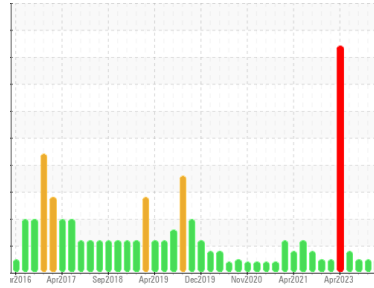


Area  
**1420**  
Machine Id  
**1420-5671-4001 - SAG MILL TRUNNION/PINION LUBE**  
Component  
**Bulk Fluid Tank**  
Fluid  
**PETRO CANADA ENDURATEX EP 320 (1000 LTR)**



**DIAGNOSIS**

**Recommendation**  
Resample at the next service interval to monitor.

**Wear**  
All component wear rates are normal.

**Contamination**  
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

**Fluid Condition**  
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

**SAMPLE INFORMATION** method limit/base current history1 history2

Sample Number	Client Info	<b>PC0070746</b>	PC0058533	PC0070109
Sample Date	Client Info	<b>31 Jan 2024</b>	14 Nov 2023	10 Sep 2023
Machine Age	hrs	Client Info	<b>0</b>	0
Oil Age	hrs	Client Info	<b>0</b>	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

**CONTAMINATION** method limit/base current history1 history2

Water	WC Method	<b>NEG</b>	NEG	NEG
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**WEAR METALS** method limit/base current history1 history2

Iron	ppm	ASTM D5185(m)	<b>4</b>	4	4
Chromium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	<b>&lt;1</b>	0	0
Lead	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m)	<b>1</b>	2	2
Tin	ppm	ASTM D5185(m)	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)	<b>&lt;1</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)	55	<b>17</b>	15	18
Barium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	0	<b>1</b>	<1	<1
Calcium	ppm	ASTM D5185(m)	0	<b>2</b>	2	2
Phosphorus	ppm	ASTM D5185(m)	240	<b>229</b>	225	228
Zinc	ppm	ASTM D5185(m)	1	<b>5</b>	5	5
Sulfur	ppm	ASTM D5185(m)	13700	<b>5150</b>	5002	5121
Lithium	ppm	ASTM D5185(m)		<b>5</b>	5	5

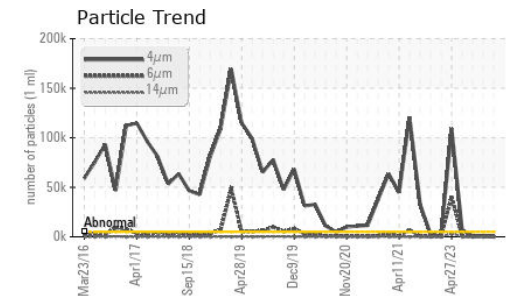
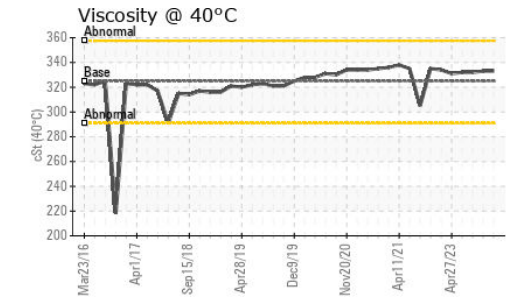
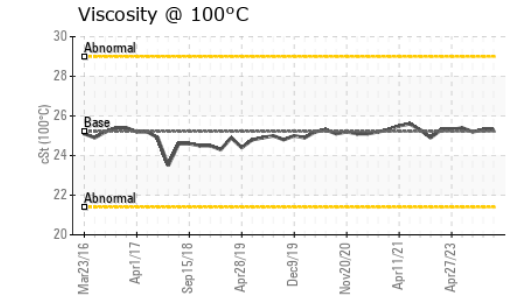
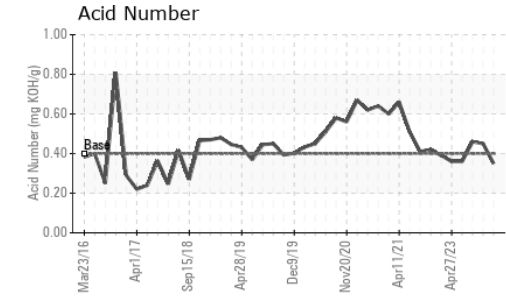
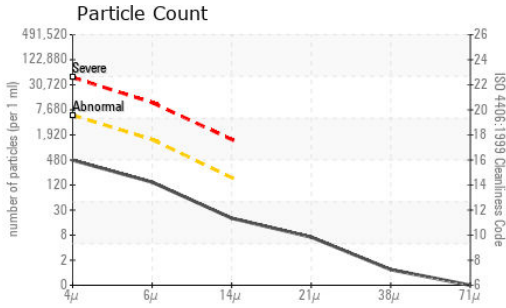
**CONTAMINANTS** method limit/base current history1 history2

Silicon	ppm	ASTM D5185(m)		<b>2</b>	1	<1
Sodium	ppm	ASTM D5185(m)		<b>2</b>	2	1
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	0

**FLUID CLEANLINESS** method limit/base current history1 history2

Particles >4µm	ASTM D7647	>5000	<b>418</b>	1149	433
Particles >6µm	ASTM D7647	>1300	<b>124</b>	308	70
Particles >14µm	ASTM D7647	>160	<b>17</b>	24	10
Particles >21µm	ASTM D7647	>40	<b>6</b>	6	4
Particles >38µm	ASTM D7647	>10	<b>1</b>	2	2
Particles >71µm	ASTM D7647	>3	<b>0</b>	1	1
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>16/14/11</b>	17/15/12	16/13/10

# OIL ANALYSIS REPORT



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0070746 **Received** : 06 Mar 2024  
**Lab Number** : 02620283 **Tested** : 08 Mar 2024  
**Unique Number** : 5737393 **Diagnosed** : 08 Mar 2024 - Wes Davis  
**Test Package** : IND 2 ( 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.

**Vale - Voisey's Bay**  
 Voisey's Bay Mine Site, P.O. Box 7001, Str. C Happy Valley  
 Goose Bay, NL  
 CA A0P 1C0  
 Contact: Robert Feltham  
 robert.feltham@vale.com  
 T:  
 F: x:

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.4	<b>0.35</b>	0.45	0.46

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*		<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)	325	<b>333</b>	333	332
Visc @ 100°C	cSt	ASTM D7279(m)	25.22	<b>25.3</b>	25.3	25.2
Viscosity Index (VI)	Scale	ASTM D2270*	100	<b>98</b>	98	98

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						