



OIL ANALYSIS REPORT

Sample Rating Trend

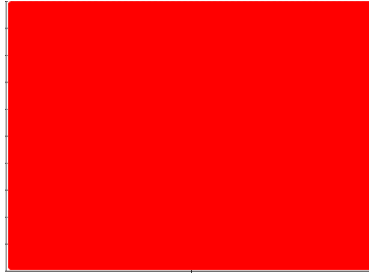
WEAR



Machine Id
092276

Component
Rear Left Final Drive

Fluid
PETRO CANADA ENDURATEX EP 220 (--- GAL)



DIAGNOSIS

Recommendation

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

Wear

Copper and lead ppm levels are severe. Iron ppm levels are abnormal. Aluminum ppm levels are noted. Bearing and/or bushing wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component.

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0851990	---	---
Sample Date	Client Info		03 Oct 2023	---	---
Machine Age	hrs	Client Info	632	---	---
Oil Age	hrs	Client Info	70	---	---
Oil Changed	Client Info		Not Chngd	---	---
Sample Status			SEVERE	---	---

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		282	---	---
Iron	ppm	ASTM D5185(m) >500	759	---	---
Chromium	ppm	ASTM D5185(m) >10	9	---	---
Nickel	ppm	ASTM D5185(m) >10	1	---	---
Titanium	ppm	ASTM D5185(m)	2	---	---
Silver	ppm	ASTM D5185(m)	<1	---	---
Aluminum	ppm	ASTM D5185(m) >25	32	---	---
Lead	ppm	ASTM D5185(m) >25	109	---	---
Copper	ppm	ASTM D5185(m) >50	419	---	---
Tin	ppm	ASTM D5185(m) >10	6	---	---
Antimony	ppm	ASTM D5185(m) >5	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) 60	6	---	---
Barium	ppm	ASTM D5185(m) 0	2	---	---
Molybdenum	ppm	ASTM D5185(m) 0	0	---	---
Manganese	ppm	ASTM D5185(m) 0	7	---	---
Magnesium	ppm	ASTM D5185(m) 0	14	---	---
Calcium	ppm	ASTM D5185(m) 0	84	---	---
Phosphorus	ppm	ASTM D5185(m) 270	122	---	---
Zinc	ppm	ASTM D5185(m) 0	27	---	---
Sulfur	ppm	ASTM D5185(m) 11200	5620	---	---
Lithium	ppm	ASTM D5185(m)	<1	---	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >75	143	---	---
Sodium	ppm	ASTM D5185(m)	10	---	---
Potassium	ppm	ASTM D5185(m) >20	12	---	---

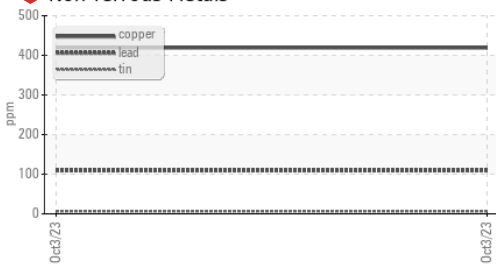
VISUAL

	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	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	---



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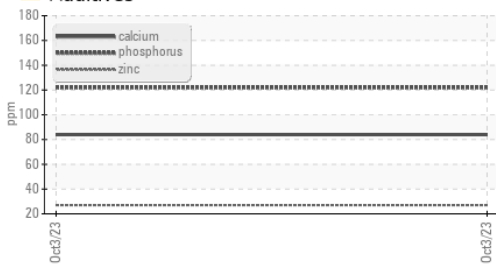
Non-ferrous Metals



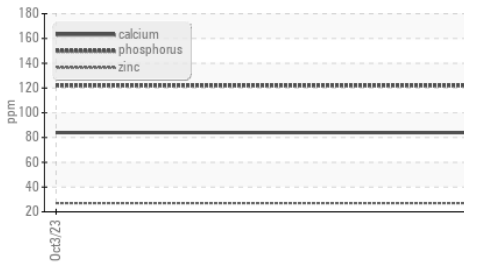
Ferrous Alloys



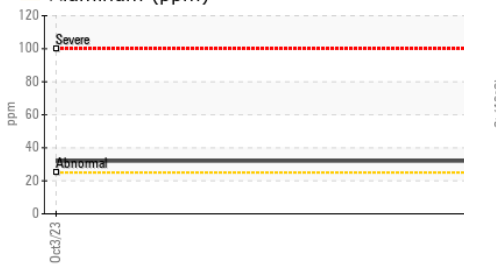
Additives



Additives



Aluminum (ppm)



FLUID PROPERTIES

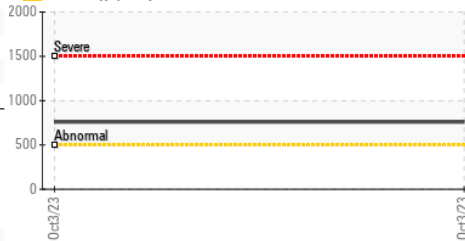
method	limit/base	current	history1	history2
Visc @ 40°C	cSt ASTM D7279(m) 220	201	---	---

SAMPLE IMAGES

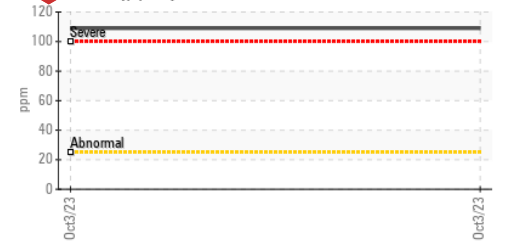
method	limit/base	current	history1	history2
Color			no image	no image
Bottom			no image	no image

GRAPHS

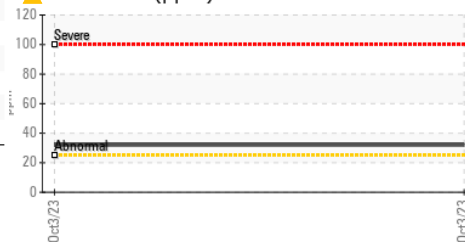
Iron (ppm)



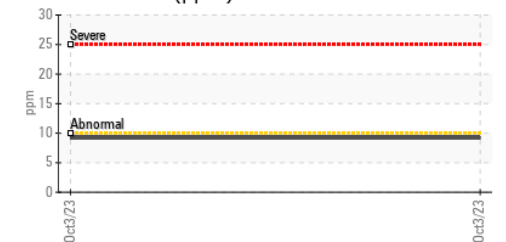
Lead (ppm)



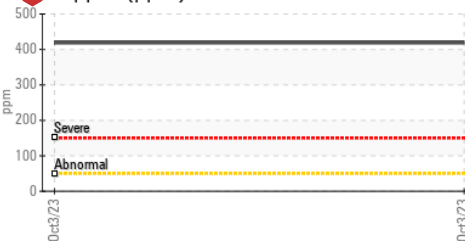
Aluminum (ppm)



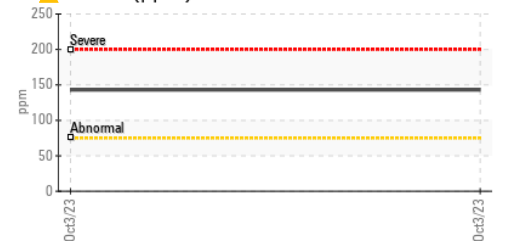
Chromium (ppm)



Copper (ppm)



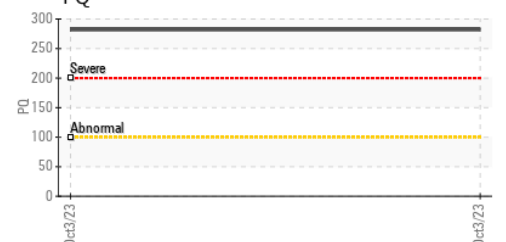
Silicon (ppm)



Viscosity @ 40°C



PQ



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0851990 **Received** : 05 Oct 2023
Lab Number : 02587265 **Diagnosed** : 06 Oct 2023
Unique Number : 5656331 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: PQ)

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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