

OIL ANALYSIS REPORT



Machine Id 317927

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (--- QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

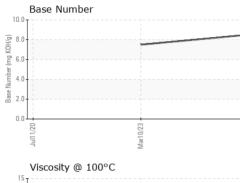
Fluid Condition

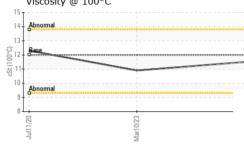
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

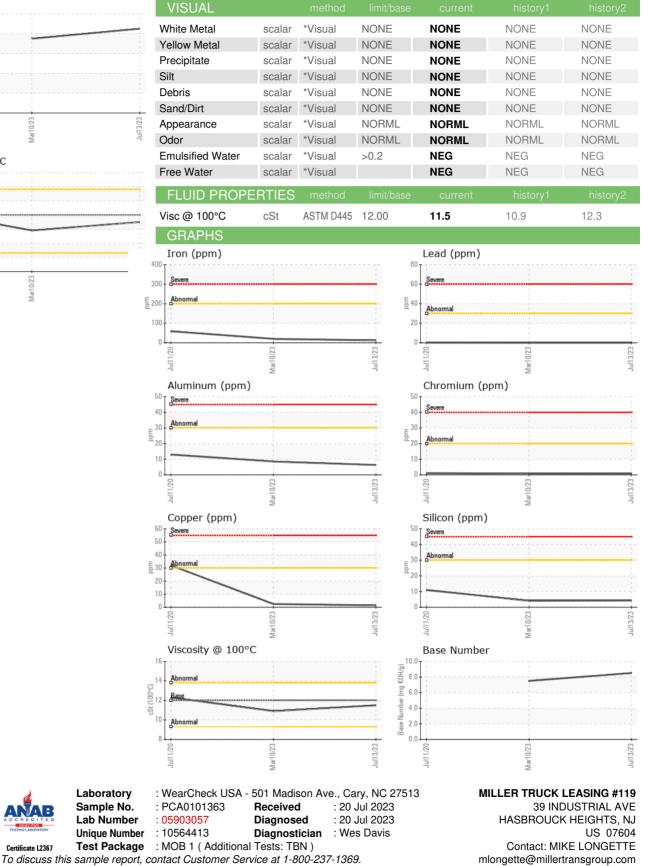
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0101363	PCA0094224	PCA0023595
Sample Date		Client Info		13 Jul 2023	10 Mar 2023	11 Jul 2020
Machine Age	mls	Client Info		134686	119833	11799
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	12	20	59
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm		>30	6	8	13
Lead	ppm	ASTM D5185m	>30	0	0	<1
Copper	ppm		>30	1	2	32
Tin	ppm	ASTM D5185m	>15	0	1	4
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 2	current 4	history1 6	history2 77
	ppm ppm					
Boron		ASTM D5185m	2	4	6	77
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0	4 0	6 0	77 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	4 0 64	6 0 64	77 0 7
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	4 0 64 <1	6 0 64 <1	77 0 7 6
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	4 0 64 <1 1001	6 0 64 <1 835	77 0 7 6 714
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	4 0 64 <1 1001 1185	6 0 64 <1 835 1038	77 0 7 6 714 1460
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	4 0 64 <1 1001 1185 1092	6 0 64 <1 835 1038 874	77 0 7 6 714 1460 745
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 50 950 1050 995 1180	4 0 64 <1 1001 1185 1092 1347	6 0 64 <1 835 1038 874 1089	77 0 7 6 714 1460 745 856
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	2 0 50 0 950 1050 995 1180 2600	4 0 64 <1 1001 1185 1092 1347 3917	6 0 64 <1 835 1038 874 1089 3231	77 0 7 6 714 1460 745 856 2658
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	2 0 50 950 1050 995 1180 2600	4 0 64 <1 1001 1185 1092 1347 3917 current	6 0 64 <1 835 1038 874 1089 3231 history1	77 0 7 6 714 1460 745 856 2658 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	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 limit/base >30	4 0 64 <1 1001 1185 1092 1347 3917 current 4	6 0 64 <1 835 1038 874 1089 3231 history1 4	77 0 7 6 714 1460 745 856 2658 history2 11
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >30	4 0 64 <1 1001 1185 1092 1347 3917 current 4 <	6 0 64 <1 835 1038 874 1089 3231 history1 4 2	77 0 7 6 714 1460 745 856 2658 history2 11 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >30	4 0 64 <1 1001 1185 1092 1347 3917 current 4 <1 0	6 0 64 <1 835 1038 874 1089 3231 history1 4 2 11	77 0 7 6 714 1460 745 856 2658 history2 11 5 30
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 >30 >20 Imit/base >3	4 0 64 <1 1001 1185 1092 1347 3917 current 4 <1 0 current	6 0 64 <1 835 1038 874 1089 3231 history1 4 2 11 1 history1	77 0 7 6 714 1460 745 856 2658 history2 11 5 30 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 >30 >20 Imit/base >3	4 0 64 <1 1001 1185 1092 1347 3917 current 4 <1 0 current 0.3	6 0 64 <1 835 1038 874 1089 3231 history1 4 2 11 1 history1 0.8	77 0 7 6 714 1460 745 856 2658 history2 11 5 30 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 t ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >30 220 <i>imit/base</i> >3 >20	4 0 64 <1 1001 1185 1092 1347 3917 current 4 <1 0 current 0.3 7.4	6 0 64 <1 835 1038 874 1089 3231 history1 4 2 11 4 2 11 history1 0.8 10.6	777 0 7 6 714 1460 745 856 2658 history2 11 5 30 history2 0.5 10
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm t ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	2 0 0 50 0 950 1050 995 1180 2600 imit/base >30 >20 >30 >20 >30 >30	4 0 64 <1 1001 1185 1092 1347 3917 current 4 <1 0 current 0.3 7.4 19.1 current	6 0 64 <1 835 1038 874 1089 3231 history1 4 2 11 4 2 11 0.8 10.6 21.4 history1	77 0 7 6 714 1460 745 856 2658 history2 11 5 30 history2 0.5 10 20.8 history2
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 TS ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >30 imit/base >3 20 imit/base	4 0 64 <1 1001 1185 1092 1347 3917 current 4 <1 0 current 0.3 7.4 19.1	6 0 64 <1 835 1038 874 1089 3231 history1 4 2 11 1 history1 0.8 10.6 21.4	77 0 7 6 714 1460 745 856 2658 history2 11 5 30 history2 0.5 10 20.8



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* - 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)

Certificate L2367

Laboratory

Sample No.

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T: