OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend

GLYCOL

Machine Id
374138
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- 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 remain high.

Fluid Condition
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		**PCA0121435**	PCA0102897	PCA0042309
Sample Date		Client Info		**06 Apr 2024**	12 Aug 2023	10 Mar 2021
Machine Age	mls	Client Info		**248378**	222843	137613
Oil Age	mls	Client Info		**248378**	222843	8000
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	SEVERE	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**32**	97	▲ 108
Chromium	ppm	ASTM D5185m	>20	**<1**	2	3
Nickel	ppm	ASTM D5185m	>4	**0**	<1	2
Titanium	ppm	ASTM D5185m		**6**	29	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**16**	14	▲ 24
Lead	ppm	ASTM D5185m	>40	**0**	0	0
Copper	ppm	ASTM D5185m	>330	**3**	3	6
Tin	ppm	ASTM D5185m	>15	**0**	<1	2
Antimony	ppm	ASTM D5185m		**---**	---	0
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**13**	12	3
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	50	**66**	60	59
Manganese	ppm	ASTM D5185m	0	**<1**	1	1
Magnesium	ppm	ASTM D5185m	950	**931**	679	977
Calcium	ppm	ASTM D5185m	1050	**1152**	1432	1073
Phosphorus	ppm	ASTM D5185m	995	**1111**	939	1020
Zinc	ppm	ASTM D5185m	1180	**1285**	1190	1171
Sulfur	ppm	ASTM D5185m	2600	**3610**	3379	2069

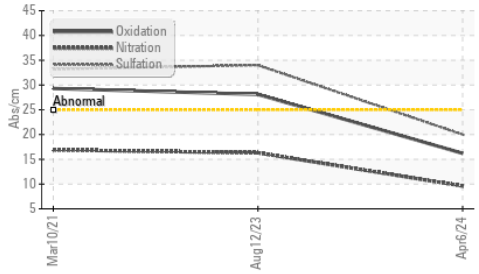
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**5**	9	9
Sodium	ppm	ASTM D5185m		▲ **104**	▲ 239	4
Potassium	ppm	ASTM D5185m	>20	▲ **118**	▲ 283	25
Glycol	%	*ASTM D2982		**NEG**	▲ 0.10	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.8**	▲ 3.1	▲ 3.2
Nitration	Abs/cm	*ASTM D7624	>20	**9.6**	16.3	16.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**20.0**	34.0	33.2

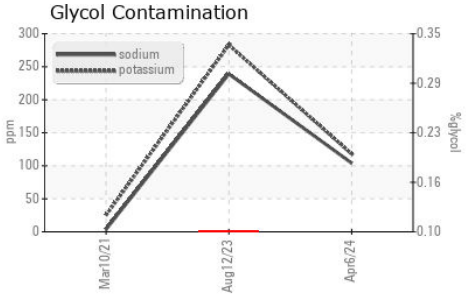
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.2**	28.1	29.3
Base Number (BN)	mg KOH/g	ASTM D2896		**7.8**	5.5	---

OIL ANALYSIS REPORT

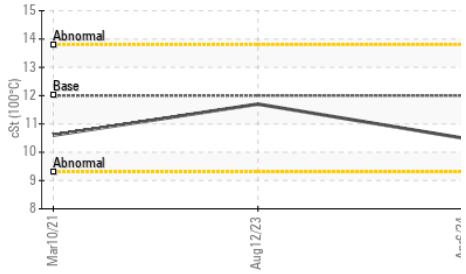
FT-IR (Direct Trend)



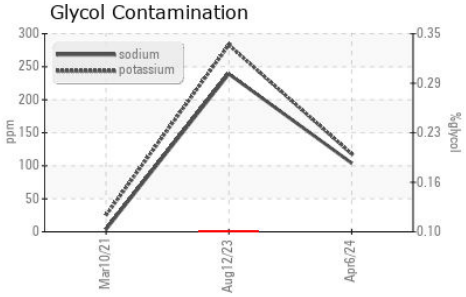
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

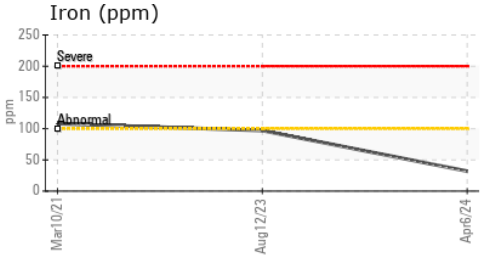


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

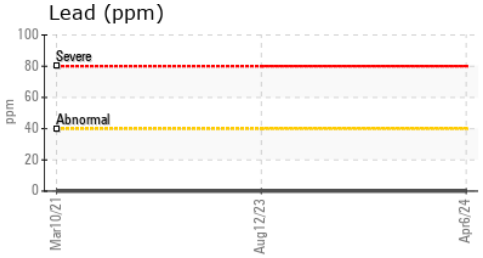
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	**10.5**	11.7	10.6

GRAPHS

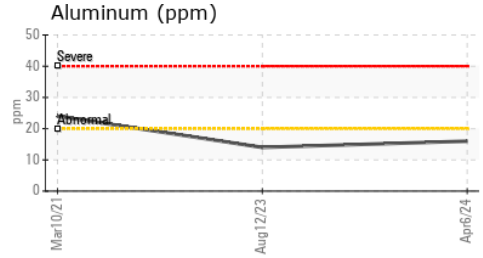
Iron (ppm)



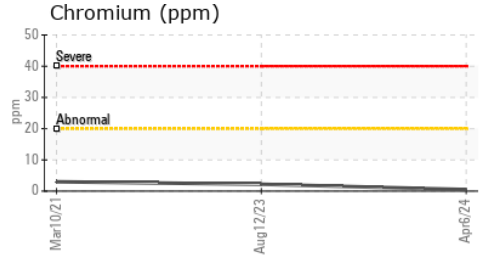
Lead (ppm)



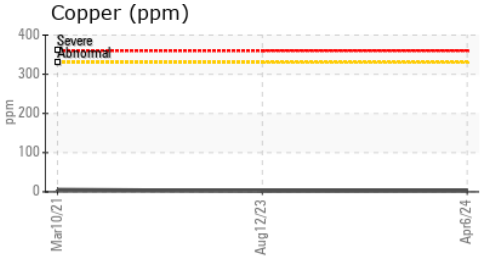
Aluminum (ppm)



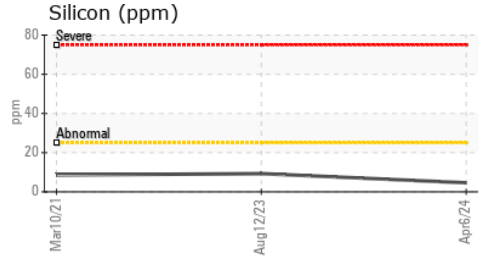
Chromium (ppm)



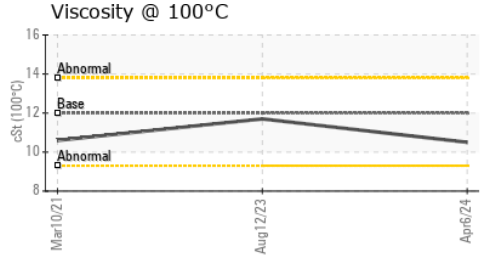
Copper (ppm)



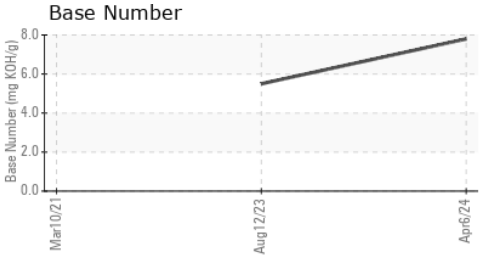
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0121435 **Received** : 16 Apr 2024
Lab Number : 06150068 **Tested** : 17 Apr 2024
Unique Number : 10980146 **Diagnosed** : 18 Apr 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: TBN)

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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