OIL ANALYSIS REPORT

Sample Rating Trend

OFF SPEC

Area
Haul Truck
Machine Id
HT4501
Component
Front Differential
Fluid
PETRO CANADA PRODURO FD-1 60 (77 LTR)

DIAGNOSIS

Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as PETRO CANADA PRODURO FD-1 60, however, a fluid match indicates that this fluid is SAE 20 Transmission/Drive Train Oil. Please confirm the oil type and grade on your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

Viscosity of sample indicates oil is within SAE 20 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history 1	history 2
Sample Number		Client Info		**PC0051415**	PC0048837	---
Sample Date		Client Info		**13 May 2023**	21 Jul 2022	---
Machine Age	hrs	Client Info		**6383**	4116	---
Oil Age	hrs	Client Info		**0**	0	---
Oil Changed		Client Info		**N/A**	N/A	---
Sample Status				**ABNORMAL**	ABNORMAL	---

WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185(m)	>500	**21**	10	---
Chromium	ppm	ASTM D5185(m)	>3	**<1**	0	---
Nickel	ppm	ASTM D5185(m)	>3	**<1**	0	---
Titanium	ppm	ASTM D5185(m)	>2	**<1**	<1	---
Silver	ppm	ASTM D5185(m)	>2	**0**	0	---
Aluminum	ppm	ASTM D5185(m)	>30	**5**	1	---
Lead	ppm	ASTM D5185(m)	>13	**<1**	1	---
Copper	ppm	ASTM D5185(m)	>103	**8**	20	---
Tin	ppm	ASTM D5185(m)	>5	**0**	<1	---
Antimony	ppm	ASTM D5185(m)	>5	**0**	0	---
Vanadium	ppm	ASTM D5185(m)		**0**	0	---
Beryllium	ppm	ASTM D5185(m)		**0**	0	---
Cadmium	ppm	ASTM D5185(m)		**0**	0	---

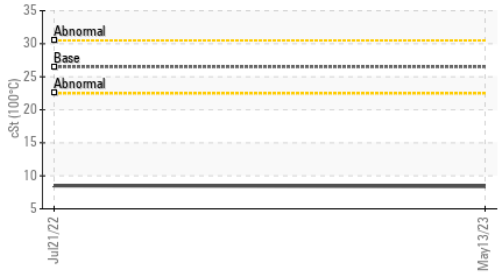
ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185(m)	92	**3**	100	---
Barium	ppm	ASTM D5185(m)	0	**0**	0	---
Molybdenum	ppm	ASTM D5185(m)	0	**2**	2	---
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	---
Magnesium	ppm	ASTM D5185(m)	0	**17**	18	---
Calcium	ppm	ASTM D5185(m)	283	**2258**	3534	---
Phosphorus	ppm	ASTM D5185(m)	306	**912**	1139	---
Zinc	ppm	ASTM D5185(m)	0	**1035**	1321	---
Sulfur	ppm	ASTM D5185(m)	9080	**2794**	2840	---
Lithium	ppm	ASTM D5185(m)		**<1**	<1	---

CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185(m)	>100	**16**	10	---
Sodium	ppm	ASTM D5185(m)		**3**	1	---
Potassium	ppm	ASTM D5185(m)	>20	**2**	0	---

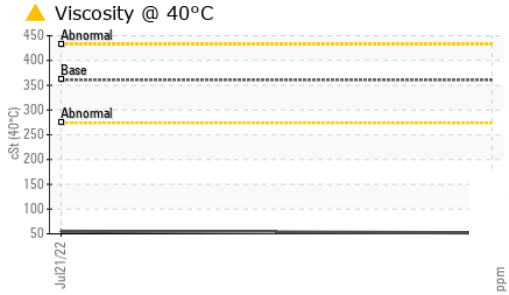
VISUAL		method	limit/base	current	history 1	history 2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	---
Silt	scalar	Visual*	NONE	**VLITE**	LIGHT	---
Debris	scalar	Visual*	NONE	**NONE**	NONE	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	---
Appearance	scalar	Visual*	NORML	**NORML**	NORML	---
Odor	scalar	Visual*	NORML	**NORML**	NORML	---
Emulsified Water	scalar	Visual*	>.2	**NEG**	NEG	---
Free Water	scalar	Visual*		**NEG**	NEG	---

OIL ANALYSIS REPORT

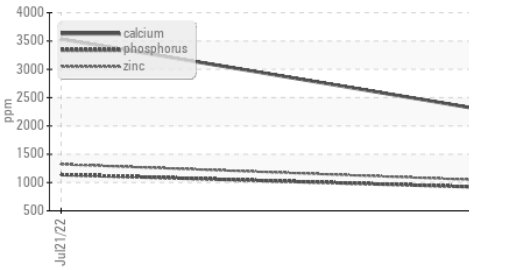
Viscosity @ 100°C



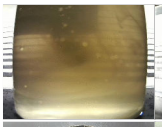
Viscosity @ 40°C



Additives

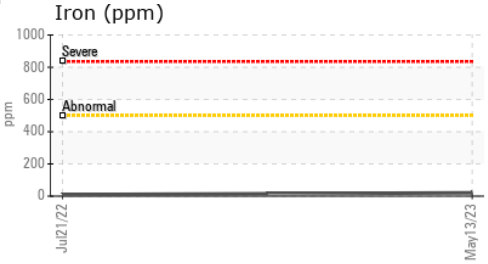


FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 40°C	cSt	ASTM D7279(m)	360.6	▲ **51.9**	▲ 55	---
Visc @ 100°C	cSt	ASTM D7279(m)	26.49	▲ **8.4**	▲ 8.5	---
Viscosity Index (VI)	Scale	ASTM D2270*	98	▲ **136**	▲ 128	---

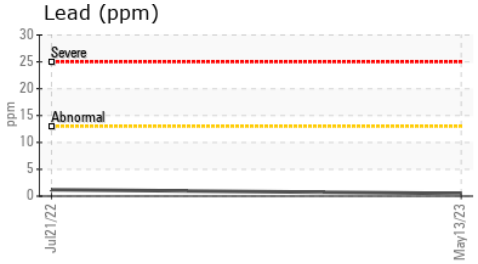
SAMPLE IMAGES	method	limit/base	current	history 1	history 2
Color					no image
Bottom					no image

GRAPHS

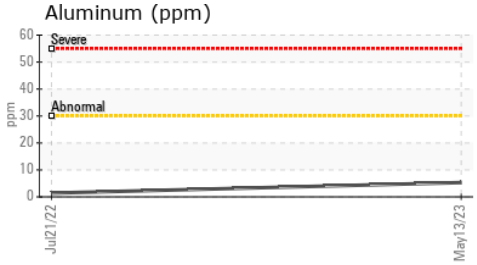
Iron (ppm)



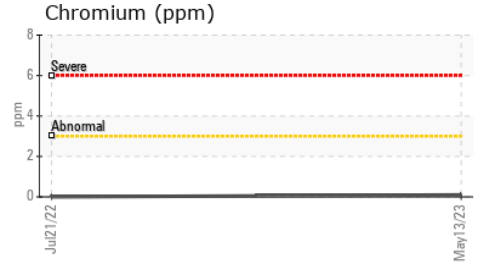
Lead (ppm)



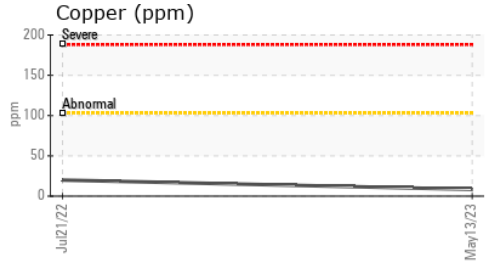
Aluminum (ppm)



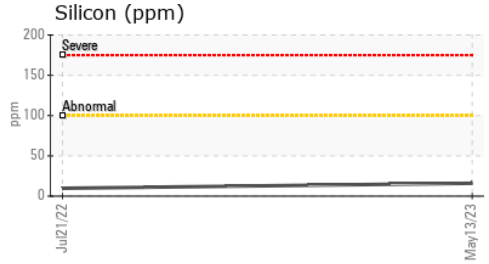
Chromium (ppm)



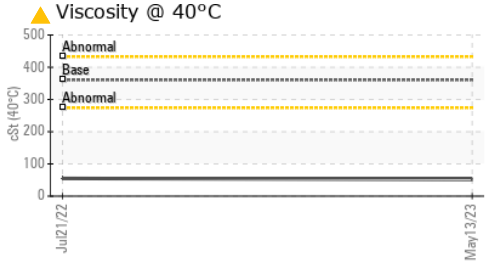
Copper (ppm)



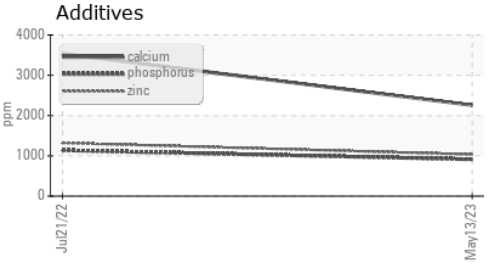
Silicon (ppm)



Viscosity @ 40°C



Additives



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0051415 **Received** : 04 Jul 2023
Lab Number : 02567854 **Diagnosed** : 05 Jul 2023
Unique Number : 5604900 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: KV100, 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.

Lakeshore Gold Timmins West

Timmins, ON
CA
Contact: Adam Koscielak
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T:
F:

Report Id: LAKTIM [WCAMIS] 02567854 (Generated: 07/05/2023 06:40:13) Rev: 1

Submitted By: Luc Belanger