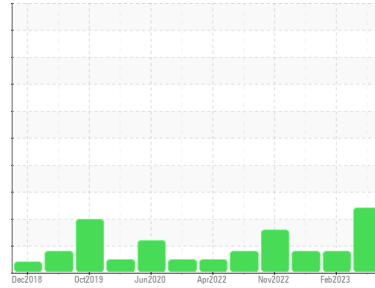




PROBLEM SUMMARY

Sample Rating Trend



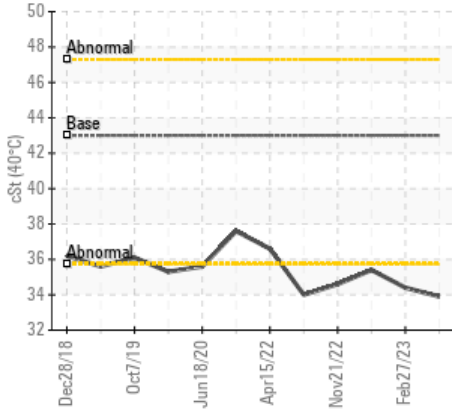
WEAR



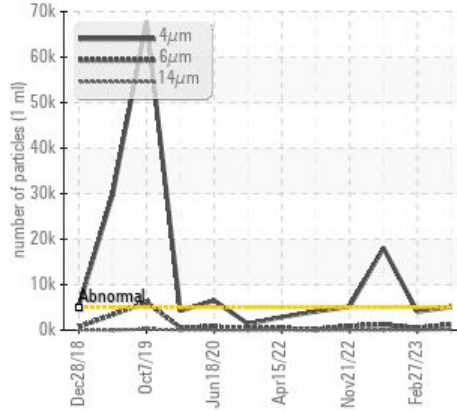
Area
Garage
 Machine Id
5502-VMC-008
 Component
Hydraulic System
 Fluid
ESSO HYDRAUL EXTRA (30 LTR)

COMPONENT CONDITION SUMMARY

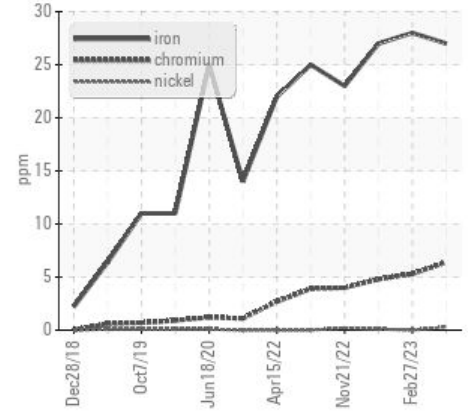
▲ Viscosity @ 40°C



▲ Particle Trend



▲ Ferrous Alloys



RECOMMENDATION

Nous recommandons le remplacement des filtres de ce composant. Nous vous recommandons d'échantillonner de nouveau dès que possible afin de contrôler la situation.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	ATTENTION	ATTENTION
Iron	ppm	ASTM D5185(m) >20	▲ 27	▲ 28	23
Particles >4µm		ASTM D7647 >5000	▲ 5110	4082	▲ 5171
Particles >14µm		ASTM D7647 >160	▲ 172	36	68
Oil Cleanliness		ISO 4406 (c) >19/17/14	▲ 20/17/15	19/16/12	▲ 20/17/13
Visc @ 40°C	cSt	ASTM D7279(m) 43	▲ 33.9	34.4	35.4

Customer Id: ALCALM
 Sample No.: WC0803871
 Lab Number: 02565570
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
 Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

27 Feb 2023 Diag: Kevin Marson

WEAR



Nous vous recommandons d'échantillonner de nouveau dès que possible afin de contrôler la situation. Le taux de fer est marginal. Le bas indice ferreux (PQ) indique que l'usure ferreuse est due à de la corrosion. La propreté du système est acceptable pour votre objectif de propreté ISO 4406. La teneur en eau est négligeable. La propreté du système et du fluide est acceptable. Le AN est acceptable pour ce fluide.

view report



21 Nov 2022 Diag: Kevin Marson

ISO



Nous recommandons le remplacement des filtres de ce composant. Échantillonner de nouveau l'équipement au prochain intervalle de vidange afin d'en surveiller la condition. Les taux d'usure de tous les composants sont normaux. Il y a une légère quantité de limon (particules de 4 à 14 microns) dans l'huile. La teneur en eau est négligeable. Le AN est acceptable pour ce fluide. L'état de l'huile permet d'en prolonger l'utilisation.

view report



21 Nov 2022 Diag: Kevin Marson

WEAR



Nous recommandons le remplacement des filtres de ce composant. Nous vous recommandons d'échantillonner de nouveau dès que possible afin de contrôler la situation. Le taux de fer est anormal. Le bas indice ferreux (PQ) indique que l'usure ferreuse est due à de la corrosion. Il y a une quantité modérée de particules (de 4 à 14 microns) dans l'huile. La teneur en eau est négligeable. Le AN est acceptable pour ce fluide. l'huile n'est plus en état de service en raison d'une usure anormale et/ou sévère.

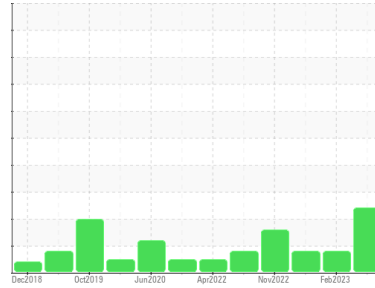
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area
Garage
 Machine Id
5502-VMC-008
 Component
Hydraulic System
 Fluid
ESSO HYDRAUL EXTRA (30 LTR)

DIAGNOSIS

Recommendation

Nous recommandons le remplacement des filtres de ce composant. Nous vous recommandons d'échantillonner de nouveau dès que possible afin de contrôler la situation.

Wear

Le taux de fer est marginal. Le bas indice ferreux (PQ) indique que l'usure ferreuse est due à de la corrosion.

Contamination

Il y a une légère quantité de limon (particules de 4 à 14 microns) dans l'huile. La teneur en eau est négligeable.

Fluid Condition

La viscosité de l'échantillon se situe dans la portée de l'SAE 70W80; nous vous conseillons de vérifier. Le AN est acceptable pour ce fluide.

SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		WC0803871	WC0619020	WC0732790
Sample Date	Client Info		15 Jun 2023	27 Feb 2023	21 Nov 2022
Machine Age	hrs	Client Info	20796	18500	15094
Oil Age	hrs	Client Info	15475	13734	13179
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	ATTENTION	ATTENTION

WEAR METALS

	method	limit/base	current	history 1	history 2
PQ	ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m) >20	▲ 27	▲ 28	23
Chromium	ppm	ASTM D5185(m) >20	6	5	4
Nickel	ppm	ASTM D5185(m) >20	<1	0	<1
Titanium	ppm	ASTM D5185(m)	0	<1	<1
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >20	3	2	2
Lead	ppm	ASTM D5185(m) >20	<1	<1	<1
Copper	ppm	ASTM D5185(m) >20	6	6	5
Tin	ppm	ASTM D5185(m) >20	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	history 1	history 2
Boron	ppm	ASTM D5185(m)	4	4	4
Barium	ppm	ASTM D5185(m)	0	0	0
Molybdenum	ppm	ASTM D5185(m)	2	2	2
Manganese	ppm	ASTM D5185(m)	<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	18	18	19
Calcium	ppm	ASTM D5185(m)	3484	3746	3740
Phosphorus	ppm	ASTM D5185(m)	1155	1157	1164
Zinc	ppm	ASTM D5185(m)	1245	1283	1260
Sulfur	ppm	ASTM D5185(m)	3447	3520	3531
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

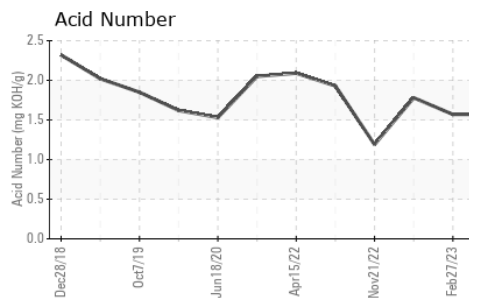
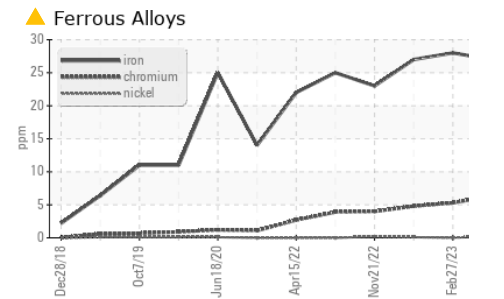
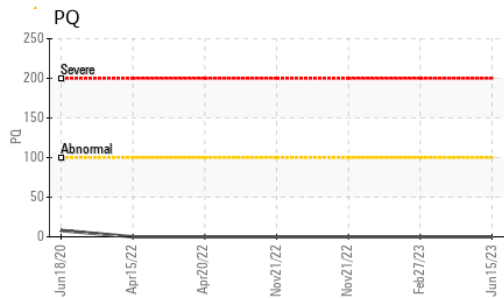
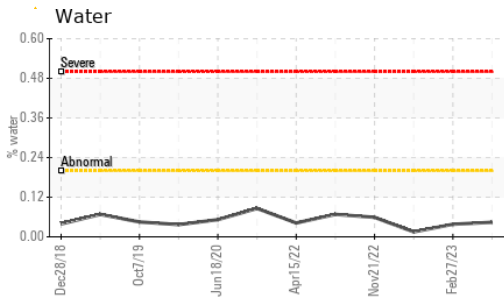
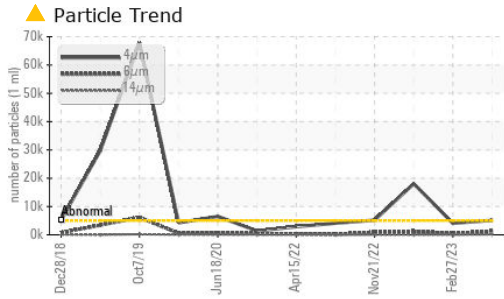
CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185(m) >15	3	2	2
Sodium	ppm	ASTM D5185(m)	6	6	4
Potassium	ppm	ASTM D5185(m) >20	2	2	<1
Water	%	ASTM D6304* >0.2	0.044	0.038	0.015
ppm Water	ppm	ASTM D6304* >2000	445.6	385.3	150.9

FLUID CLEANLINESS

	method	limit/base	current	history 1	history 2
Particles >4µm	ASTM D7647	>5000	▲ 5110	4082	▲ 5171
Particles >6µm	ASTM D7647	>1300	1291	456	937
Particles >14µm	ASTM D7647	>160	▲ 172	36	68
Particles >21µm	ASTM D7647	>40	45	11	21
Particles >38µm	ASTM D7647	>10	3	1	1
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 20/17/15	19/16/12	▲ 20/17/13

OIL ANALYSIS REPORT

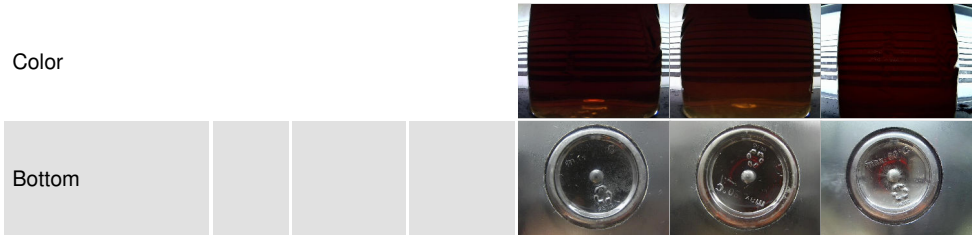


FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Acid Number (AN)	mg KOH/g	ASTM D974*		1.57	1.57	1.78

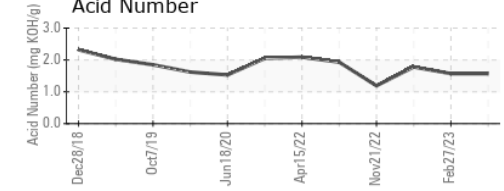
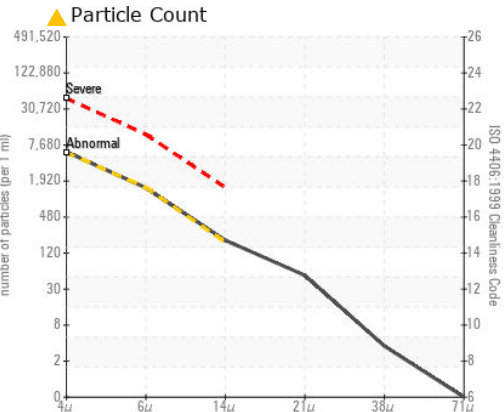
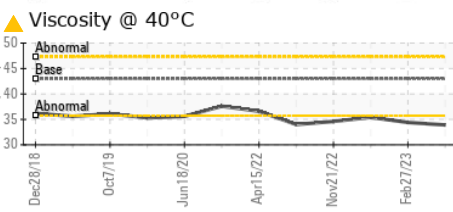
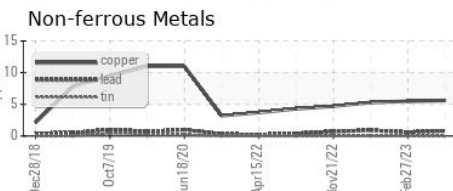
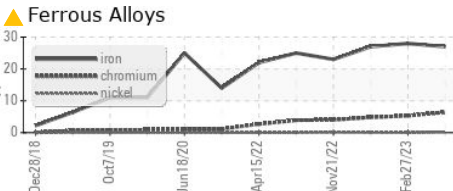
VISUAL		method	limit/base	current	history 1	history 2
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 40°C	cSt	ASTM D7279(m)	43	▲ 33.9	34.4	35.4

SAMPLE IMAGES		method	limit/base	current	history 1	history 2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0803871
Lab Number : 02565570
Unique Number : 5594611
Test Package : IND 2 (Additional Tests: KF, PQ)

RTA - ALMA
 3000 RUE DES PINS OUEST, BATISSE 7103 MEZZALINE
 ALMA, QC
 CA G8B 6T3
 Contact: Jean-Denis Fortin
 jean-denis.fortin2@riotinto.com
 T: (418)720-7677
 F: (418)480-6004

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.