

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend





### Component Diesel Engine

Fluid 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

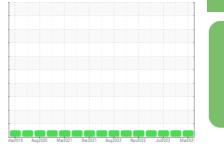
All component wear rates are normal.

#### 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.





SAMPLE INFORM	MATION	method	limit/base	current		history2
Sample Number		Client Info		PCA0120667	PCA0110495	PCA0101321
Sample Date		Client Info		12 Mar 2024	08 Nov 2023	11 Jul 2023
Machine Age	mls	Client Info		0	82506	79296
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	18	23	34
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	3
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	1	1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	0 history1	0 history2
	ppm ppm		limit/base	-	-	-
ADDITIVES		method	2	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 13	history1 36	history2 10
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0 50	current 13 0	history1 36 0	history2 10 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 13 0 63	history1 36 0 58	history2 10 0 64
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 13 0 63 0	history1 36 0 58 <1	history2 10 0 64 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current           13           0           63           0           897           1021           957	history1 36 0 58 <1 882	history2 10 0 64 <1 858
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current           13           0           63           0           897           1021	history1 36 0 58 <1 882 1161	history2 10 0 64 <1 858 1137
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	current           13           0           63           0           897           1021           957	history1 36 0 58 <1 882 1161 979	history2 10 0 64 <1 858 1137 1035
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	current           13           0           63           0           897           1021           957           1126	history1 36 0 58 <1 882 1161 979 1236	history2 10 0 64 <1 858 1137 1035 1193
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	2 0 50 950 1050 995 1180 2600	Current 13 0 63 0 897 1021 957 1126 2836	history1 36 0 58 <1 882 1161 979 1236 3069	history2 10 0 64 <1 858 1137 1035 1193 3177
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	current           13           0           63           0           897           1021           957           1126           2836           current	history1 36 0 58 <1 882 1161 979 1236 3069 history1	history2 10 0 64 <1 858 1137 1035 1193 3177 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >25	current           13           0           63           0           897           1021           957           1126           2836           current           5	history1           36           0           58           <1           882           1161           979           1236           3069           history1           4	history2           10           0           64           <1           858           1137           1035           1193           3177           history2           4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method           ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >25	current           13           0           63           0           897           1021           957           1126           2836           current           5           0	history1           36           0           58           <1           882           1161           979           1236           3069           history1           4           <1	history2           10           0           64           <1           858           1137           1035           1193           3177           history2           4           0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 -20 <b>limit/base</b>	current           13           0           63           0           897           1021           957           1126           2836           current           5           0           2	history1         36         0         58         <1         882         1161         979         1236         3069         history1         4         <1         2	history2           10           0           64           <1           858           1137           1035           1193           3177           history2           4           0           6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20 <b>imit/base</b> >3	current           13           0           63           0           897           1021           957           1126           2836           current           5           0           2           current	history1         36         0         58         <1         882         1161         979         1236         3069         history1         4         <1         2         history1	history2         10         0         64         <1         858         1137         1035         1193         3177         history2         4         0         6         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>Imit/base</b> >25 20 <b>Imit/base</b> >3 >20	current           13           0           63           0           897           1021           957           1126           2836           current           5           0           2           current           0           2.           current           0.2	history1         36         0         58         <1         882         1161         979         1236         3069         history1         4         <1         2         history1         0.2	history2         10         0         64         <1         858         1137         1035         1193         3177         history2         4         0         6         history2         0         0.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm t ppm ppm	method           ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>Imit/base</b> >25 20 <b>Imit/base</b> >3 >20	current           13           0           63           0           897           1021           957           1126           2836           current           5           0           2           current           0.2           6.5	history1         36         0         58         <1         882         1161         979         1236         3069         history1         4         <1         2         history1         0.2         6.3	history2           10           0           64           <1           858           1137           1035           1193           3177           history2           4           0           6           history2           0.2           6.7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm t ppm ppm	method           ASTM D5185m           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>i</b> mit/base >25 >20 <b>i</b> mit/base >3 >20 >30	current           13           0           63           0           897           1021           957           1126           2836           current           5           0           2           current           0.2           6.5           17.6	history1         36         0         58         <1         882         1161         979         1236         3069         history1         4         <1         2         history1         0.2         6.3         17.9	history2         10         0         64         <1         858         1137         1035         1193         3177         history2         4         0         6         history2         0.2         6.7         18.1



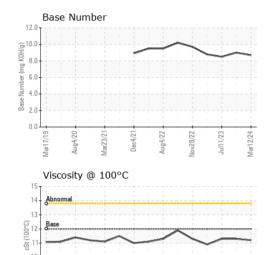
Abnorma

Aug4/20

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Mar17/19

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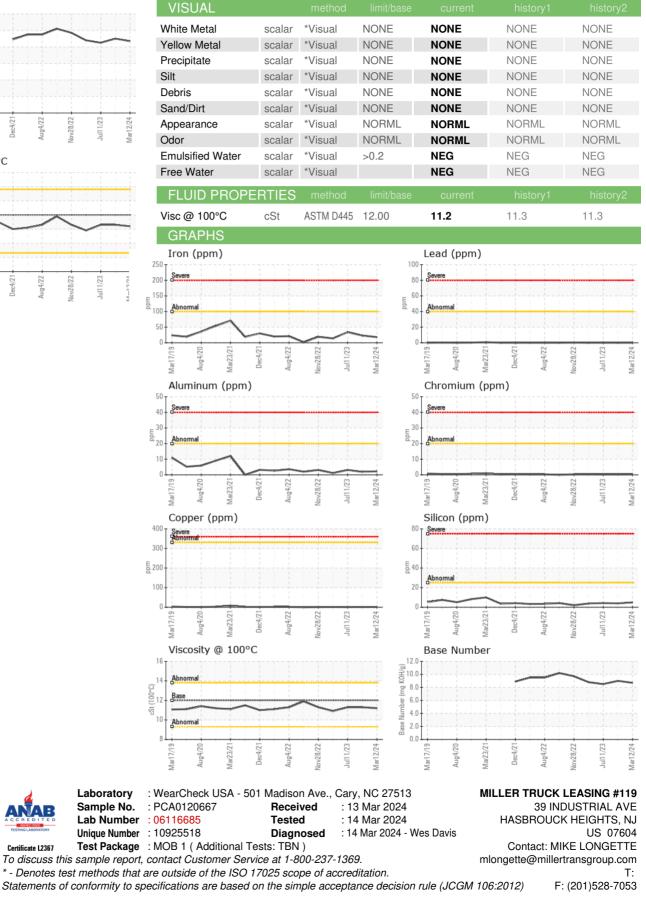


Jul11/23

104/22

CC18Cm

04/01



Certificate L2367

Laboratory

Sample No.

Lab Number

Contact/Location: MIKE LONGETTE - MILRUT