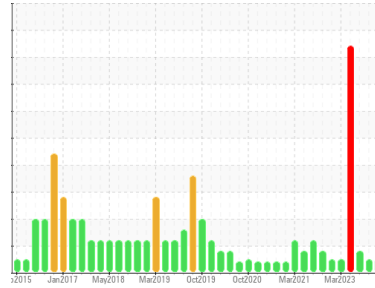


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



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	PC0058533	PC0070109	PC0070132
Sample Date	Client Info	14 Nov 2023	10 Sep 2023	14 Aug 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	ATTENTION

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	4	4	5
Chromium	ppm	ASTM D5185(m)	0	0	0
Nickel	ppm	ASTM D5185(m)	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	<1	<1	0
Aluminum	ppm	ASTM D5185(m)	0	0	0
Lead	ppm	ASTM D5185(m)	<1	<1	<1
Copper	ppm	ASTM D5185(m)	2	2	1
Tin	ppm	ASTM D5185(m)	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) 55	15	18	19
Barium	ppm	ASTM D5185(m) 0	<1	<1	0
Molybdenum	ppm	ASTM D5185(m) 0	0	0	<1
Manganese	ppm	ASTM D5185(m) 0	0	0	0
Magnesium	ppm	ASTM D5185(m) 0	<1	<1	1
Calcium	ppm	ASTM D5185(m) 0	2	2	2
Phosphorus	ppm	ASTM D5185(m) 240	225	228	248
Zinc	ppm	ASTM D5185(m) 1	5	5	6
Sulfur	ppm	ASTM D5185(m) 13700	5002	5121	5278
Lithium	ppm	ASTM D5185(m)	5	5	5

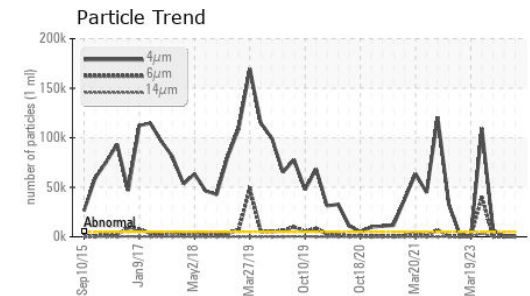
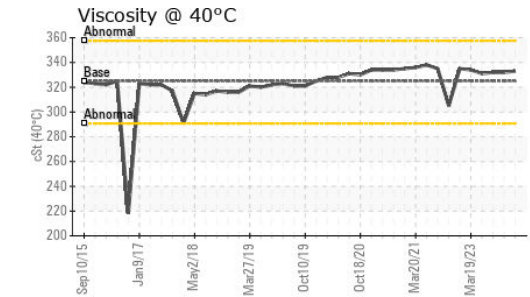
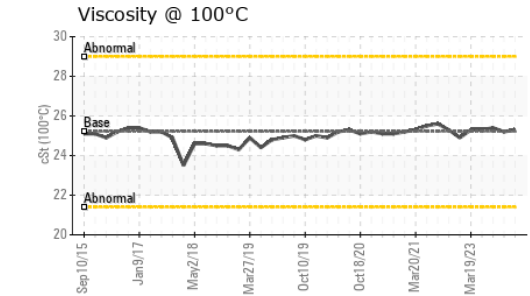
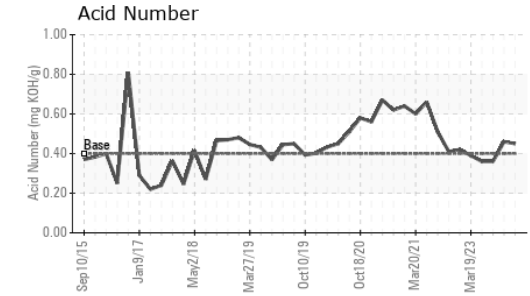
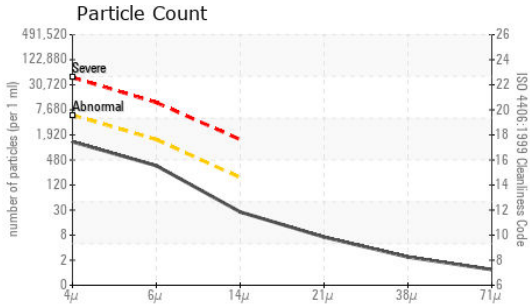
CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	1	<1	<1
Sodium	ppm	ASTM D5185(m)	2	1	1
Potassium	ppm	ASTM D5185(m) >20	<1	0	<1

FLUID CLEANLINESS

method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647	>5000	1149	433	▲ 7036
Particles >6µm	ASTM D7647	>1300	308	70	215
Particles >14µm	ASTM D7647	>160	24	10	19
Particles >21µm	ASTM D7647	>40	6	4	5
Particles >38µm	ASTM D7647	>10	2	2	2
Particles >71µm	ASTM D7647	>3	1	1	2
Oil Cleanliness	ISO 4406 (c)	>19/17/14	17/15/12	16/13/10	▲ 20/15/11

OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0058533
Lab Number : 02601055
Unique Number : 5694140
Test Package : IND 2 (Additional Tests: KV100, TAN Man, VI)

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

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.

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.4	0.45	0.46	0.36

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*		NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	325	333	332	332
Visc @ 100°C	cSt	ASTM D7279(m)	25.22	25.3	25.2	25.4
Viscosity Index (VI)	Scale	ASTM D2270*	100	98	98	99

SAMPLE IMAGES

