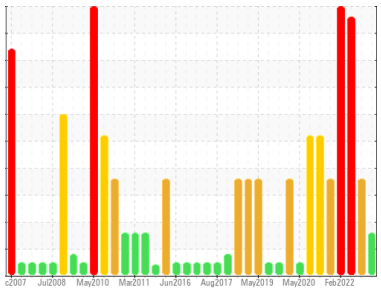
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
RECUPERATION - BROYAGE
Machine Id
CONCASSEUR Bauxite 411 (Roulement 1) (S/N 411-C8-216)
Component
Bearing
Fluid
ESSO SPARTAN EP 320 (160 LTR)

DIAGNOSIS

Recommendation
Nous vous recommandons de vidanger l`huile de ce composant si vous ne l`avez pas déjà fait. Nous vous recommandons d`échantillonner de nouveau dès que possible afin de contrôler la situation.

Wear
Usure de palier. Le bas indice ferreux (PQ) indique que l'usure ferreuse est due à de la corrosion.

Contamination
Il n`y a aucun indice de contamination dans l`huile.

Fluid Condition
l`huile n'est plus en état de service en raison d'une usure anormale et/ou sévère.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0835083**	WC0782325	WC0677861
Sample Date		Client Info		**13 Mar 2024**	25 Jan 2023	05 May 2022
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**62**	14	▲ 211
Iron	ppm	ASTM D5185(m)	>20	▲ **132**	▲ 83	▲ 374
Chromium	ppm	ASTM D5185(m)	>20	**2**	4	4
Nickel	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**2**	3	3
Silver	ppm	ASTM D5185(m)		**0**	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	▲ **49**	▲ 49	▲ 51
Lead	ppm	ASTM D5185(m)	>20	**0**	0	0
Copper	ppm	ASTM D5185(m)	>20	**<1**	2	<1
Tin	ppm	ASTM D5185(m)	>20	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	<1	0
Vanadium	ppm	ASTM D5185(m)		**0**	<1	<1
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

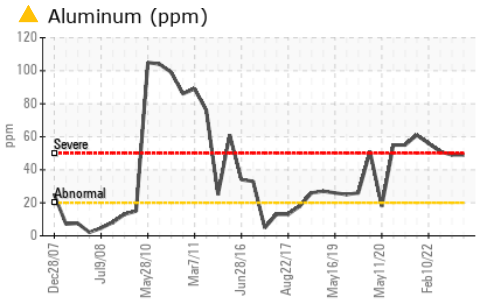
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	.4	**20**	16	19
Barium	ppm	ASTM D5185(m)		**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	**2**	6	5
Manganese	ppm	ASTM D5185(m)		**<1**	<1	6
Magnesium	ppm	ASTM D5185(m)	0	**<1**	0	0
Calcium	ppm	ASTM D5185(m)	0	**3**	11	12
Phosphorus	ppm	ASTM D5185(m)	250	**332**	293	307
Zinc	ppm	ASTM D5185(m)	0	**3**	9	5
Sulfur	ppm	ASTM D5185(m)		**15487**	12388	12722
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

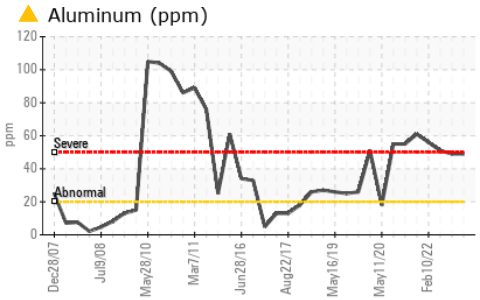
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**11**	▲ 30	17
Sodium	ppm	ASTM D5185(m)		**<1**	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1

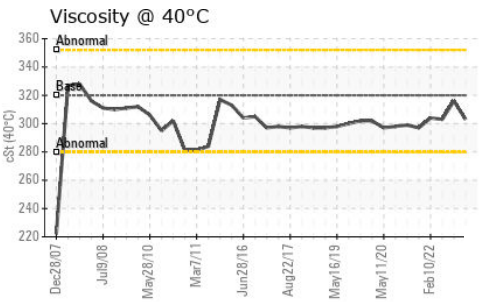
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0	---
Nitration	Abs/cm	ASTM D7624*		**3.3**	2.8	---
Sulfation	Abs/.1mm	ASTM D7415*		**15.7**	13.4	---

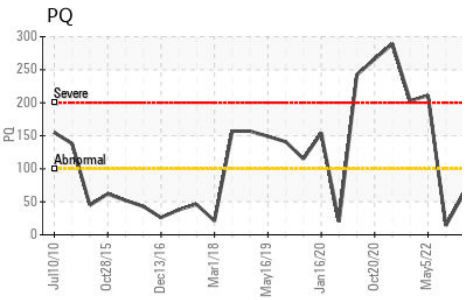
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*		**8.0**	4.5	---

OIL ANALYSIS REPORT







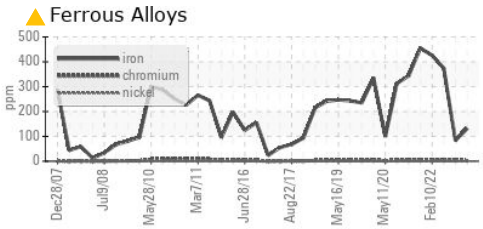


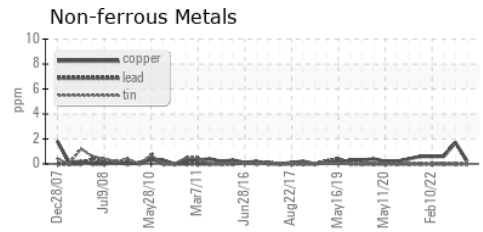
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	VLITE	NONE
Appearance	scalar	Visual*	NORML	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

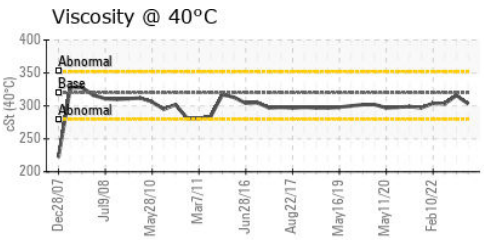
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	320	**303**	▲ 316	303

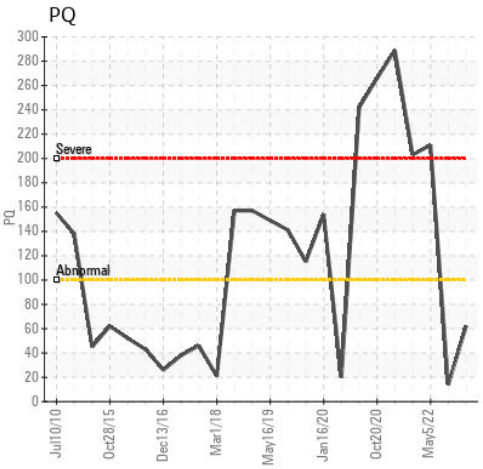
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS









CALA Testing Accreditation No. 1005078
ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0835083
Lab Number : 02622136
Unique Number : 5747255
Test Package : IND 1 (Additional Tests: FT-IR, PQ)

Received : 14 Mar 2024
Tested : 14 Mar 2024
Diagnosed : 15 Mar 2024 - Kevin Marson

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.

Rio Tinto - USINE VAUDREUIL BHB (Mill - Aluminum)
1955 BD. MELLON, EDIFICE 401
JONQUIERE, QC
CA G7S 4L2
Contact: Dany Bonneau
dany.bonneau@riotinto.com
T: (418)718-7771
F: (418)699-2421