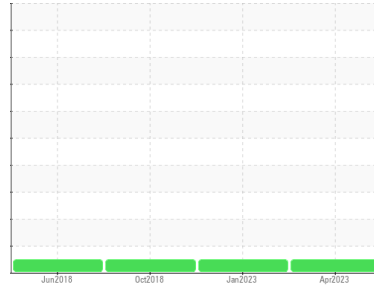




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
10568036

Component
Hydraulic System

Fluid
FIRE-RESISTANT FLUID ISO 46 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MOB 2 test kits, this testkit includes Particle Count to determine the ISO cleanliness of the fluid.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the component(unconfirmed).

Fluid Condition

The water concentration level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0769846	WC0724375	WC
Sample Date	Client Info		21 Apr 2023	19 Jan 2023	18 Oct 2018
Machine Age	days	Client Info	0	0	0
Oil Age	days	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >20	<1	<1	0
Chromium	ppm	ASTM D5185(m) >10	<1	<1	0
Nickel	ppm	ASTM D5185(m) >10	0	0	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	<1	0	0
Aluminum	ppm	ASTM D5185(m) >10	<1	0	0
Lead	ppm	ASTM D5185(m) >10	0	0	0
Copper	ppm	ASTM D5185(m) >75	2	1	0
Tin	ppm	ASTM D5185(m) >10	0	0	0
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	<1	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

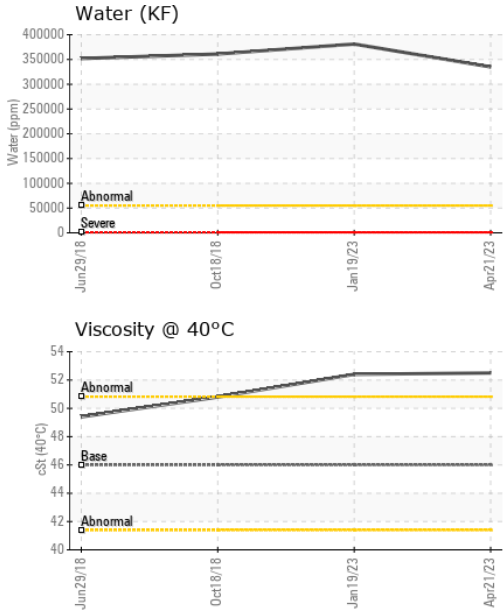
	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 5	1	0	<1
Barium	ppm	ASTM D5185(m) 5	0	0	0
Molybdenum	ppm	ASTM D5185(m) 5	<1	1	<1
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m) 5	<1	<1	<1
Calcium	ppm	ASTM D5185(m) 50	2	<1	<1
Phosphorus	ppm	ASTM D5185(m) 175	1	3	0
Zinc	ppm	ASTM D5185(m) 62	0	0	0
Sulfur	ppm	ASTM D5185(m) 500	9	3	0
Lithium	ppm	ASTM D5185(m)	<1	<1	0

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >20	<1	0	0
Sodium	ppm	ASTM D5185(m)	3	8	14
Potassium	ppm	ASTM D5185(m) >20	52	32	0
Water	%	ASTM D6304* >55	33.5	38.11	36.1
ppm Water	ppm	ASTM D6304* >55000	335000	381138.7	361000



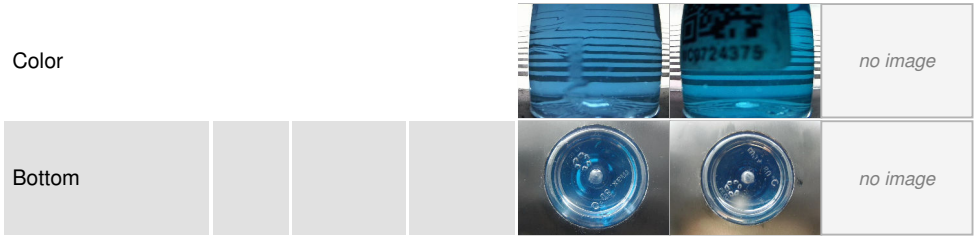
OIL ANALYSIS REPORT



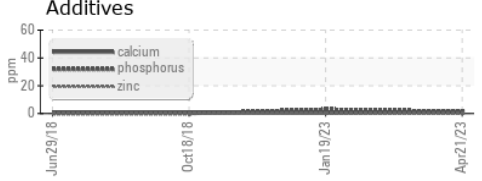
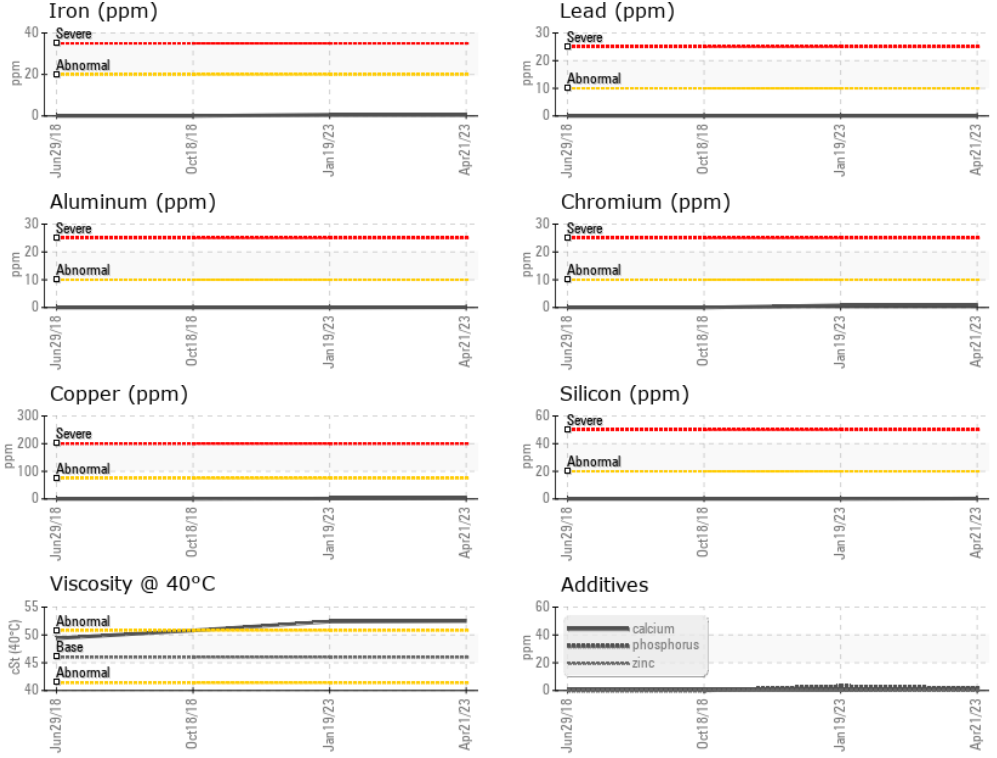
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	FRGLY	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>55	>10%	>10%
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46	52.5	52.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0769846 **Received** : 26 Apr 2023
Lab Number : 02553786 **Tested** : 28 Apr 2023
Unique Number : 5566801 **Diagnosed** : 01 May 2023 - Kevin Marson
Test Package : MOB 1 (Additional Tests: KF)

Vale - Copper Cliff Smelter
 COPPER CLIFF SMELTER WAREHOUSE, 155 BALSAM ST.
 COPPER CLIFF, ON
 CA P0M 1N0
 Contact: Andy Kozachanko
 andrew.kozachanko@vale.com
 T: (705)682-6687
 F: (705)682-6939

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.