



Machine Id
150-016
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Test for glycol is positive.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		PCA0082160	---	---
Sample Date	Client Info		20 Jun 2023	---	---
Machine Age	mls	Client Info	321512	---	---
Oil Age	mls	Client Info	10000	---	---
Oil Changed	Client Info		Changed	---	---
Sample Status			SEVERE	---	---

CONTAMINATION

	method	limit/base	current	history 1	history 2
Fuel	WC Method	>5	<1.0	---	---

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >100	45	---	---
Chromium	ppm	ASTM D5185m >20	2	---	---
Nickel	ppm	ASTM D5185m >4	<1	---	---
Titanium	ppm	ASTM D5185m	<1	---	---
Silver	ppm	ASTM D5185m >3	0	---	---
Aluminum	ppm	ASTM D5185m >20	1	---	---
Lead	ppm	ASTM D5185m >40	8	---	---
Copper	ppm	ASTM D5185m >330	7	---	---
Tin	ppm	ASTM D5185m >15	2	---	---
Vanadium	ppm	ASTM D5185m	0	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m 0	0	---	---
Barium	ppm	ASTM D5185m 0	<1	---	---
Molybdenum	ppm	ASTM D5185m 60	105	---	---
Manganese	ppm	ASTM D5185m 0	<1	---	---
Magnesium	ppm	ASTM D5185m 1010	953	---	---
Calcium	ppm	ASTM D5185m 1070	1028	---	---
Phosphorus	ppm	ASTM D5185m 1150	990	---	---
Zinc	ppm	ASTM D5185m 1270	1219	---	---
Sulfur	ppm	ASTM D5185m 2060	3504	---	---

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >25	12	---	---
Sodium	ppm	ASTM D5185m	▲ 198	---	---
Potassium	ppm	ASTM D5185m >20	▲ 338	---	---
Glycol	%	*ASTM D2982	● 0.10	---	---

INFRA-RED

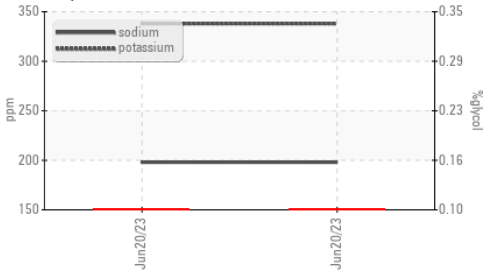
	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844 >3	0.7	---	---
Nitration	Abs/cm	*ASTM D7624 >20	10.7	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.2	---	---

FLUID DEGRADATION

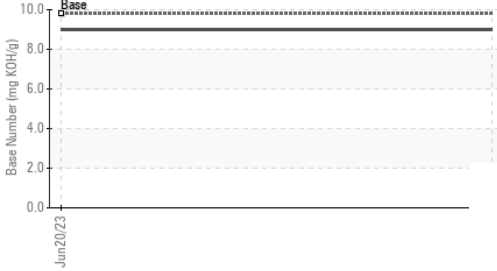
	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.2	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	9.0	---	---

OIL ANALYSIS REPORT

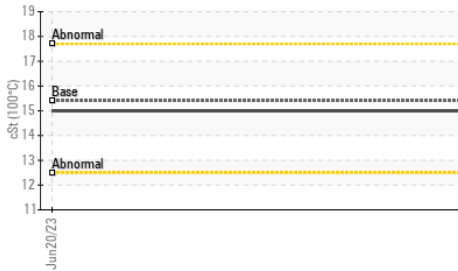
Glycol Contamination



Base Number



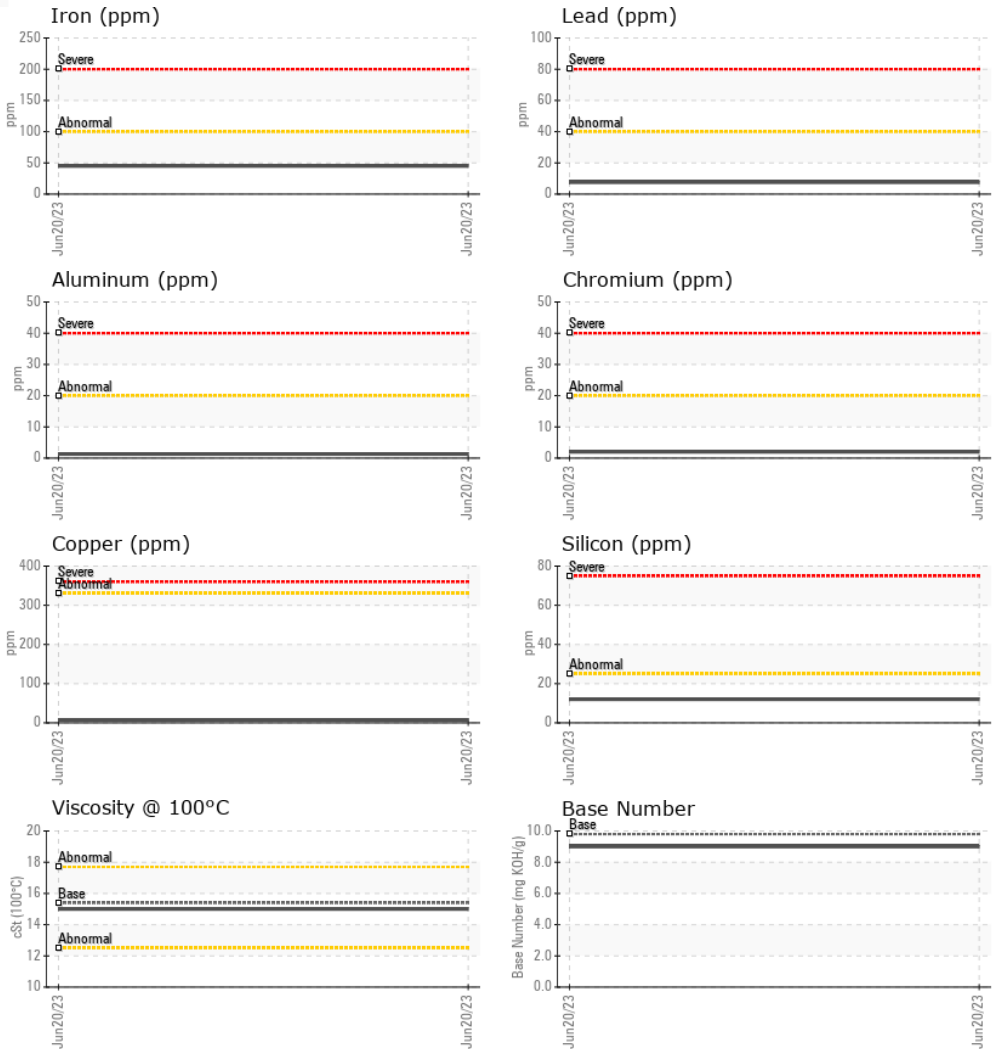
Viscosity @ 100°C



VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.4	15.0	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0082160 **Received** : 10 Jul 2023
Lab Number : 05893341 **Diagnosed** : 12 Jul 2023
Unique Number : 10549151 **Diagnostician** : Jonathan Hester
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

GE MARSHALL EXCAVATION
 1351 JOLIET RD
 VALPARAISO, IN
 US 46385
 Contact: RICK YUKON
 rick.yukon@gemarshall.com

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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F: