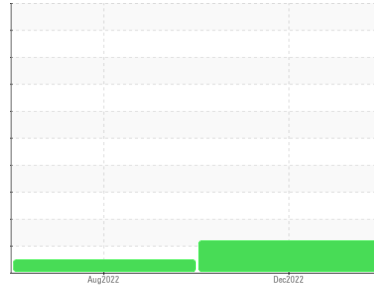


Machine Id
1RW9460RECP002291
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON HP 15W40 (--- QTS)



DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PCA0081085	PCA0053904	---
Sample Date	Client Info			19 Dec 2022	23 Aug 2022	---
Machine Age	hrs	Client Info		13165	12912	---
Oil Age	hrs	Client Info		253	280	---
Oil Changed	Client Info			Changed	Changed	---
Sample Status				ABNORMAL	NORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Glycol	WC Method			NEG	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	15	13	---
Chromium	ppm	ASTM D5185m	>20	<1	<1	---
Nickel	ppm	ASTM D5185m	>4	<1	0	---
Titanium	ppm	ASTM D5185m		<1	0	---
Silver	ppm	ASTM D5185m	>3	1	0	---
Aluminum	ppm	ASTM D5185m	>20	3	2	---
Lead	ppm	ASTM D5185m	>40	3	2	---
Copper	ppm	ASTM D5185m	>330	8	13	---
Tin	ppm	ASTM D5185m	>15	1	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
Cadmium	ppm	ASTM D5185m		0	0	---

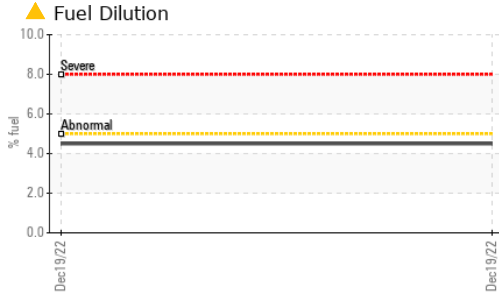
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		16	9	---
Barium	ppm	ASTM D5185m		0	<1	---
Molybdenum	ppm	ASTM D5185m		58	64	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		864	842	---
Calcium	ppm	ASTM D5185m		1040	1048	---
Phosphorus	ppm	ASTM D5185m		948	959	---
Zinc	ppm	ASTM D5185m		1130	1136	---
Sulfur	ppm	ASTM D5185m		2743	2837	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	6	6	---
Sodium	ppm	ASTM D5185m		1	3	---
Potassium	ppm	ASTM D5185m	>20	1	0	---
Fuel	%	ASTM D3524	>5	▲ 4.5	<1.0	---

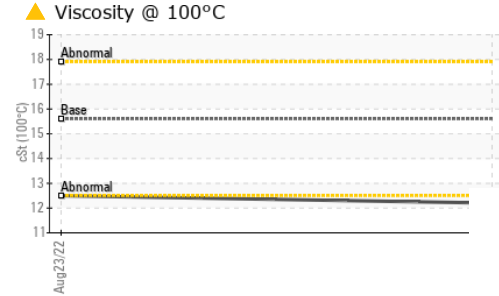
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.5	0.7	---
Nitration	Abs/cm	*ASTM D7624	>20	7.6	7.7	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.2	22.1	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.2	17.2	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	10.81	8.83	---

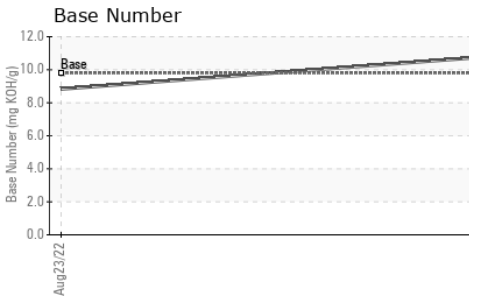
OIL ANALYSIS REPORT



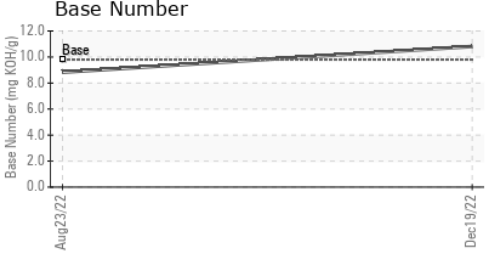
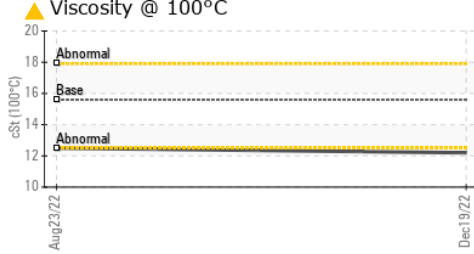
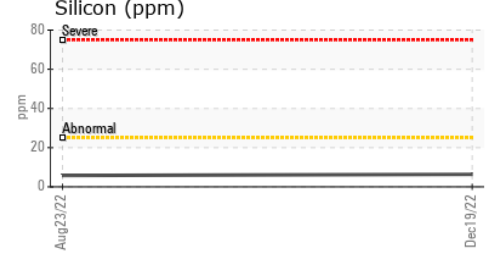
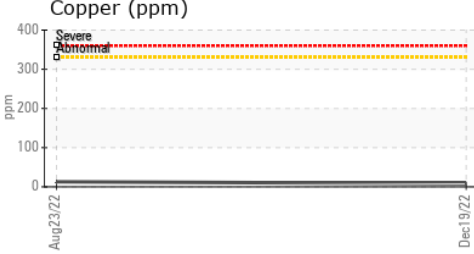
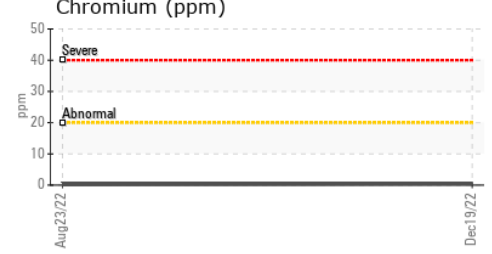
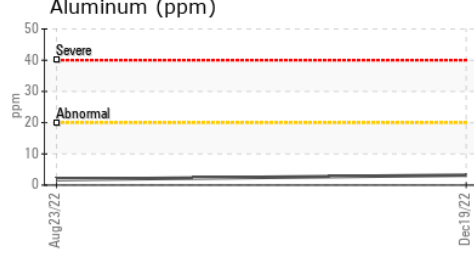
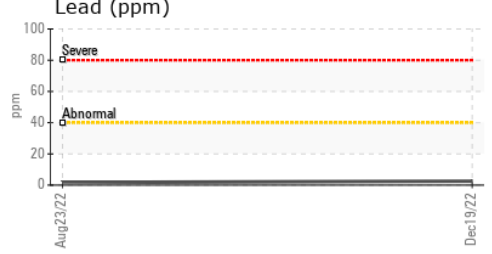
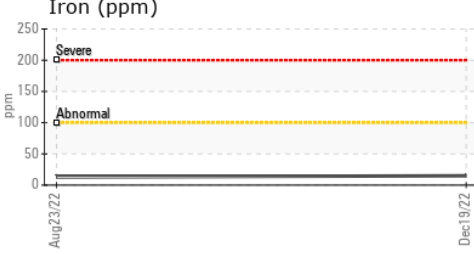
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual NONE	NONE	NONE	---
Precipitate	scalar	*Visual NONE	NONE	NONE	---
Silt	scalar	*Visual NONE	NONE	NONE	---
Debris	scalar	*Visual NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual NONE	NONE	NONE	---
Appearance	scalar	*Visual NORML	NORML	NORML	---
Odor	scalar	*Visual NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual >0.2	NEG	NEG	---
Free Water	scalar	*Visual	NEG	NEG	---



FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445 15.6	▲ 12.2	12.5	---



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0081085 **Received** : 03 Mar 2023
Lab Number : **05783268** **Diagnosed** : 07 Mar 2023
Unique Number : 10362938 **Diagnostician** : Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

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 ESCALON, CA
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 T:
 F:

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)