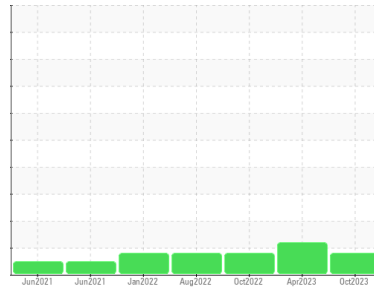


OIL ANALYSIS REPORT



Area
Loader
Machine Id
SRF0110
Component
Front Axle
Fluid
PETRO CANADA PRODURO TO-4 SAE 30 (84 LTR)

Sample Rating Trend



VISCOSITY



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 TO-4 SAE 30, however, a fluid match indicates that this fluid is SAE 5W20 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 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 oil is acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	PC0051327	PC0067283	PC0050997
Sample Date	Client Info	23 Oct 2023	02 Apr 2023	25 Oct 2022
Machine Age	hrs	28318	25313	22153
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >500	36	6	55
Chromium	ppm	ASTM D5185(m) >10	0	0	0
Nickel	ppm	ASTM D5185(m) >10	<1	0	<1
Titanium	ppm	ASTM D5185(m)	0	<1	<1
Silver	ppm	ASTM D5185(m)	<1	0	0
Aluminum	ppm	ASTM D5185(m) >25	1	<1	1
Lead	ppm	ASTM D5185(m) >25	0	0	0
Copper	ppm	ASTM D5185(m) >50	4	1	3
Tin	ppm	ASTM D5185(m) >10	0	0	0
Antimony	ppm	ASTM D5185(m) >5	0	0	<1
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	2	9	33
Barium	ppm	ASTM D5185(m) 0	<1	0	0
Molybdenum	ppm	ASTM D5185(m) 0	0	1	0
Manganese	ppm	ASTM D5185(m) 9	0	<1	<1
Magnesium	ppm	ASTM D5185(m) 1	11	24	12
Calcium	ppm	ASTM D5185(m) 3131	2166	2299	3015
Phosphorus	ppm	ASTM D5185(m) 1194	872	925	1139
Zinc	ppm	ASTM D5185(m) 1281	1024	1022	1253
Sulfur	ppm	ASTM D5185(m) 3811	2908	2739	2944
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

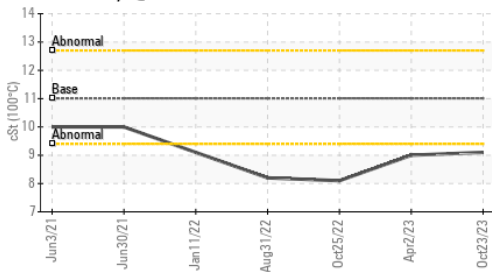
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >75	5	4	11
Sodium	ppm	ASTM D5185(m)	<1	<1	<1
Potassium	ppm	ASTM D5185(m) >20	<1	<1	<1

VISUAL

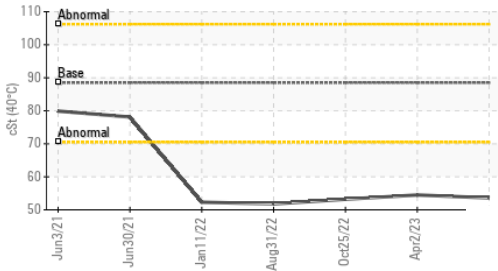
method	limit/base	current	history1	history2	
White Metal	scalar	Visual* NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual* NONE	NONE	NONE	NONE
Precipitate	scalar	Visual* NONE	NONE	NONE	NONE
Silt	scalar	Visual* NONE	NONE	NONE	NONE
Debris	scalar	Visual* NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual* NONE	NONE	NONE	NONE
Appearance	scalar	Visual* NORML	NORML	NORML	NORML
Odor	scalar	Visual* NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual* >0.2	NEG	NEG	NEG
Free Water	scalar	Visual* >0.2	NEG	NEG	NEG

OIL ANALYSIS REPORT

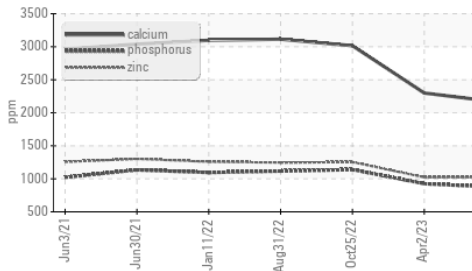
▲ Viscosity @ 100°C



▲ Viscosity @ 40°C



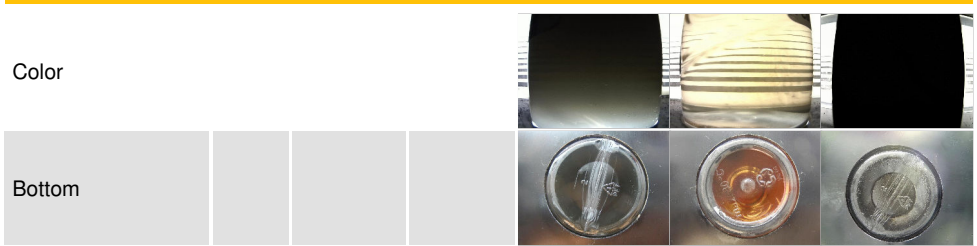
Additives



FLUID PROPERTIES

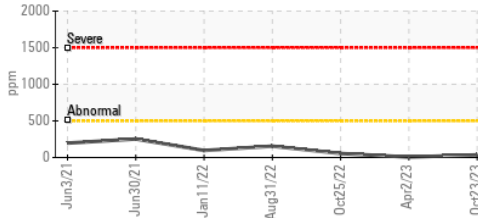
	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	88.5 ▲ 53.6	▲ 54.5	▲ 53.2
Visc @ 100°C	cSt	ASTM D7279(m)	11.01 ▲ 9.1	▲ 9	▲ 8.1
Viscosity Index (VI)	Scale	ASTM D2270*	110 151	▲ 144	121

SAMPLE IMAGES

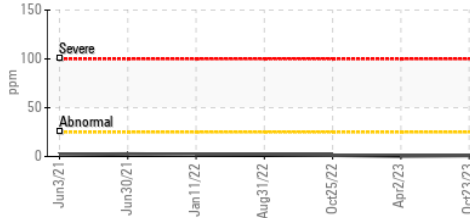


GRAPHS

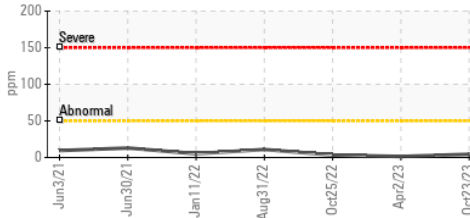
Iron (ppm)



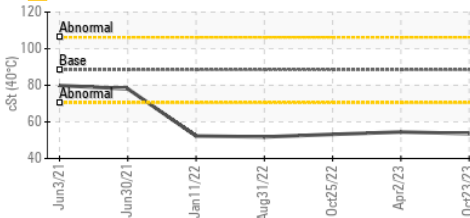
Aluminum (ppm)



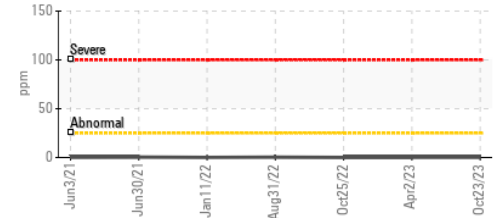
Copper (ppm)



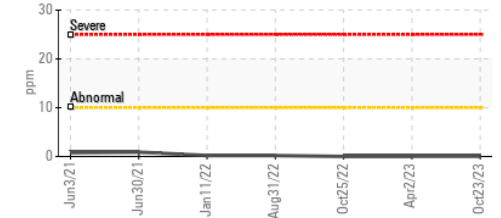
▲ Viscosity @ 40°C



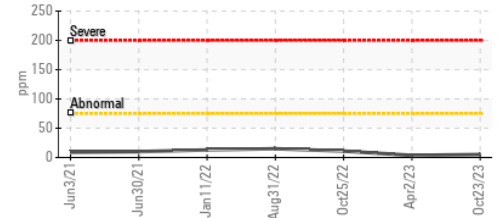
Lead (ppm)



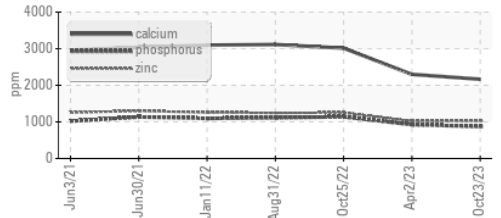
Chromium (ppm)



Silicon (ppm)



Additives



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0051327 **Received** : 14 Nov 2023
Lab Number : 02596374 **Diagnosed** : 15 Nov 2023
Unique Number : 5681454 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: KV100, VI)

Lakeshore Gold Timmins West

Timmins, ON
CA
Contact: Adam Koscielak
adam.koscielak@HFSinclair.com

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.

T:
F: