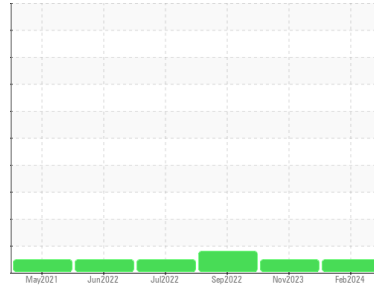


# OIL ANALYSIS REPORT



Area  
**Haul Truck**  
Machine Id  
**HT4502**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- LTR)**

Sample Rating Trend



**NORMAL**



## DIAGNOSIS

### Recommendation

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

The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>PC0083349</b>	PC0074880	PC0048753
Sample Date	Client Info		<b>09 Feb 2024</b>	23 Nov 2023	26 Sep 2022
Machine Age	hrs	Client Info	<b>7882</b>	6729	1944
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	ABNORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	<1.0	0.7
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >100	<b>14</b>	15	5
Chromium	ppm	ASTM D5185(m) >20	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185(m) >2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185(m) >2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m) >2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m) >25	<b>2</b>	2	1
Lead	ppm	ASTM D5185(m) >40	<b>1</b>	3	0
Copper	ppm	ASTM D5185(m) >330	<b>6</b>	28	<1
Tin	ppm	ASTM D5185(m) >15	<b>&lt;1</b>	<1	0
Antimony	ppm	ASTM D5185(m)	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 250	<b>&lt;1</b>	2	43
Barium	ppm	ASTM D5185(m) 10	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185(m) 100	<b>57</b>	60	36
Manganese	ppm	ASTM D5185(m)	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m) 450	<b>957</b>	987	463
Calcium	ppm	ASTM D5185(m) 3000	<b>1047</b>	1084	1671
Phosphorus	ppm	ASTM D5185(m) 1150	<b>1021</b>	999	980
Zinc	ppm	ASTM D5185(m) 1350	<b>1181</b>	1214	1059
Sulfur	ppm	ASTM D5185(m) 4250	<b>2769</b>	2466	2594
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

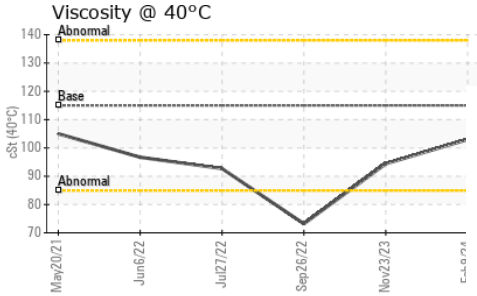
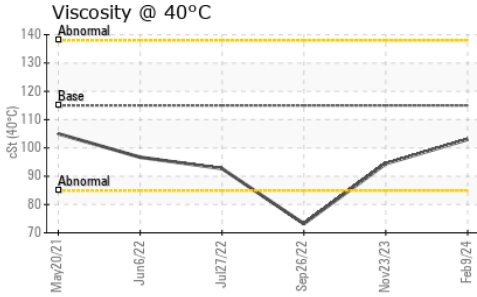
## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	<b>4</b>	5	7
Sodium	ppm	ASTM D5185(m) >158	<b>1</b>	2	3
Potassium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >3	<b>0.2</b>	0.1	0
Nitration	Abs/cm	ASTM D7624* >20	<b>5.4</b>	7.5	5.5
Sulfation	Abs./1mm	ASTM D7415* >30	<b>18.4</b>	20.8	21.9

# OIL ANALYSIS REPORT

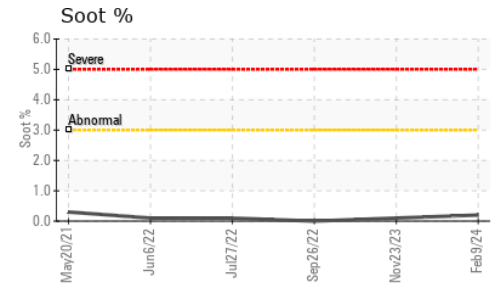
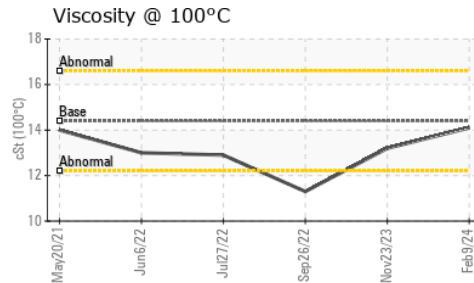
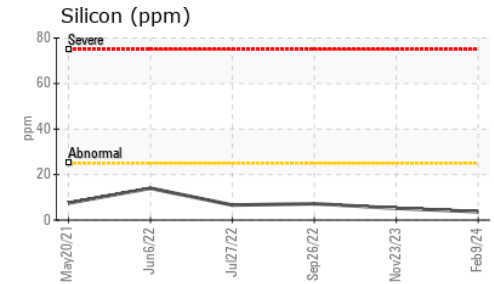
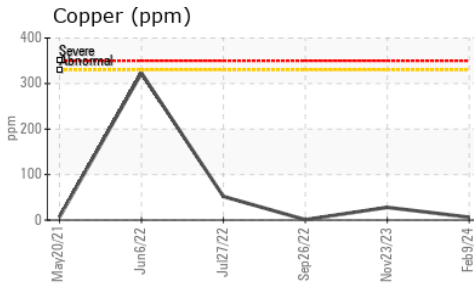
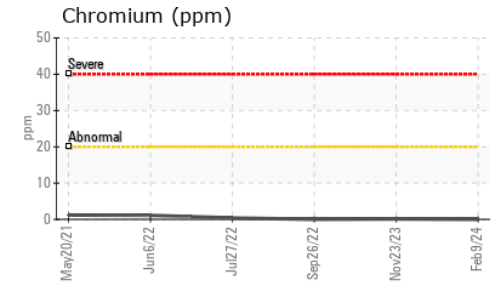
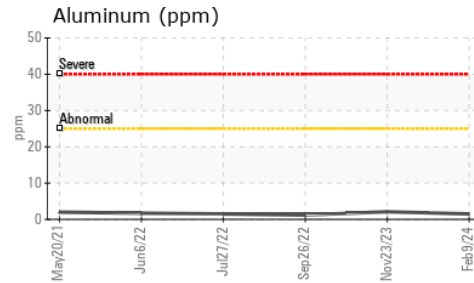
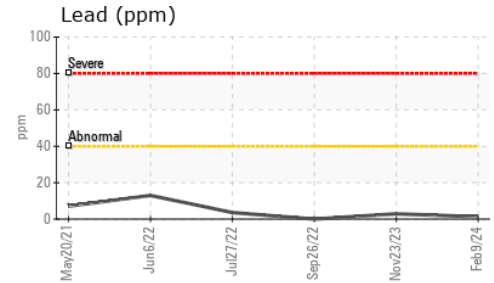
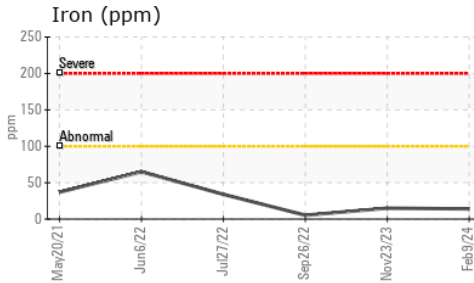


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>13.5</b>	17.1	18.4

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	115	<b>103</b>	94.4	▲ 73.2
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	<b>14.1</b>	13.2	▲ 11.3
Viscosity Index (VI)	Scale	ASTM D2270*	126	<b>139</b>	138	146

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0083349 **Received** : 04 Mar 2024  
**Lab Number** : **02619471** **Tested** : 04 Mar 2024  
**Unique Number** : 5736581 **Diagnosed** : 04 Mar 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: KV40, 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.