

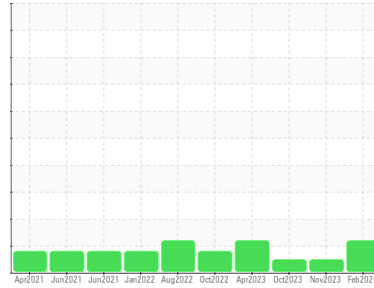
OIL ANALYSIS REPORT

Sample Rating Trend

OFF SPEC



Area
Loader
Machine Id
SRF0110
Component
Transmission (Manual)
Fluid
PETRO CANADA PRODURO TO-4 SAE 30 (77 LTR)



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 fluid.

Fluid Condition
Viscosity of sample indicates oil is within SAE 5W20 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 fluid is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PC0074890	PC0074872	PC0051392
Sample Date	Client Info		14 Feb 2024	21 Nov 2023	23 Oct 2023
Machine Age	hrs	Client Info	30232	28756	28318
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	NORMAL	NORMAL

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>200	5	13	15
Chromium	ppm	ASTM D5185(m)	>5	0	0	<1
Nickel	ppm	ASTM D5185(m)	>5	0	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>7	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>25	2	2	5
Lead	ppm	ASTM D5185(m)	>45	<1	2	3
Copper	ppm	ASTM D5185(m)	>225	1	4	9
Tin	ppm	ASTM D5185(m)	>10	0	0	0
Antimony	ppm	ASTM D5185(m)		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

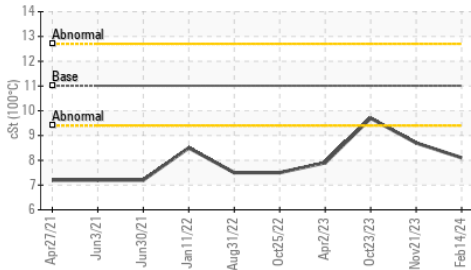
	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	2	62	59	15
Barium	ppm	ASTM D5185(m)	0	0	<1	<1
Molybdenum	ppm	ASTM D5185(m)	0	16	2	6
Manganese	ppm	ASTM D5185(m)	9	0	0	<1
Magnesium	ppm	ASTM D5185(m)	1	270	18	26
Calcium	ppm	ASTM D5185(m)	3131	2803	3238	3026
Phosphorus	ppm	ASTM D5185(m)	1194	1090	991	861
Zinc	ppm	ASTM D5185(m)	1281	1300	1254	1085
Sulfur	ppm	ASTM D5185(m)	3811	2827	2654	2725
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

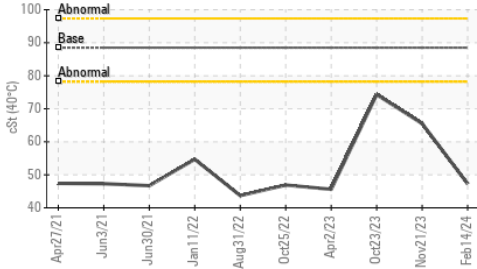
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>125	5	6	8
Sodium	ppm	ASTM D5185(m)		<1	2	2
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1

OIL ANALYSIS REPORT

▲ Viscosity @ 100°C



▲ Viscosity @ 40°C

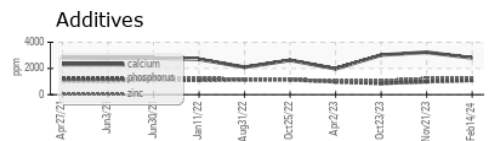
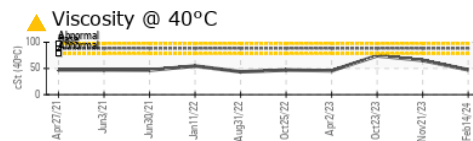
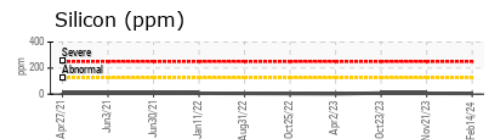
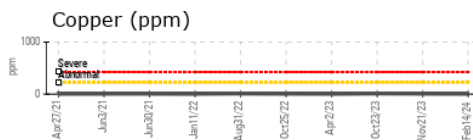
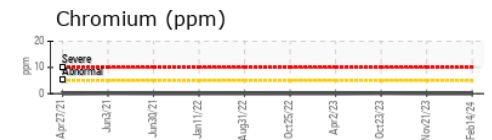
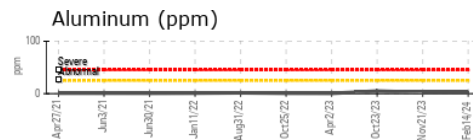
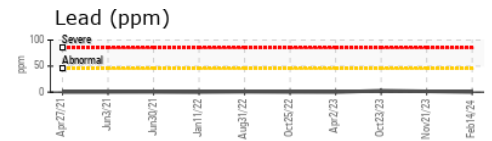
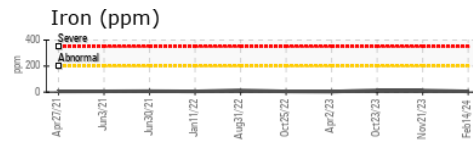


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	88.5 ▲ 47.3	65.5	74.3
Visc @ 100°C	cSt	ASTM D7279(m)	11.01 ▲ 8.1	8.7	9.7
Viscosity Index (VI)	Scale	ASTM D2270*	110 ▲ 144	104	109

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0074890 **Received** : 04 Mar 2024
Lab Number : 02619609 **Tested** : 04 Mar 2024
Unique Number : 5736719 **Diagnosed** : 05 Mar 2024 - Kevin Marson
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.