

OIL ANALYSIS REPORT

Area FLEET Machine Id 26634 Component

Diesel Engine

PETRO CANADA DURON SHP 10W30 (40 QTS)

DIAGNOSIS

Recommendation

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

Wear

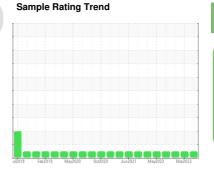
All component wear rates are normal.

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.



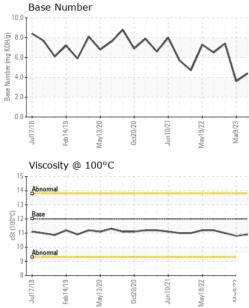


NORMAL

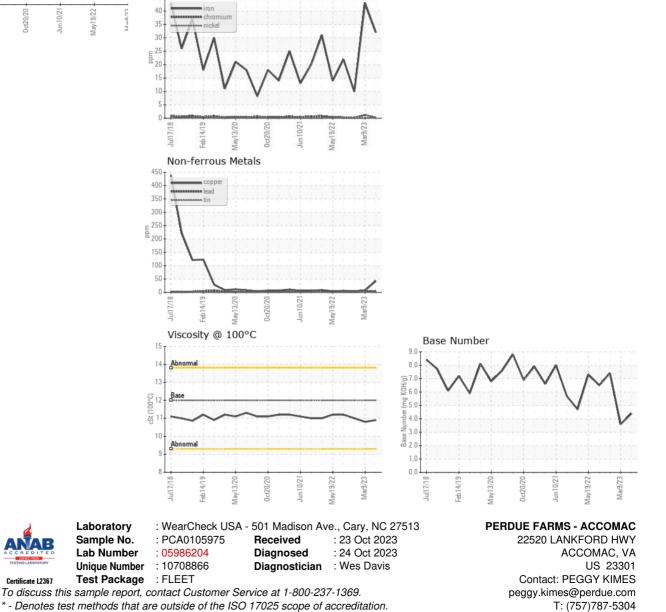
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0105975	PCA0089366	PCA0082254
Sample Date		Client Info		12 Oct 2023	09 Mar 2023	30 Nov 2022
Machine Age	mls	Client Info		562079	519880	485331
Oil Age	mls	Client Info		42199	64493	29944
Oil Changed		Client Info		Changed	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
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	32	43	10
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	3	2
Lead	ppm	ASTM D5185m	>40	4	4	<1
Copper	ppm	ASTM D5185m	>330	43	8	5
Tin	ppm	ASTM D5185m	>15	1	1	0
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 <1	history1 0	history2 0
	ppm ppm					
Boron		ASTM D5185m	2	<1	0	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	<1 0	0	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	<1 0 61	0 0 57	0 0 59
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	<1 0 61 <1	0 0 57 1	0 0 59 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	<1 0 61 <1 887	0 0 57 1 871	0 0 59 <1 910
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	<1 0 61 <1 887 1075	0 0 57 1 871 1087	0 0 59 <1 910 1124
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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	<1 0 61 <1 887 1075 936	0 0 57 1 871 1087 892	0 0 59 <1 910 1124 966
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm 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	<1 0 61 <1 887 1075 936 1173	0 0 57 1 871 1087 892 1172	0 0 59 <1 910 1124 966 1203
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 ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	<1 0 61 <1 887 1075 936 1173 2648	0 0 57 1 871 1087 892 1172 2353	0 0 59 <1 910 1124 966 1203 3228
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	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	<1 0 61 <1 887 1075 936 1173 2648 current	0 0 57 1 871 1087 892 1172 2353 history1	0 0 59 <1 910 1124 966 1203 3228 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 method	2 0 50 950 1050 995 1180 2600 limit/base >25	<1 0 61 <1 887 1075 936 1173 2648 current 13	0 0 57 1 871 1087 892 1172 2353 history1 6	0 0 59 <1 910 1124 966 1203 3228 history2 4
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 method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	<1 0 61 <1 887 1075 936 1173 2648 <u>current</u> 13 14	0 0 57 1 871 1087 892 1172 2353 history1 6 18	0 0 59 <1 910 1124 966 1203 3228 history2 4 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25 >20	<1 0 61 <1 887 1075 936 1173 2648 current 13 14 4	0 0 57 1 871 1087 892 1172 2353 history1 6 18 2	0 0 59 <1 910 1124 966 1203 3228 history2 4 5 0
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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3	<1 0 61 <1 887 1075 936 1173 2648 <i>current</i> 13 14 4	0 0 57 1 871 1087 892 1172 2353 history1 6 18 2 2 history1	0 0 59 <1 910 1124 966 1203 3228 history2 4 5 0 0 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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3	<1 0 61 <1 887 1075 936 1173 2648 <u>current</u> 13 14 4 <u>current</u>	0 0 57 1 871 1087 892 1172 2353 history1 6 18 2 history1 0.8	0 0 59 <1 910 1124 966 1203 3228 history2 4 5 0 history2 0.5
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 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	<1 0 61 <1 887 1075 936 1173 2648 <u>current</u> 13 14 4 <u>current</u> 0.5 11.1	0 0 57 1 871 1087 892 1172 2353 history1 6 18 2 history1 0.8 13.6	0 0 59 <1 910 1124 966 1203 3228 history2 4 5 0 Vistory2 0.5 10.7
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 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	<1 0 61 <1 887 1075 936 1173 2648 <i>current</i> 13 14 4 <i>current</i> 0.5 11.1 22.4	0 0 57 1 871 1087 892 1172 2353 history1 6 18 2 history1 0.8 13.6 26.1	0 0 59 <1 910 1124 966 1203 3228 history2 4 5 0 0 history2 0.5 10.7 22.9



OIL ANALYSIS REPORT



VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	10.9	10.8	11.0
GRAPHS						
Ferrous Alloys		P				



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



Certificate L2367

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