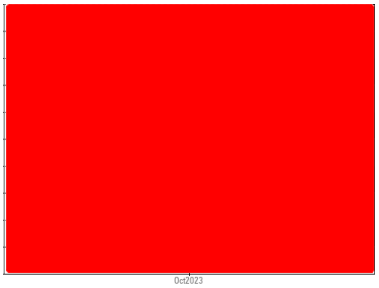
PROBLEM SUMMARY

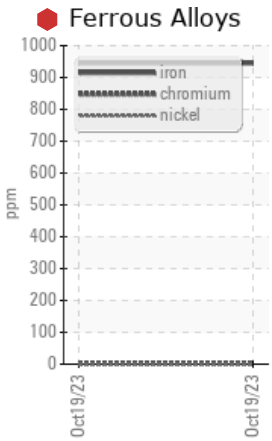
Sample Rating Trend

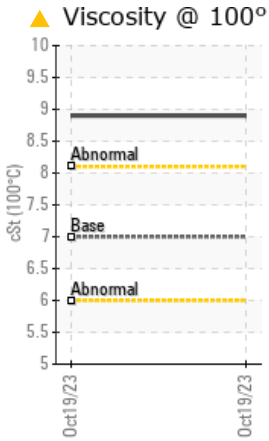


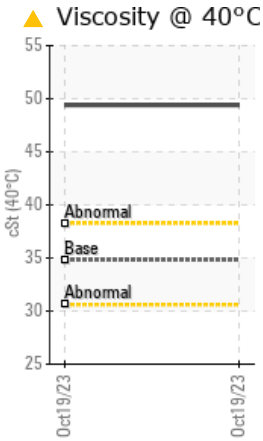
WEAR

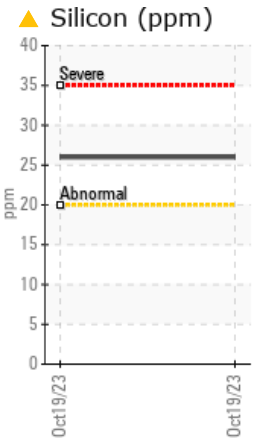
Machine Id
1832
Component
Rear Transmission (Auto)
Fluid
PETRO CANADA DuraDrive HD Synthetic 668 (24 LTR)

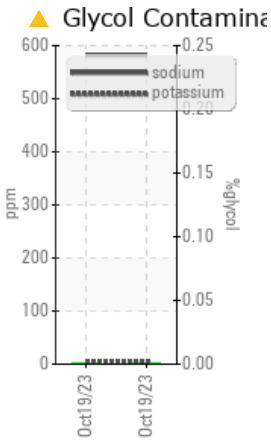
COMPONENT CONDITION SUMMARY











RECOMMENDATION

Check for low coolant level. We advise that you check all areas where dirt can enter the system. The fluid change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	---	---
Iron	ppm	ASTM D5185(m)	>160	**945**	---	---
Zinc	ppm	ASTM D5185(m)		**328**	---	---
Sulfur	ppm	ASTM D5185(m)	1326	**849**	---	---
Silicon	ppm	ASTM D5185(m)	>20	**26**	---	---
Sodium	ppm	ASTM D5185(m)		**582**	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	34.8	**49.4**	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	7.0	**8.9**	---	---

Customer Id: STJNEW
Sample No.: PC0076767
Lab Number: 02598482
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

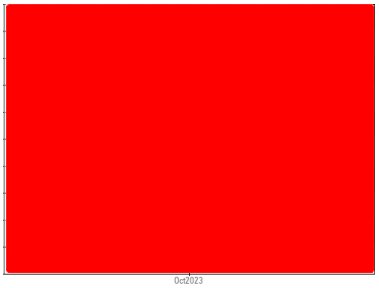
RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Dirt Access	---	---	?	We advise that you check all areas where dirt can enter the system.
Check Fluid Source	---	---	?	Confirm the source of the lubricant being utilized for top-up/fill.

HISTORICAL DIAGNOSIS

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
1832
Component
Rear Transmission (Auto)
Fluid
PETRO CANADA DuraDrive HD Synthetic 668 (24 LTR)

DIAGNOSIS

Recommendation

Check for low coolant level. We advise that you check all areas where dirt can enter the system. The fluid change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

Wear

Iron ppm levels are severe. Aluminum ppm levels are noted. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

Contamination

Water treatment chemicals present, indicating slow coolant leak. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Test for glycol is negative. High amount of ingressed dirt has caused abrasive wear to the component.

Fluid Condition

Viscosity of sample indicates oil is within ISO 46 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid. The fluid is no longer serviceable as a result of the abnormal and/or severe wear. The condition of the fluid is acceptable for the time in service (see recommendation).

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0076767**	---	---
Sample Date		Client Info		**19 Oct 2023**	---	---
Machine Age	kms	Client Info		**191700**	---	---
Oil Age	kms	Client Info		**66111**	---	---
Oil Changed		Client Info		**Changed**	---	---
Sample Status				**SEVERE**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*	>50	**13**	---	---
Iron	ppm	ASTM D5185(m)	>160	⬢ **945**	---	---
Chromium	ppm	ASTM D5185(m)	>5	**2**	---	---
Nickel	ppm	ASTM D5185(m)	>5	**1**	---	---
Titanium	ppm	ASTM D5185(m)		**0**	---	---
Silver	ppm	ASTM D5185(m)	>5	**<1**	---	---
Aluminum	ppm	ASTM D5185(m)	>50	**18**	---	---
Lead	ppm	ASTM D5185(m)	>50	**13**	---	---
Copper	ppm	ASTM D5185(m)	>225	**485**	---	---
Tin	ppm	ASTM D5185(m)	>10	**<1**	---	---
Antimony	ppm	ASTM D5185(m)		**0**	---	---
Vanadium	ppm	ASTM D5185(m)		**0**	---	---
Beryllium	ppm	ASTM D5185(m)		**0**	---	---
Cadmium	ppm	ASTM D5185(m)		**0**	---	---

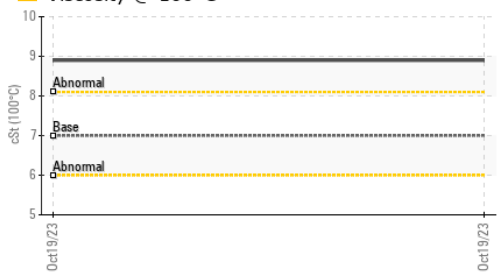
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	78	**33**	---	---
Barium	ppm	ASTM D5185(m)		**0**	---	---
Molybdenum	ppm	ASTM D5185(m)	0	**0**	---	---
Manganese	ppm	ASTM D5185(m)		**12**	---	---
Magnesium	ppm	ASTM D5185(m)	0	**3**	---	---
Calcium	ppm	ASTM D5185(m)	113	**66**	---	---
Phosphorus	ppm	ASTM D5185(m)	222	**204**	---	---
Zinc	ppm	ASTM D5185(m)		▲ **328**	---	---
Sulfur	ppm	ASTM D5185(m)	1326	▲ **849**	---	---
Lithium	ppm	ASTM D5185(m)		**<1**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	▲ **26**	---	---
Sodium	ppm	ASTM D5185(m)		▲ **582**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**6**	---	---
Glycol	%	ASTM D7922*		**0.0**	---	---

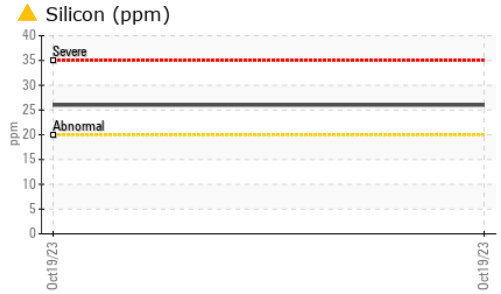
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	1.4	**1.65**	---	---

OIL ANALYSIS REPORT

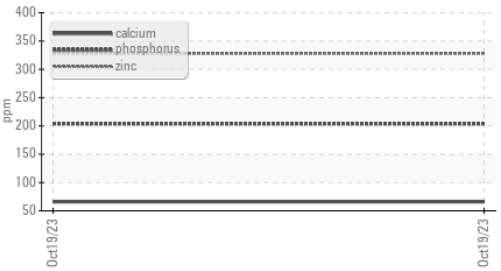
Viscosity @ 100°C



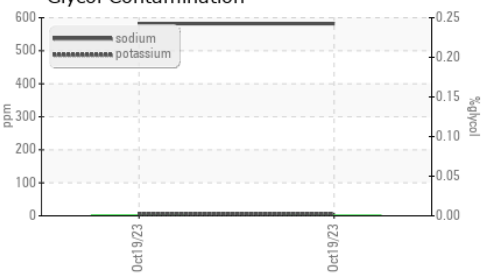
Silicon (ppm)



Additives



Glycol Contamination



Aluminum (ppm)

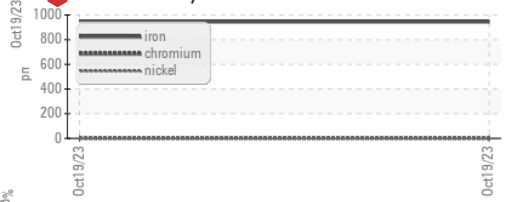
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	---	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**VLITE**	---	---
Debris	scalar	Visual*	NONE	**NONE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	---	---
Emulsified Water	scalar	Visual*	>0.1	**NEG**	---	---
Free Water	scalar	Visual*		**NEG**	---	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	34.8	▲ **49.4**	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	7.0	▲ **8.9**	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	167	**161**	---	---

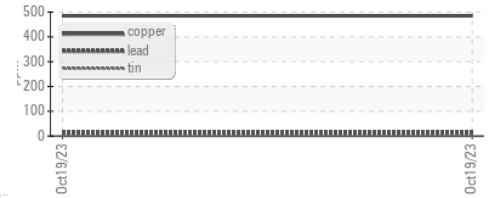
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				*no image*	*no image*
Bottom				*no image*	*no image*

GRAPHS

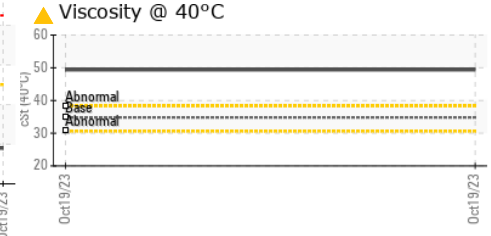
Ferrous Alloys



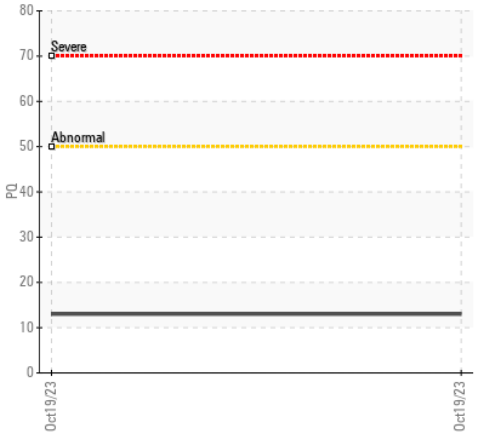
Non-ferrous Metals



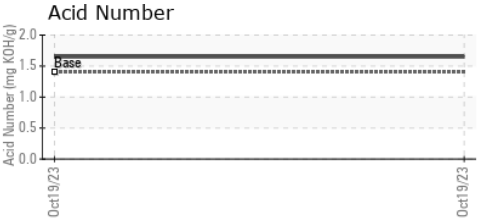
Viscosity @ 40°C



PQ



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0076767 **Received** : 23 Nov 2023
Lab Number : 02598482 **Diagnosed** : 24 Nov 2023
Unique Number : 5683562 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: Glycol, KV100, TAN Man, VI)

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

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