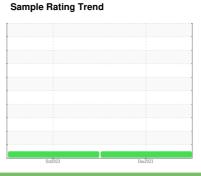


# **OIL ANALYSIS REPORT**

# Area **FLEET** VOLVO 2126972 (S/N 4V4NC9EH7NN603204)

Diesel Engine

PETRO CANADA DURON SHP 10W30 (42 QTS)





## 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

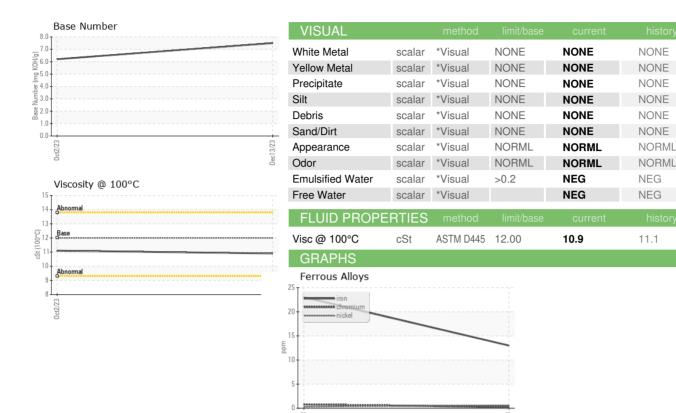
## **Fluid Condition**

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

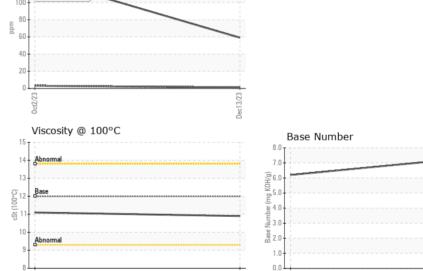
SAMPLE INFORMATION   method   limit/base   current   history1   history2	QTS)			0ct2023	Dec2023		
Sample Date	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Machine Age         mls         Client Info         87565         66547	Sample Number		Client Info		PCA0108203	PCA0105967	
Machine Age         mls         Client Info         87565         66547	•		Client Info		13 Dec 2023	02 Oct 2023	
Oil Changed   Cilient Info   Not Changed   NORMAL   NOR		mls	Client Info		87565	66547	
Sample Status	Oil Age	mls	Client Info		21018	46229	
CONTAMINATION	Oil Changed		Client Info		Not Changd	Changed	
Fuel	Sample Status				NORMAL	NORMAL	
Water         WC Method         >0.2         NEG         NEG	CONTAMINA	TION	method	limit/base	current	history1	history2
Silycol   WC Method   NEG   NEG   NEG   NEG	Fuel		WC Method	>6.0	<1.0	<1.0	
WEAR METALS         method         limit/base         current         history2           Iron         ppm         ASTM D5185m         >100         13         23            Chromium         ppm         ASTM D5185m         >20         <1	Water		WC Method	>0.2	NEG	NEG	
Iron	Glycol		WC Method		NEG	NEG	
Chromium         ppm         ASTM D5185m         >20         <1         <1            Nickel         ppm         ASTM D5185m         >2         <1	WEAR METAI	LS	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	13	23	
Titanium	Chromium	ppm	ASTM D5185m	>20	<1	<1	
Silver	Nickel	ppm	ASTM D5185m	>2	<1	<1	
Aluminum	Titanium	ppm	ASTM D5185m		0	<1	
Lead         ppm         ASTM D5185m         >40         <1         3            Copper         ppm         ASTM D5185m         >330         59         129            Tin         ppm         ASTM D5185m         0         0         0            Vanadium         ppm         ASTM D5185m         0         0         0            Cadmium         ppm         ASTM D5185m         0         0         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         0            ADDITIVES         method         limit/base         current         history1         history2           Barium         ppm         ASTM D5185m         0         0         0            ADDITIVES         method         limit/base         current         history1         history2           Barium         ppm         ASTM D5185m         0         0         0            Magnesium         ppm         ASTM D5185m         0         913 <th< td=""><td>Silver</td><td>ppm</td><td>ASTM D5185m</td><td>&gt;2</td><th>&lt;1</th><td>&lt;1</td><td></td></th<>	Silver	ppm	ASTM D5185m	>2	<1	<1	
Copper         ppm         ASTM D5185m         >330         59         129            Tin         ppm         ASTM D5185m         >15         2         3            Vanadium         ppm         ASTM D5185m         0         0            Cadmium         ppm         ASTM D5185m         0         <1	Aluminum	ppm	ASTM D5185m	>25	8	15	
Tin         ppm         ASTM D5185m         >15         2         3            Vanadium         ppm         ASTM D5185m         0         0            Cadmium         ppm         ASTM D5185m         0         0            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         0            Barium         ppm         ASTM D5185m         0         0         0            Molybdenum         ppm         ASTM D5185m         50         59         65            Manganese         ppm         ASTM D5185m         50         59         65            Magnesium         ppm         ASTM D5185m         950         913         1077            Calcium         ppm         ASTM D5185m         1050         1025         1310            Phosphorus         ppm         ASTM D5185m         995         1034         913            Zinc         ppm         ASTM D5185m         2600         2820         2894	Lead	ppm	ASTM D5185m	>40	<1	3	
Vanadium         ppm         ASTM D5185m         0         0            Cadmium         ppm         ASTM D5185m         0         <1            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         3         3            Barium         ppm         ASTM D5185m         0         0         0            Molybdenum         ppm         ASTM D5185m         0         59         65            Manganese         ppm         ASTM D5185m         0         <1         2            Magnesium         ppm         ASTM D5185m         950         913         1077            Calcium         ppm         ASTM D5185m         950         1025         1310            Phosphorus         ppm         ASTM D5185m         995         1034         913            Zinc         ppm         ASTM D5185m         995         1034         913            Sulfur         ppm         ASTM D5185m         2600         2820         2894	Copper	ppm	ASTM D5185m	>330	59	129	
Cadmium         ppm         ASTM D5185m         0         <1            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         3         3            Barium         ppm         ASTM D5185m         0         0         0            Molybdenum         ppm         ASTM D5185m         50         59         65            Manganese         ppm         ASTM D5185m         0         <1         2            Magnesium         ppm         ASTM D5185m         950         913         1077            Calcium         ppm         ASTM D5185m         1050         1025         1310            Phosphorus         ppm         ASTM D5185m         995         1034         913            Zinc         ppm         ASTM D5185m         2600         2820         2894            Sulfur         ppm         ASTM D5185m         >25         7         9            Sodium         ppm         ASTM D5185m         >25	Tin	ppm		>15	2	3	
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         3         3            Barium         ppm         ASTM D5185m         0         0         0            Molybdenum         ppm         ASTM D5185m         50         59         65            Manganese         ppm         ASTM D5185m         0         <1	Vanadium	ppm	ASTM D5185m		0	0	
Boron	Cadmium	ppm	ASTM D5185m		0	<1	
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         50         59         65            Manganese         ppm         ASTM D5185m         0         <1	Boron	ppm	ASTM D5185m	2	3	3	
Manganese         ppm         ASTM D5185m         0         <1         2            Magnesium         ppm         ASTM D5185m         950         913         1077            Calcium         ppm         ASTM D5185m         1050         1025         1310            Phosphorus         ppm         ASTM D5185m         995         1034         913            Zinc         ppm         ASTM D5185m         1180         1213         1319            Sulfur         ppm         ASTM D5185m         2600         2820         2894            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7         9            Sodium         ppm         ASTM D5185m         22         3            Potassium         ppm         ASTM D5185m         >20         19         42            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20	Barium	ppm	ASTM D5185m	0	0	0	
Magnesium         ppm         ASTM D5185m         950         913         1077            Calcium         ppm         ASTM D5185m         1050         1025         1310            Phosphorus         ppm         ASTM D5185m         995         1034         913            Zinc         ppm         ASTM D5185m         1180         1213         1319            Sulfur         ppm         ASTM D5185m         2600         2820         2894            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7         9            Sodium         ppm         ASTM D5185m         >20         19         42            Potassium         ppm         ASTM D5185m         >20         19         42            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20         8.1         9.0            Sulfation         Abs/.1mm         *ASTM D7415 </td <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>50</td> <th>59</th> <td>65</td> <td></td>	Molybdenum	ppm	ASTM D5185m	50	59	65	
Calcium         ppm         ASTM D5185m         1050         1025         1310            Phosphorus         ppm         ASTM D5185m         995         1034         913            Zinc         ppm         ASTM D5185m         1180         1213         1319            Sulfur         ppm         ASTM D5185m         2600         2820         2894            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7         9            Sodium         ppm         ASTM D5185m         2         3            Potassium         ppm         ASTM D5185m         >20         19         42            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20         8.1         9.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7         20.5            FLUID DEGRADATION         method         limit/base </td <td>Manganese</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <th>&lt;1</th> <td>2</td> <td></td>	Manganese	ppm	ASTM D5185m	0	<1	2	
Phosphorus         ppm         ASTM D5185m         995         1034         913            Zinc         ppm         ASTM D5185m         1180         1213         1319            Sulfur         ppm         ASTM D5185m         2600         2820         2894            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7         9            Sodium         ppm         ASTM D5185m         2         3            Potassium         ppm         ASTM D5185m         >20         19         42            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3         0.4            Nitration         Abs/cm         *ASTM D7624         >20         8.1         9.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7         20.5            FLUID DEGRADATION         method         limit/base<	Magnesium	ppm	ASTM D5185m	950	913	1077	
Zinc         ppm         ASTM D5185m         1180         1213         1319            Sulfur         ppm         ASTM D5185m         2600         2820         2894            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7         9            Sodium         ppm         ASTM D5185m         2         3            Potassium         ppm         ASTM D5185m         >20         19         42            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3         0.4            Nitration         Abs/cm         *ASTM D7624         >20         8.1         9.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7         20.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414	Calcium	ppm	ASTM D5185m	1050	1025	1310	
Sulfur         ppm         ASTM D5185m         2600         2820         2894            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7         9            Sodium         ppm         ASTM D5185m         2         3            Potassium         ppm         ASTM D5185m         >20         19         42            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3         0.4            Nitration         Abs/cm         *ASTM D7624         >20         8.1         9.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7         20.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.6         16.5	Phosphorus	ppm	ASTM D5185m	995	1034	913	
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         7         9            Sodium         ppm         ASTM D5185m         2         3            Potassium         ppm         ASTM D5185m         >20         19         42            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3         0.4            Nitration         Abs/cm         *ASTM D7624         >20         8.1         9.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7         20.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.6         16.5	Zinc	ppm	ASTM D5185m	1180	1213	1319	
Silicon         ppm         ASTM D5185m         >25         7         9            Sodium         ppm         ASTM D5185m         2         3            Potassium         ppm         ASTM D5185m         >20         19         42            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3         0.4            Nitration         Abs/cm         *ASTM D7624         >20         8.1         9.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7         20.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.6         16.5	Sulfur	ppm	ASTM D5185m	2600	2820	2894	
Sodium         ppm         ASTM D5185m         2         3            Potassium         ppm         ASTM D5185m         >20         19         42            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3         0.4            Nitration         Abs/cm         *ASTM D7624         >20         8.1         9.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7         20.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.6         16.5	CONTAMINA	NTS	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         19         42            INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.3         0.4            Nitration         Abs/cm         *ASTM D7624         >20         8.1         9.0            Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7         20.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.6         16.5		ppm	ASTM D5185m	>25	7		
INFRA-RED	Sodium	ppm	ASTM D5185m		2	3	
Soot %         %         *ASTM D7844 >3         0.3         0.4            Nitration         Abs/cm         *ASTM D7624 >20         8.1         9.0            Sulfation         Abs/.1mm         *ASTM D7415 >30         19.7         20.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414 >25         15.6         16.5	Potassium	ppm	ASTM D5185m	>20	19	42	
Nitration         Abs/cm         *ASTM D7624         >20         8.1         9.0            Sulfation         Abs/.1mm         *ASTM D7615         >30         19.7         20.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.6         16.5	INFRA-RED		method	limit/base	current	history1	history2
Sulfation         Abs/.1mm         *ASTM D7415         >30         19.7         20.5            FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         15.6         16.5	Soot %	%	*ASTM D7844	>3	0.3	0.4	
FLUID DEGRADATION method limit/base current history1 history2  Oxidation Abs/.1mm *ASTM D7414 >25 15.6 16.5	Nitration	Abs/cm	*ASTM D7624	>20	8.1	9.0	
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	19.7	20.5	
	FLUID DEGRA	NOITAG	method	limit/base	current	history1	history2
Base Number (BN)         mg KOH/g         ASTM D2896         7.5         6.2	Oxidation	Abs/.1mm	*ASTM D7414	>25	15.6	16.5	
	Base Number (BN)	mg KOH/g	ASTM D2896		7.5	6.2	



# **OIL ANALYSIS REPORT**



Non-ferrous Metals







Certificate L2367

Laboratory Sample No. Lab Number Unique Number

: PCA0108203 : 06039159 : 10794388 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 19 Dec 2023 Recieved Diagnosed Diagnostician

: 20 Dec 2023 : Wes Davis

Dec13/23

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)

**PERDUE FARMS - ACCOMAC** 

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