OIL ANALYSIS REPORT

Sample Rating Trend

DEGRADATION

Machine Id
736800
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- QTS)

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Wear
Cylinder, crank, or cam shaft wear is indicated.

Contamination
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components.

Fluid Condition
The BN level is low. The oil is no longer serviceable.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0104242**	PCA0095876	PCA0088151
Sample Date		Client Info		**29 Aug 2023**	28 Mar 2023	20 Jan 2023
Machine Age	mls	Client Info		**188527**	124794	102413
Oil Age	mls	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	N/A	Changed
Sample Status				**ABNORMAL**	NORMAL	SEVERE

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	▲ **163**	78	⬢ 263
Chromium	ppm	ASTM D5185m	>20	**6**	3	12
Nickel	ppm	ASTM D5185m	>4	**<1**	0	2
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**25**	18	52
Lead	ppm	ASTM D5185m	>40	**0**	0	3
Copper	ppm	ASTM D5185m	>330	**75**	73	259
Tin	ppm	ASTM D5185m	>15	**4**	2	10
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**7**	11	12
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	50	**68**	66	71
Manganese	ppm	ASTM D5185m	0	**2**	1	5
Magnesium	ppm	ASTM D5185m	950	**909**	823	682
Calcium	ppm	ASTM D5185m	1050	**1347**	1287	1795
Phosphorus	ppm	ASTM D5185m	995	**1006**	925	832
Zinc	ppm	ASTM D5185m	1180	**1304**	1160	1047
Sulfur	ppm	ASTM D5185m	2600	**2553**	2349	2113

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**8**	6	15
Sodium	ppm	ASTM D5185m		**4**	3	10
Potassium	ppm	ASTM D5185m	>20	**61**	44	151

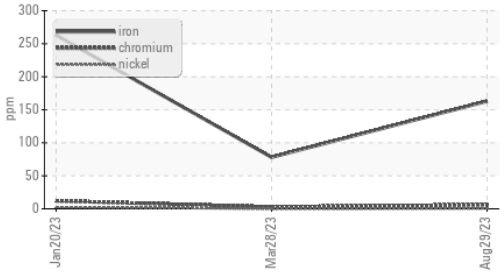
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**2.4**	1.2	2.6
Nitration	Abs/cm	*ASTM D7624	>20	**21.1**	11.7	28.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**34.6**	23.9	38.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**47.6**	25.4	64.0
Base Number (BN)	mg KOH/g	ASTM D2896		▲ **1.7**	7.0	▲ 0.5

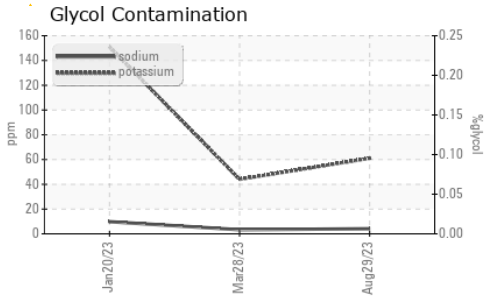
OIL ANALYSIS REPORT

OIL DIAGNOSTICS

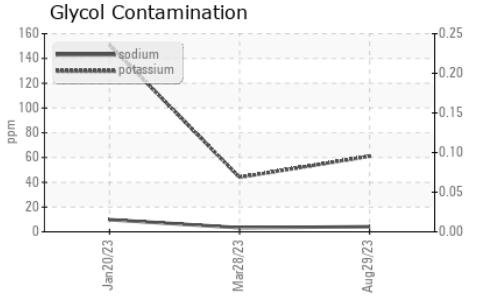
Ferrous Alloys



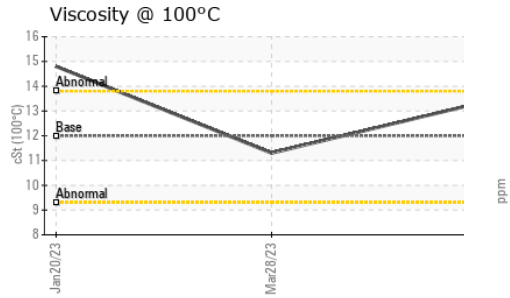
Glycol Contamination



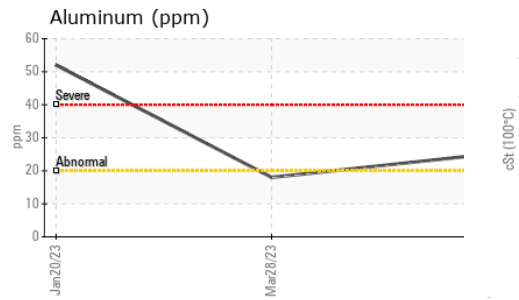
Glycol Contamination



Viscosity @ 100°C



Aluminum (ppm)

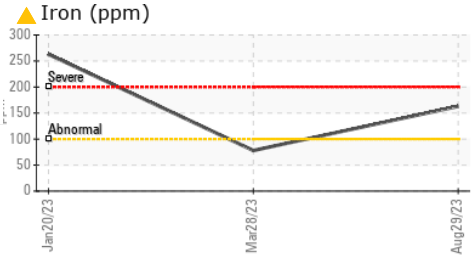


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

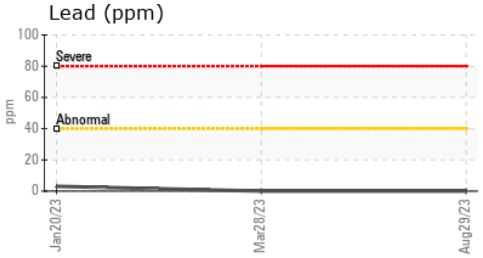
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	**13.4**	11.3	▲ 14.8

GRAPHS

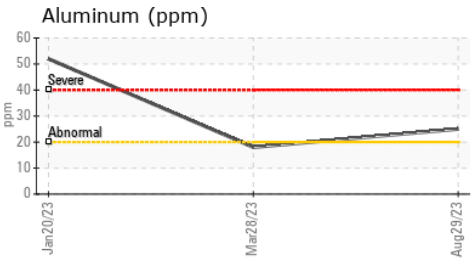
Iron (ppm)



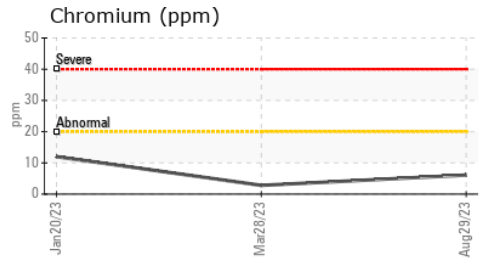
Lead (ppm)



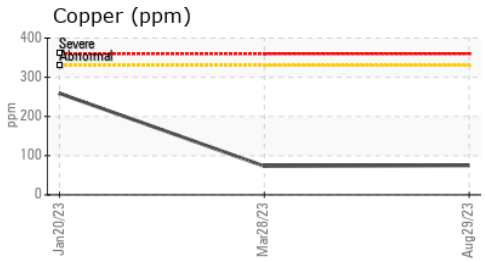
Aluminum (ppm)



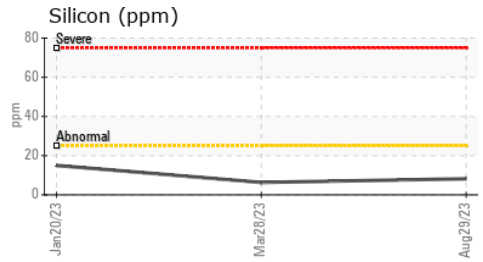
Chromium (ppm)



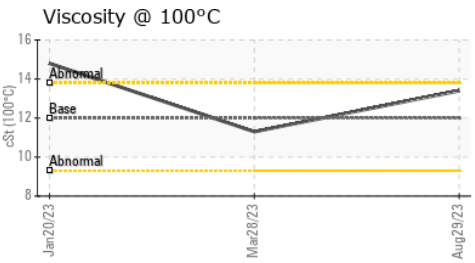
Copper (ppm)



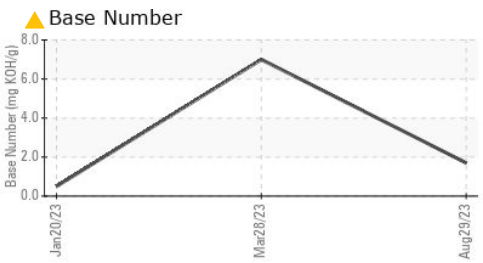
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0104242 **Received** : 30 Aug 2023
Lab Number : 05938650 **Diagnosed** : 01 Sep 2023
Unique Number : 10629262 **Diagnostician** : Don Baldridge
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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