



Area
Scoop 10 Yard
Machine Id
LHD1502
Component
Front Right Final Drive
Fluid
PETRO CANADA TRAXON 80W90 (--- LTR)

RECOMMENDATION

We advise that you check for the source of water entry. 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. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PC0048742	PC0046795	---
Sample Date		Client Info		04 May 2024	29 Apr 2021	---
Machine Age	hrs	Client Info		2699	0	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		N/A	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				SEVERE	NORMAL	---

WEAR

Chromium and copper and 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.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184*		379	---	---
Iron	ppm	ASTM D5185(m)	>500	▲ 1044	53	---
Chromium	ppm	ASTM D5185(m)	>10	▲ 10	<1	---
Nickel	ppm	ASTM D5185(m)	>10	4	<1	---
Titanium	ppm	ASTM D5185(m)		8	<1	---
Silver	ppm	ASTM D5185(m)		0	<1	---
Aluminum	ppm	ASTM D5185(m)	>25	● 96	15	---
Lead	ppm	ASTM D5185(m)	>25	6	2	---
Copper	ppm	ASTM D5185(m)	>50	▲ 233	52	---
Tin	ppm	ASTM D5185(m)	>10	5	<1	---
Vanadium	ppm	ASTM D5185(m)		0	<1	---
White Metal	scalar	Visual*	NONE	NONE	VLITE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---

CONTAMINATION

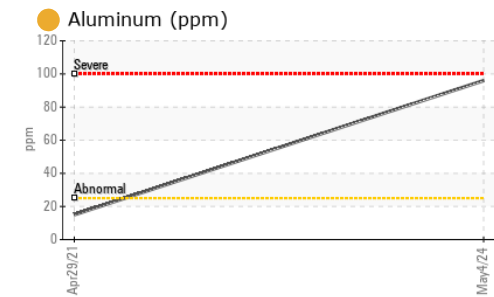
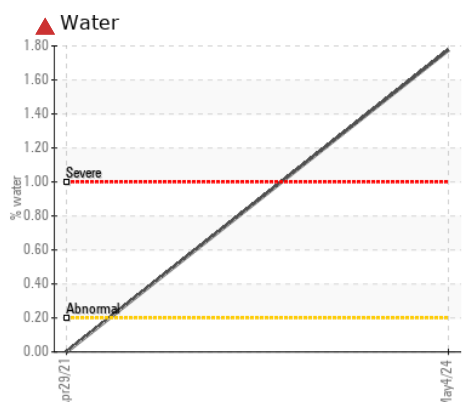
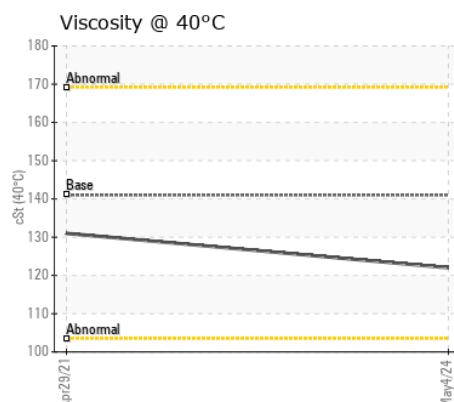
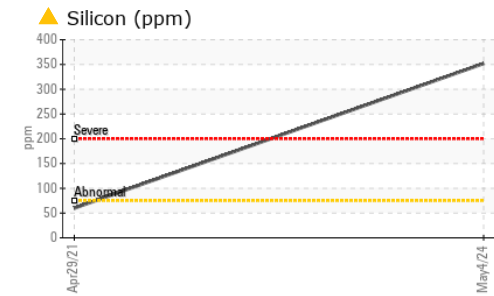
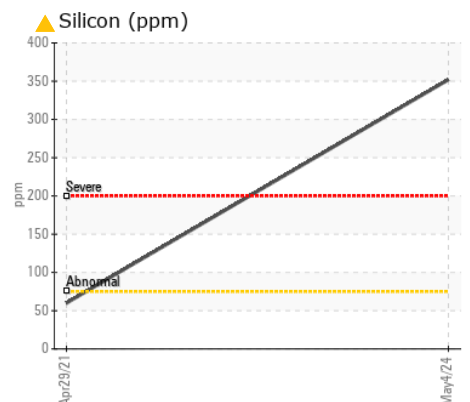
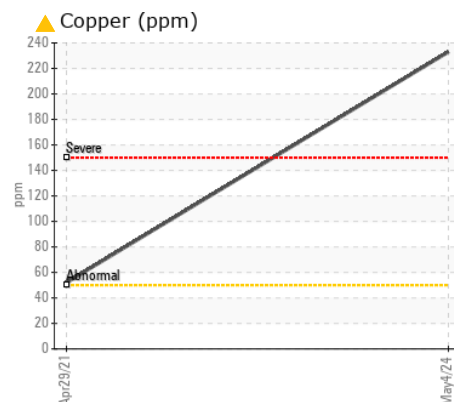
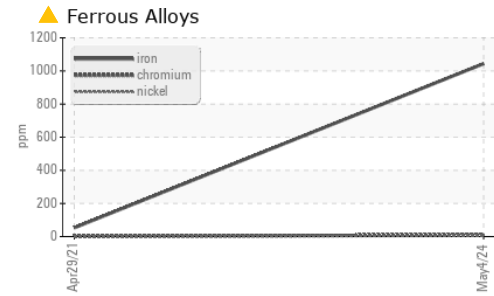
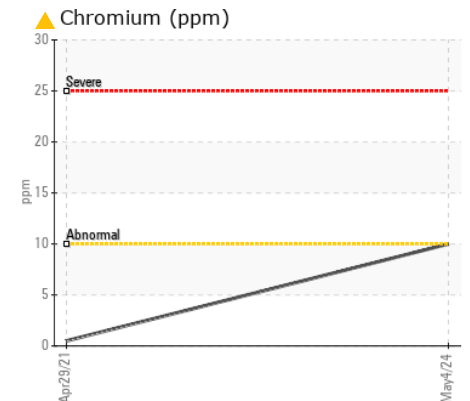
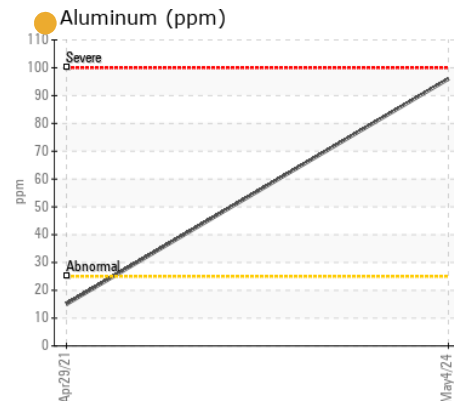
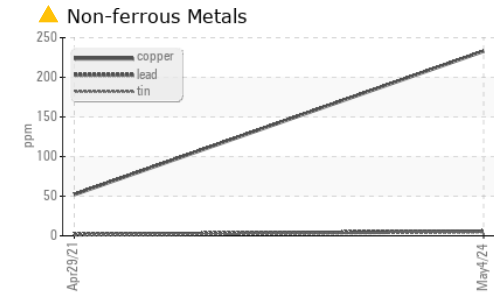
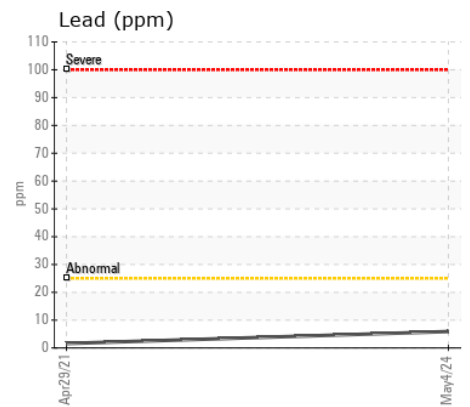
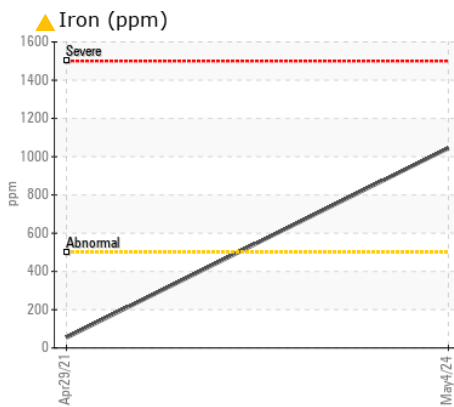
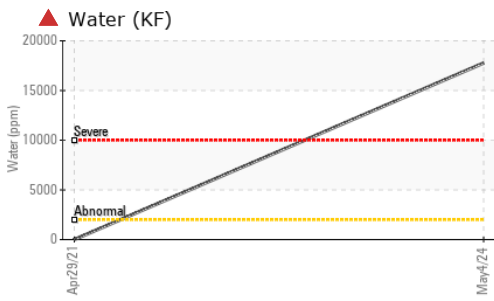
There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component.

Silicon	ppm	ASTM D5185(m)	>75	▲ 352	60	---
Potassium	ppm	ASTM D5185(m)	>20	38	9	---
Water	%	ASTM D6304*	>0.2	▲ 1.776	---	---
ppm Water	ppm	ASTM D6304*	>2000	▲ 17767	---	---
Silt	scalar	Visual*	NONE	LIGHT	NONE	---
Debris	scalar	Visual*	NONE	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	▲ MILKY	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.2	▲ .2%	NEG	---

FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)		44	9	---
Boron	ppm	ASTM D5185(m)	243	149	28	---
Barium	ppm	ASTM D5185(m)	1	3	<1	---
Molybdenum	ppm	ASTM D5185(m)		0	<1	---
Manganese	ppm	ASTM D5185(m)		14	1	---
Magnesium	ppm	ASTM D5185(m)	2	50	9	---
Calcium	ppm	ASTM D5185(m)	6	598	32	---
Phosphorus	ppm	ASTM D5185(m)	987	1005	526	---
Zinc	ppm	ASTM D5185(m)	1	276	10	---
Sulfur	ppm	ASTM D5185(m)	21530	16095	22068	---
Visc @ 40°C	cSt	ASTM D7279(m)	141.0	122	131	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.06	11.2	15.9	---
Viscosity Index (VI)	Scale	ASTM D2270*	108	▲ 70	127	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0048742 **Received** : 29 May 2024
Lab Number : 02638670 **Tested** : 03 Jun 2024
Unique Number : 5787832 **Diagnosed** : 03 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: KF, KV100, PQ, VI)

Lakeshore Gold Timmins West

Timmins, ON
CA

Contact: Dale Arseneau
darseneau@ca.panamericansilver.com

T: (705)269-4344

F:

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.