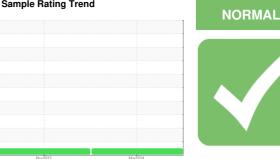


# **OIL ANALYSIS REPORT**

### Sample Rating Trend





Machine Id **BM-68** Component **Diesel Engine** 

PETRO CANADA DURON SHP 10W30 (10 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

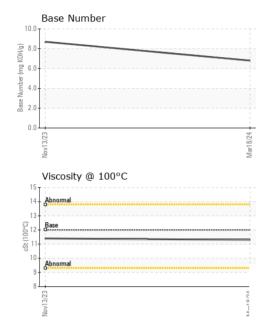
### **Fluid Condition**

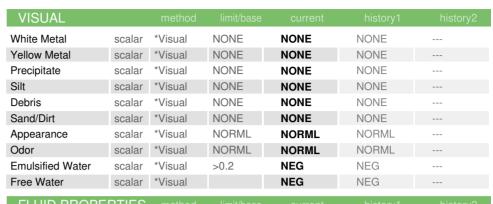
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number   Client Info   PCA0117754   PCA0105209     Sample Date   Client Info   18 Mar 2024   13 Nov 2023     Machine Age   mls   Client Info   174967   153774     Client Info   174967   153774     Client Info   Changed   Client Info   Changed   Change	N SHP 10W30 (10	(GAL)		Nov2023	Mar2024		
Sample Date   Client Info   18 Mar 2024   13 Nov 2023	SAMPLE INFORM	NOITAN	method	limit/base	current	history1	history2
Sample Date   Client Info   18 Mar 2024   13 Nov 2023	Sample Number		Client Info		PCA0117754	PCA0105209	
Machine Age   mls   Client Info   174967   153741       Dil Age   mls   Client Info   21226   14423       Dil Changed   Client Info   Changed   Changed   Changed       Sample Status   NORMAL   NORMAL   NORMAL       CONTAMINATION   method   limit/base   current   history1   history1     Mater   WC Method   So.2   NEG   NEG       Mater   WC Method   NEG   NEG       WEAR METALS   method   limit/base   current   history1   history1     Nickel   ppm   ASTM D5185m   So.2   C.1   O       Chromium   ppm   ASTM D5185m   So.2   O   O       Mickel   ppm   ASTM D5185m   So.2   O   O       Muminum   ppm   ASTM D5185m   So.2   O   O       Astmorphism   ASTM D5185m   So.3   O   O       Astmorphism   ASTM D5185m   So.3   O   O       Cadadium   ppm   ASTM D5185m   So.3   O   O       ASTM D5185m   So.3   O   O   O       ASTM D5185m   O   O   O       Cadadium   ppm   ASTM D5185m   O   O   O       Cadamium   ppm   ASTM D5185m   O   O   O   O       Cadamium   ppm   ASTM D5185m   O   O   O   O   O   O   O   O   O     Cadamium   ppm   ASTM D5185m   O   O   O   O   O   O   O   O   O			Client Info		18 Mar 2024	13 Nov 2023	
Dit Age		mls	Client Info		174967	153741	
CONTAMINATION	•	mls	Client Info		21226	14423	
CONTAMINATION	Oil Changed		Client Info		Changed	Changed	
Fuel	Sample Status				NORMAL	NORMAL	
Water         WC Method         >0.2         NEG         NEG	CONTAMINATI	ON	method	limit/base	current	history1	history2
WEAR METALS	-uel		WC Method	>3.0	<1.0	<1.0	
WEAR METALS         method         limit/base         current         history1         history1           ron         ppm         ASTM D5185m         >120         21         5	Nater		WC Method	>0.2	NEG	NEG	
Chromium	Glycol		WC Method		NEG	NEG	
Chromium	WEAR METALS	5	method	limit/base	current	history1	history2
Description	ron	ppm	ASTM D5185m	>120	21	5	
Sickel	Chromium	• •	ASTM D5185m	>20	<1	0	
Description	Nickel		ASTM D5185m	>5	0	1	
Salver	Гitanium	• •	ASTM D5185m	>2	0	0	
Part	Silver		ASTM D5185m	>2	0	<1	
Copper	Aluminum	ppm	ASTM D5185m	>20	4	2	
ASTM D5185m   Page	_ead	ppm	ASTM D5185m	>40	<1	0	
ASTM D5185m   D5185	Copper	ppm	ASTM D5185m	>330	4	1	
Cadmium         ppm         ASTM D5185m         0         0			ASTM D5185m	>15	0	<1	
ADDITIVES	/anadium	ppm	ASTM D5185m		0	0	
Soron   ppm   ASTM D5185m   2   <1   2	Cadmium	ppm	ASTM D5185m		0	0	
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         50         60         54            Manganese         ppm         ASTM D5185m         0         <1	Boron	ppm	ASTM D5185m	2	<1	2	
Manganese         ppm         ASTM D5185m         0         <1         <1            Magnesium         ppm         ASTM D5185m         950         995         896            Calcium         ppm         ASTM D5185m         1050         1197         1062            Phosphorus         ppm         ASTM D5185m         995         1093         1083            Zinc         ppm         ASTM D5185m         1180         1290         1230            Sulfur         ppm         ASTM D5185m         2600         3525         3109            CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         6         5            Sodium         ppm         ASTM D5185m         >20         4         3            Potassium         ppm         ASTM D5185m         >20         4         3            INFRA-RED         method         limit/base         current         history1         history1           Soot %         %         *ASTM D7624         <	Barium	ppm	ASTM D5185m	0	0	0	
Magnesium         ppm         ASTM D5185m         950         995         896            Calcium         ppm         ASTM D5185m         1050         1197         1062            Phosphorus         ppm         ASTM D5185m         995         1093         1083            Zinc         ppm         ASTM D5185m         995         1290         1230            Sulfur         ppm         ASTM D5185m         2600         3525         3109            CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         6         5            Sodium         ppm         ASTM D5185m         >20         4         2            Potassium         ppm         ASTM D5185m         >20         4         3            INFRA-RED         method         limit/base         current         history1         history1           Soot %         %         *ASTM D7844         >4         0.5         0.2            Sulfation         Abs/.1mm         *ASTM D7415	Molybdenum	ppm	ASTM D5185m	50	60	54	
Calcium         ppm         ASTM D5185m         1050         1197         1062            Phosphorus         ppm         ASTM D5185m         995         1093         1083            Zinc         ppm         ASTM D5185m         1180         1290         1230            Sulfur         ppm         ASTM D5185m         2600         3525         3109            CONTAMINANTS         method         limit/base         current         history1         history1         history1           Solicon         ppm         ASTM D5185m         >25         6         5            Sodium         ppm         ASTM D5185m         >20         4         2            Potassium         ppm         ASTM D5185m         >20         4         3            INFRA-RED         method         limit/base         current         history1         history1           Soot %         %         *ASTM D7844         >4         0.5         0.2            Nitration         Abs/cm         *ASTM D7415         >30         20.0         18.6            FLUID DEGRADATION         metho	Manganese	ppm	ASTM D5185m	0	<1	<1	
Phosphorus         ppm         ASTM D5185m         995         1093         1083            Zinc         ppm         ASTM D5185m         1180         1290         1230            Sulfur         ppm         ASTM D5185m         2600         3525         3109            CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         6         5            Sodium         ppm         ASTM D5185m         4         2            Potassium         ppm         ASTM D5185m         >20         4         3            INFRA-RED         method         limit/base         current         history1         history1         history1           Soot %         %         *ASTM D7844         >4         0.5         0.2            Nitration         Abs/cm         *ASTM D7415         >30         20.0         18.6            FLUID DEGRADATION         method         limit/base         current         history1         history1	Magnesium	ppm	ASTM D5185m	950	995	896	
Zinc   ppm   ASTM D5185m   1180   1290   1230       Sulfur   ppm   ASTM D5185m   2600   3525   3109       CONTAMINANTS   method   limit/base   current   history1   history1     Sodium   ppm   ASTM D5185m   >25   6   5       Sodium   ppm   ASTM D5185m   4   2       Potassium   ppm   ASTM D5185m   >20   4   3       INFRA-RED   method   limit/base   current   history1   history1     Soot %   *ASTM D7844   >4   0.5   0.2       Nitration   Abs/cm   *ASTM D7624   >20   8.8   6.4       Sulfation   Abs/.1mm   *ASTM D7415   >30   20.0   18.6       FLUID DEGRADATION   method   limit/base   current   history1   history1   history1	Calcium	ppm	ASTM D5185m	1050	1197	1062	
Sulfur         ppm         ASTM D5185m         2600         3525         3109            CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         6         5            Sodium         ppm         ASTM D5185m         4         2            Potassium         ppm         ASTM D5185m         >20         4         3            INFRA-RED         method         limit/base         current         history1         history1         history1           Soot %         %         *ASTM D7844         >4         0.5         0.2            Nitration         Abs/cm         *ASTM D7624         >20         8.8         6.4            FLUID DEGRADATION         method         limit/base         current         history1         history1	Phosphorus	ppm	ASTM D5185m	995	1093	1083	
CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         6         5            Sodium         ppm         ASTM D5185m         4         2            Potassium         ppm         ASTM D5185m         >20         4         3            INFRA-RED         method         limit/base         current         history1         history1         history1           Soot %         %         *ASTM D7844         >4         0.5         0.2            Nitration         Abs/cm         *ASTM D7624         >20         8.8         6.4            Sulfation         Abs/.1mm         *ASTM D7415         >30         20.0         18.6            FLUID DEGRADATION         method         limit/base         current         history1         history1	Zinc	ppm	ASTM D5185m	1180	1290	1230	
Solition   ppm   ASTM D5185m   >25   6   5       Solition   ppm   ASTM D5185m   4   2       Potassium   ppm   ASTM D5185m   >20   4   3       INFRA-RED   method   limit/base   current   history1   history1     Soot %	Sulfur	ppm	ASTM D5185m	2600	3525	3109	
Sodium         ppm         ASTM D5185m         4         2            Potassium         ppm         ASTM D5185m         >20         4         3            INFRA-RED         method         limit/base         current         history1         history1           Soot %         %         *ASTM D7844         >4         0.5         0.2            Nitration         Abs/cm         *ASTM D7624         >20         8.8         6.4            Sulfation         Abs/.1mm         *ASTM D7415         >30         20.0         18.6            FLUID DEGRADATION         method         limit/base         current         history1         history1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         4         3            INFRA-RED         method         limit/base         current         history1         history1           Soot %         %         *ASTM D7844         >4         0.5         0.2            Nitration         Abs/cm         *ASTM D7624         >20         8.8         6.4            Sulfation         Abs/.1mm         *ASTM D7415         >30         20.0         18.6            FLUID DEGRADATION         method         limit/base         current         history1         history1	Silicon	ppm	ASTM D5185m	>25	6	5	
INFRA-RED         method         limit/base         current         history1         history1         history1           Soot %         %         *ASTM D7844         >4         0.5         0.2            Nitration         Abs/cm         *ASTM D7624         >20         8.8         6.4            Sulfation         Abs/.1mm         *ASTM D7415         >30         20.0         18.6            FLUID DEGRADATION         method         limit/base         current         history1         history1	Sodium	ppm	ASTM D5185m		4	2	
Soot %         %         *ASTM D7844         >4         0.5         0.2            Nitration         Abs/cm         *ASTM D7624         >20         8.8         6.4            Sulfation         Abs/.1mm         *ASTM D7415         >30         20.0         18.6            FLUID DEGRADATION         method         limit/base         current         history1         history1	Potassium	ppm	ASTM D5185m	>20	4	3	
Nitration         Abs/cm         *ASTM D7624         >20         8.8         6.4            Sulfation         Abs/.1mm         *ASTM D7415         >30         20.0         18.6            FLUID DEGRADATION         method         limit/base         current         history1         history1	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 <b>20.0</b> 18.6  FLUID DEGRADATION method limit/base current history1 history	Soot %	%	*ASTM D7844	>4	0.5	0.2	
FLUID DEGRADATION method limit/base current history1 history1	Nitration	Abs/cm	*ASTM D7624	>20	8.8	6.4	
·	Sulfation	Abs/.1mm	*ASTM D7415	>30			
Oxidation	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
		Abs/.1mm	*ASTM D7414	>25	16.0	14.1	
Base Number (BN) mg KOH/g ASTM D2896 6.8 8.7							



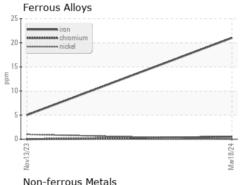
## **OIL ANALYSIS REPORT**

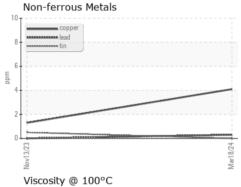


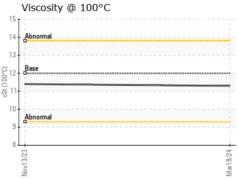


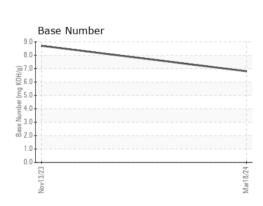
FLUID PROPE	EKIIES	method	ilmit/base		nistory i	nistory∠
Visc @ 100°C	cSt	ASTM D445	12 00	11.3	11 4	

### **GRAPHS**













Certificate L2367

Laboratory Sample No.

Lab Number : 06123049 Unique Number : 10937200

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0117754

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Received **Tested** Diagnosed Test Package : FLEET

: 19 Mar 2024 : 20 Mar 2024 : 20 Mar 2024 - Wes Davis

**BLUE MAX TRUCKING** 

1015 E. WESTINGHOUSE BLVD. CHARLOTTE, NC US 28273

Contact: Jody Greer

jgreer@bluemaxtrucking.com T: (980)225-9968

\* - 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: (704)588-2901