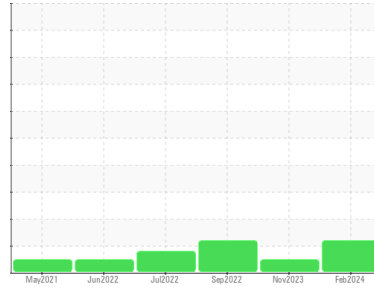


OIL ANALYSIS REPORT



Area
Haul Truck
Machine Id
HT4502
Component
Rear Differential
Fluid
PETRO CANADA PRODURO FD-1 60 (83 LTR)

Sample Rating Trend



OFF SPEC



DIAGNOSIS

▲ Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

▲ Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. Viscosity of sample indicates oil is within SAE 75W80 range, advise investigate. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PC0074878	PC0074885	PC0048752
Sample Date	Client Info		09 Feb 2024	23 Nov 2023	26 Sep 2022
Machine Age	hrs	Client Info	7882	6729	1944
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	NORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>500	8	26	8
Chromium	ppm	ASTM D5185(m)	>3	0	0	0
Nickel	ppm	ASTM D5185(m)	>3	<1	0	0
Titanium	ppm	ASTM D5185(m)	>2	0	0	<1
Silver	ppm	ASTM D5185(m)	>2	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>30	2	1	2
Lead	ppm	ASTM D5185(m)	>13	<1	2	0
Copper	ppm	ASTM D5185(m)	>103	28	105	<1
Tin	ppm	ASTM D5185(m)	>5	1	4	0
Antimony	ppm	ASTM D5185(m)	>5	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES

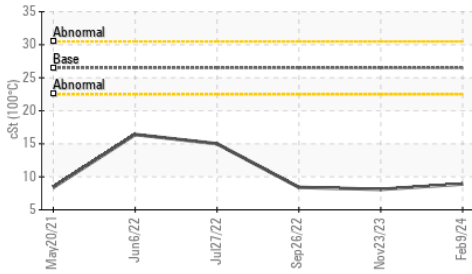
	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	92	95	83	90
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	0	<1	1
Manganese	ppm	ASTM D5185(m)	0	0	0	<1
Magnesium	ppm	ASTM D5185(m)	0	16	13	23
Calcium	ppm	ASTM D5185(m)	283	3472	3323	3376
Phosphorus	ppm	ASTM D5185(m)	306	1122	1074	1140
Zinc	ppm	ASTM D5185(m)	0	1379	1341	1281
Sulfur	ppm	ASTM D5185(m)	9080	2970	2788	2694
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

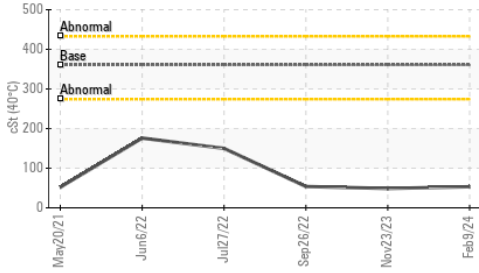
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>100	10	10	11
Sodium	ppm	ASTM D5185(m)		<1	<1	1
Potassium	ppm	ASTM D5185(m)	>20	<1	0	0

OIL ANALYSIS REPORT

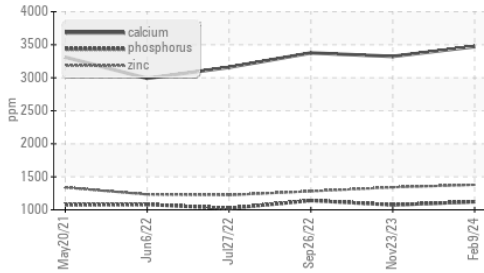
▲ Viscosity @ 100°C



▲ Viscosity @ 40°C



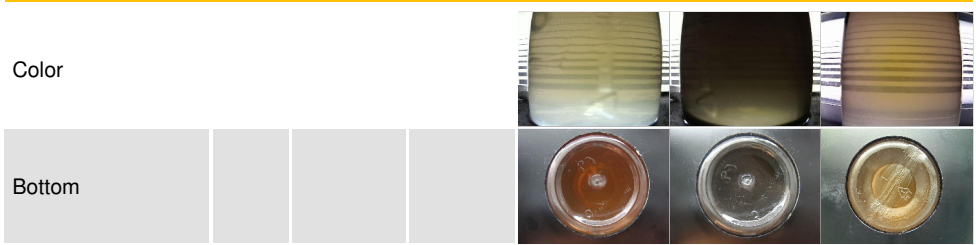
Additives



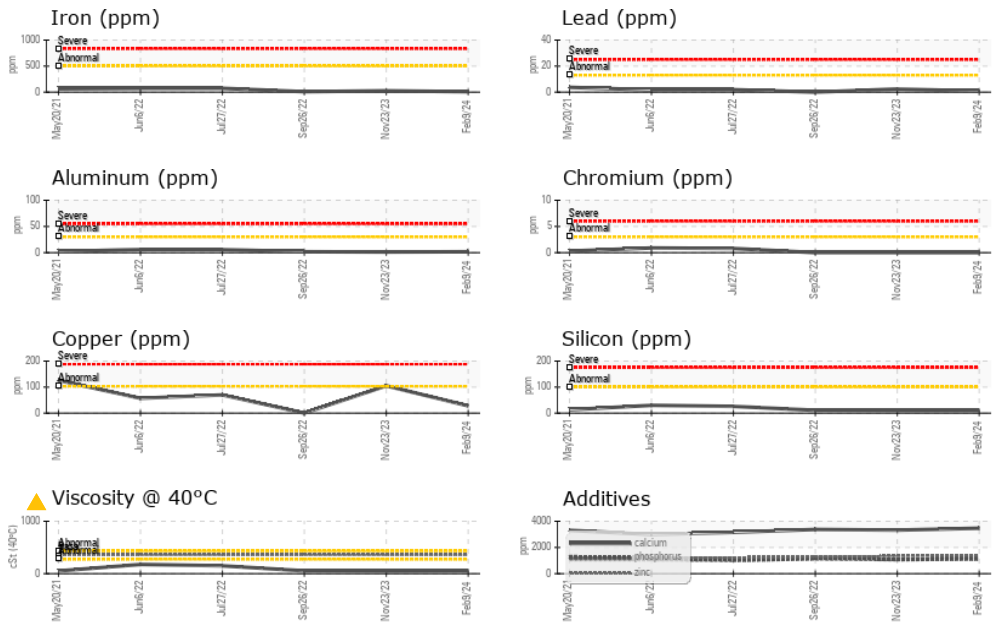
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	360.6 ▲ 53.2	48.8	▲ 53.8
Visc @ 100°C	cSt	ASTM D7279(m)	26.49 ▲ 8.9	8.1	▲ 8.4
Viscosity Index (VI)	Scale	ASTM D2270*	98 ▲ 146	138	▲ 129

▲ SAMPLE IMAGES



▲ GRAPHS



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0074878
Lab Number : 02619628
Unique Number : 5736738
Test Package : MOB 1 (Additional Tests: KV100, 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.