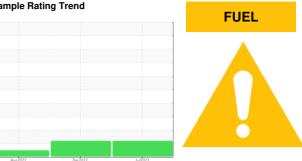


OIL ANALYSIS REPORT

Sample Rating Trend



1RW9460RECP002291

Component

Diesel Engine

PETRO CANADA DURON HP 15W40 (--- QTS)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

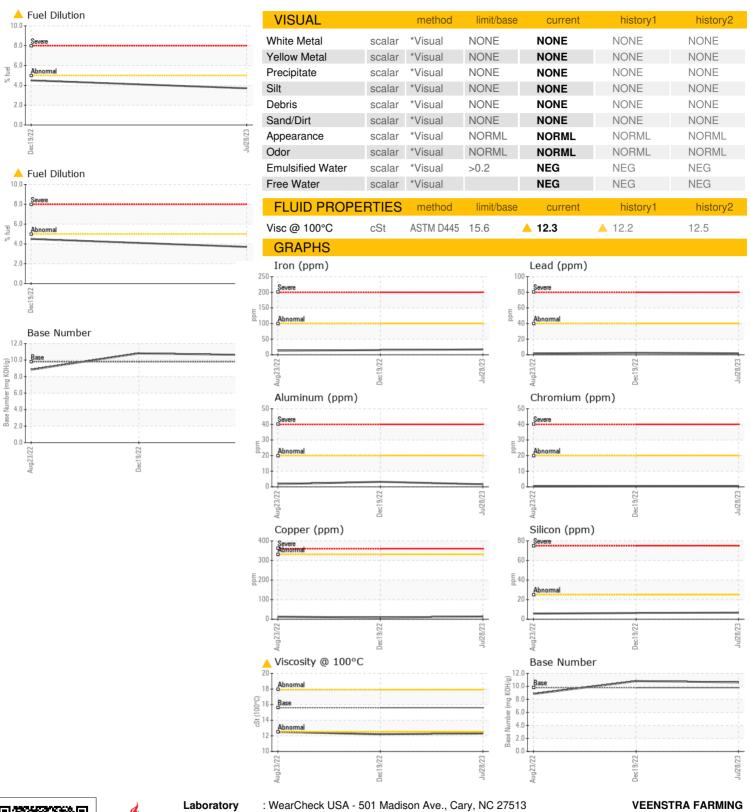
▲ Fluid Condition

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

rs)		Aug	2022	Dec2022 Jul202	3	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0081019	PCA0081085	PCA0053904
Sample Date		Client Info		28 Jul 2023	19 Dec 2022	23 Aug 2022
Machine Age	hrs	Client Info		13423	13165	12912
Oil Age	hrs	Client Info		258	253	280
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	17	15	13
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	1	0
Aluminum	ppm	ASTM D5185m	>20	2	3	2
Lead	ppm	ASTM D5185m	>40	2	3	2
Copper	ppm	ASTM D5185m	>330	14	8	13
Tin	ppm	ASTM D5185m	>15	1	1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 4	history1	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	4	16	9
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	4 0	16 0	9 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 0 65	16 0 58	9 <1 64
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 0 65 <1	16 0 58 <1	9 <1 64 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 0 65 <1 1029	16 0 58 <1 864	9 <1 64 <1 842
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 0 65 <1 1029 1143	16 0 58 <1 864 1040	9 <1 64 <1 842 1048
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 0 65 <1 1029 1143 1124	16 0 58 <1 864 1040 948	9 <1 64 <1 842 1048 959
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 ASTM D5185m ASTM D5185m	limit/base	4 0 65 <1 1029 1143 1124 1358	16 0 58 <1 864 1040 948 1130	9 <1 64 <1 842 1048 959 1136
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 ASTM D5185m	limit/base	4 0 65 <1 1029 1143 1124 1358 3964	16 0 58 <1 864 1040 948 1130 2743	9 <1 64 <1 842 1048 959 1136 2837
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 ASTM D5185m	limit/base	4 0 65 <1 1029 1143 1124 1358 3964	16 0 58 <1 864 1040 948 1130 2743 history1	9 <1 64 <1 842 1048 959 1136 2837 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	4 0 65 <1 1029 1143 1124 1358 3964 current	16 0 58 <1 864 1040 948 1130 2743 history1	9 <1 64 <1 842 1048 959 1136 2837 history2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20	4 0 65 <1 1029 1143 1124 1358 3964 current 7	16 0 58 <1 864 1040 948 1130 2743 history1 6 1	9 <1 6 3
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	limit/base >25 >20	4 0 65 <1 1029 1143 1124 1358 3964 current 7 3 <1	16 0 58 <1 864 1040 948 1130 2743 history1 6 1	9 <1 64 <1 842 1048 959 1136 2837 history2 6 3 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20 >5	4 0 65 <1 1029 1143 1124 1358 3964 current 7 3 <1 3.7	16 0 58 <1 864 1040 948 1130 2743 history1 6 1 1	9 <1 64 <1 842 1048 959 1136 2837 history2 6 3 0 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20 >5 limit/base >3	4 0 65 <1 1029 1143 1124 1358 3964 current 7 3 <1 ▲ 3.7	16 0 58 <1 864 1040 948 1130 2743 history1 6 1 1 ▲ 4.5 history1 0.5	9 <1 64 <1 842 1048 959 1136 2837 history2 6 3 0 <1.0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20 >5 limit/base >3	4 0 65 <1 1029 1143 1124 1358 3964 current 7 3 <1 ▲ 3.7 current 0.5	16 0 58 <1 864 1040 948 1130 2743 history1 6 1 1 4.5 history1	9 <1 64 <1 842 1048 959 1136 2837 history2 6 3 0 <1.0 history2 0.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	limit/base >25 >20 >5 limit/base >3 >20	4 0 65 <1 1029 1143 1124 1358 3964 current 7 3 <1 ▲ 3.7 current 0.5 6.9	16 0 58 <1 864 1040 948 1130 2743 history1 6 1 1 ▲ 4.5 history1 0.5 7.6	9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	limit/base >25 >20 >5 limit/base >3 >20 >3	4 0 65 <1 1029 1143 1124 1358 3964 current 7 3 <1 ▲ 3.7 current 0.5 6.9 19.3	16 0 58 <1 864 1040 948 1130 2743 history1 6 1 1 4.5 history1 0.5 7.6 19.2	9 <1 64 <1 842 1048 959 1136 2837 history2 6 3 0 <1.0 history2 0.7 7.7 22.1



OIL ANALYSIS REPORT







Sample No. Lab Number **Unique Number**

: 05923610

: PCA0081019

Received Diagnosed : 10603557

: 16 Aug 2023 Diagnostician : Wes Davis

: 14 Aug 2023

Test Package : MOB 2 (Additional Tests: PercentFuel) To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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)

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