

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id 226771 Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- QTS)

## 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 new component breaking in.

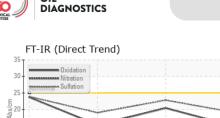
#### Contamination

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 INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0127031	PCA0120674	PCA0101282
Sample Date		Client Info		10 Jul 2024	08 Mar 2024	20 Jul 2023
Machine Age	mls	Client Info		48537	40331	27830
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	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	24	57	22
Chromium	ppm	ASTM D5185m	>20	1	2	1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	6	15	8
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	13	7
Tin	ppm	ASTM D5185m	>15	0	2	1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 2	current 2	history1 4	history2 8
	ppm ppm					
Boron		ASTM D5185m	2	2	4	8
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	2 0	2 0	4	8
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	2 0 61	4 0 60	8 1 63
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	2 0 61 <1 956 1112	4 0 60 2 791 1137	8 1 63 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	2 0 61 <1 956 1112 1028	4 0 60 2 791 1137 799	8 1 63 1 871 1195 1013
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180	2 0 61 <1 956 1112 1028 1196	4 0 60 2 791 1137 799 989	8 1 63 1 871 1195 1013 1228
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	2 0 61 <1 956 1112 1028	4 0 60 2 791 1137 799	8 1 63 1 871 1195 1013
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	2 0 61 <1 956 1112 1028 1196 3396 current	4 0 60 2 791 1137 799 989 2825 history1	8 1 63 1 871 1195 1013 1228 3121 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	2 0 61 <1 956 1112 1028 1196 3396 current 10	4 0 60 2 791 1137 799 989 2825 history1 5	8 1 63 1 871 1195 1013 1228 3121 history2 19
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25	2 0 61 <1 956 1112 1028 1196 3396 <u>current</u> 10 2	4 0 60 2 791 1137 799 989 2825 history1 5 6	8 1 63 1 871 1195 1013 1228 3121 history2 19 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25	2 0 61 <1 956 1112 1028 1196 3396 current 10	4 0 60 2 791 1137 799 989 2825 history1 5	8 1 63 1 871 1195 1013 1228 3121 history2 19
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >25 >20 <b>Imit/base</b>	2 0 61 <1 956 1112 1028 1196 3396 current 10 2 3 3 current	4 0 60 2 791 1137 799 989 2825 history1 5 6 13 13 history1	8 1 63 1 871 1195 1013 1228 3121 history2 19 0 7 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b>	2 0 61 <1 956 1112 1028 1196 3396 <i>current</i> 10 2 3 <i>current</i> 0.4	4 0 60 2 791 1137 799 989 2825 history1 5 6 13 history1 1	8 1 63 1 871 1195 1013 1228 3121 history2 19 0 7 history2 0.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20	2 0 61 <1 956 1112 1028 1196 3396 <u>current</u> 10 2 3 <u>current</u> 0.4 8.3	4 0 60 2 791 1137 799 989 2825 history1 5 6 13 history1 1 1 1.9	8 1 63 1 871 1195 1013 1228 3121 history2 19 0 7 history2 0.4 8.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b>	2 0 61 <1 956 1112 1028 1196 3396 <i>current</i> 10 2 3 <i>current</i> 0.4	4 0 60 2 791 1137 799 989 2825 history1 5 6 13 history1 1	8 1 63 1 871 1195 1013 1228 3121 history2 19 0 7 history2 0.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20	2 0 61 <1 956 1112 1028 1196 3396 <u>current</u> 10 2 3 <u>current</u> 0.4 8.3	4 0 60 2 791 1137 799 989 2825 history1 5 6 13 history1 1 1 1.9	8 1 63 1 871 1195 1013 1228 3121 history2 19 0 7 history2 0.4 8.4
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 ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 20 <b>imit/base</b> >3 >20 >30	2 0 61 <1 956 1112 1028 1196 3396 <u>current</u> 10 2 3 3 <u>current</u> 0.4 8.3 19.1	4 0 60 2 791 1137 799 989 2825 history1 5 6 13 history1 1 1 1 1.9 22.8	8 1 63 1 871 1195 1013 1228 3121 history2 19 0 7 history2 0.4 8.4 19.0



Mar8/24 -

Aar8/74

Mar8/24

OIL

10

10.0

6.

/Jar

15

14

13 cSt (100°C) Ba

8

Mar16/23

Abnormal

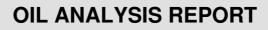
(mg KOH/g)

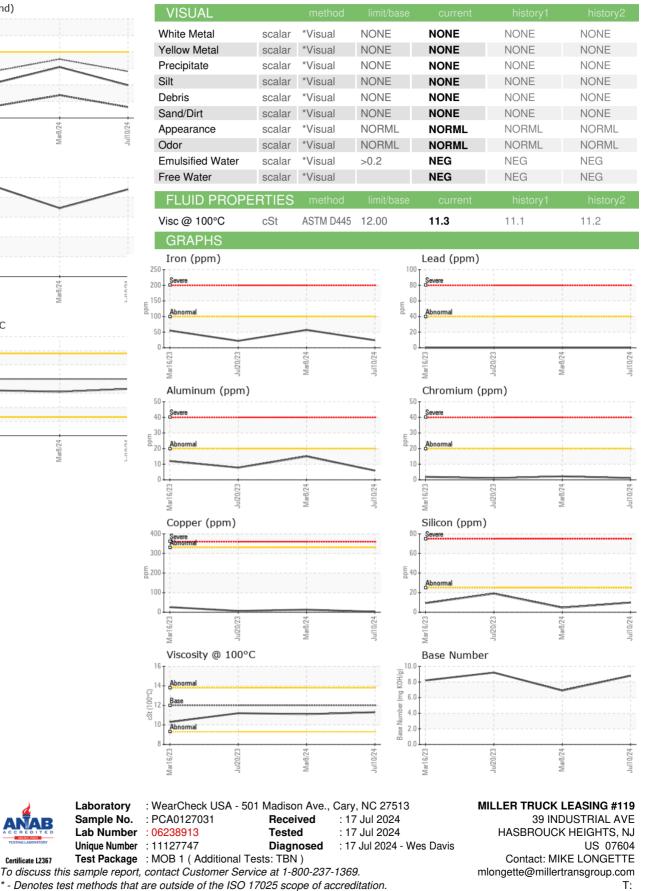
mbe 4.

Base 2 Mar16/23

Base Number

Viscosity @ 100°C





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

Report Id: MILRUT [WUSCAR] 06238913 (Generated: 07/17/2024 16:32:20) Rev: 1

Certificate 12367

Contact/Location: MIKE LONGETTE - MILRUT

F: (201)528-7053