m         950         975             Calcium         ppm         ASTM D5185m         995         1071             Phosphorus         ppm         ASTM D5185m         995         1071             Zinc         ppm         ASTM D5185m         2600         3625             Sulfur         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m <td>Tin</td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;15</td> <th>2</th> <td></td> <td></td>	Tin	ppm	ASTM D5185m	>15	2		
ADDITIVES	Vanadium	ppm	ASTM D5185m		<1		
Boron	Cadmium	ppm	ASTM D5185m		0		
Barium         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         50         68             Manganese         ppm         ASTM D5185m         0         3             Magnesium         ppm         ASTM D5185m         950         975             Calcium         ppm         ASTM D5185m         1050         1290             Phosphorus         ppm         ASTM D5185m         995         1071             Zinc         ppm         ASTM D5185m         995         1071             Sulfur         ppm         ASTM D5185m         2600         3625             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         28             INFRA-RED         method         limit/base	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         50         68             Manganese         ppm         ASTM D5185m         0         3             Magnesium         ppm         ASTM D5185m         950         975             Calcium         ppm         ASTM D5185m         1050         1290             Phosphorus         ppm         ASTM D5185m         995         1071             Zinc         ppm         ASTM D5185m         995         1071             Sulfur         ppm         ASTM D5185m         2600         3625             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         28             INFRA-RED         method         limit/base         current         history1         history2           Soot %         *ASTM D7844         >3	Boron	ppm	ASTM D5185m	2	11		
Manganese         ppm         ASTM D5185m         0         3             Magnesium         ppm         ASTM D5185m         950         975             Calcium         ppm         ASTM D5185m         1050         1290             Phosphorus         ppm         ASTM D5185m         995         1071             Zinc         ppm         ASTM D5185m         1180         1278             Sulfur         ppm         ASTM D5185m         2600         3625             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         28             Potassium         ppm         ASTM D5185m         >20         28             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D784	Barium	ppm	ASTM D5185m	0	0		
Magnesium         ppm         ASTM D5185m         950         975             Calcium         ppm         ASTM D5185m         1050         1290             Phosphorus         ppm         ASTM D5185m         995         1071             Zinc         ppm         ASTM D5185m         1180         1278             Sulfur         ppm         ASTM D5185m         2600         3625             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         4             Potassium         ppm         ASTM D5185m         >20         28             INFRA-RED         method         limit/base         current         history1         history2           Soot %         % ASTM D7844         >3         0.5             Nitration         Abs/cm         *ASTM D7415         >30         19.7 </td <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>50</td> <th>68</th> <td></td> <td></td>	Molybdenum	ppm	ASTM D5185m	50	68		
Calcium         ppm         ASTM D5185m         1050         1290             Phosphorus         ppm         ASTM D5185m         995         1071             Zinc         ppm         ASTM D5185m         1180         1278             Sulfur         ppm         ASTM D5185m         2600         3625             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         28             Potassium         ppm         ASTM D5185m         >20         28             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5             Nitration         Abs/:nm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         *ASTM D7414 <t< td=""><td>Manganese</td><td>ppm</td><td>ASTM D5185m</td><td>0</td><th>3</th><td></td><td></td></t<>	Manganese	ppm	ASTM D5185m	0	3		
Phosphorus         ppm         ASTM D5185m         995         1071             Zinc         ppm         ASTM D5185m         1180         1278             Sulfur         ppm         ASTM D5185m         2600         3625             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         28             Potassium         ppm         ASTM D5185m         >20         28             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5             Nitration         Abs/:nm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/:1mm         *ASTM	Magnesium	ppm	ASTM D5185m	950	975		
Zinc         ppm         ASTM D5185m         1180         1278             Sulfur         ppm         ASTM D5185m         2600         3625             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         28             Potassium         ppm         ASTM D5185m         >20         28             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5             Nitration         Abs/cm         *ASTM D7624         >20         9.2             Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *AST	Calcium	ppm	ASTM D5185m	1050	1290		
Sulfur         ppm         ASTM D5185m         2600         3625             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         >20         28             Potassium         ppm         ASTM D5185m         >20         28             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5             Nitration         Abs/cm         *ASTM D7624         >20         9.2             Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1	Phosphorus	ppm	ASTM D5185m	995	1071		
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         4             Potassium         ppm         ASTM D5185m         >20         28             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5             Nitration         Abs/cm         *ASTM D7624         >20         9.2             Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1	Zinc	ppm	ASTM D5185m	1180	1278		
Silicon         ppm         ASTM D5185m         >25         7             Sodium         ppm         ASTM D5185m         4              INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5             Nitration         Abs/cm         *ASTM D7624         >20         9.2             Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1	Sulfur	ppm	ASTM D5185m	2600	3625		
Sodium         ppm         ASTM D5185m         4             Potassium         ppm         ASTM D5185m         >20         28             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5             Nitration         Abs/cm         *ASTM D7624         >20         9.2             Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         28             INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.5             Nitration         Abs/cm         *ASTM D7624         >20         9.2             Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1	Silicon	ppm	ASTM D5185m	>25	7		
INFRA-RED	Sodium	ppm	ASTM D5185m		4		
Soot %         %         *ASTM D7844         >3         0.5             Nitration         Abs/cm         *ASTM D7624         >20         9.2             Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1	Potassium	ppm	ASTM D5185m	>20	28		
Nitration         Abs/cm         *ASTM D7624         >20         9.2             Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7             FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         16.1	Soot %	%	*ASTM D7844	>3	0.5		
FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/.1mm *ASTM D7414 >25 16.1	Nitration	Abs/cm	*ASTM D7624	>20	9.2		
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	19.7		
	FLUID DEGRAI	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	16.1		



## **OIL ANALYSIS REPORT**







Certificate L2367

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

: 05935902 : 10621173

: PCA0099117

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

: 28 Aug 2023 : 28 Aug 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. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

**MILLER TRUCK LEASING #116** 

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