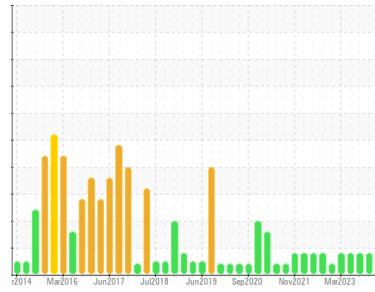




OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Area

T.M.B.

Machine Id

5502-CWC-600 (S/N 21)

Component

6 Gearbox

Fluid

CHEVRON CYLINDER OIL W ISO 680 (20 LTR)

DIAGNOSIS

Recommendation

Nous vous recommandons de vérifier tous les endroits par lesquels des contaminants peuvent pénétrer dans le système. 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

Les taux d'usure de tous les composants sont normaux.

Contamination

Lithium (Li) niveau anormal 17ppm, indique une contamination de la graisse possible. La teneur en eau est négligeable.

Fluid Condition

La viscosité de l'échantillon se situe dans la portée de l'ISO 460; nous vous conseillons de vérifier. Le AN est acceptable pour ce fluide. l'huile ne peut plus être utilisée en raison de la présence de contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0902402	WC0884535	WC0840716
Sample Date	Client Info		14 Mar 2024	06 Dec 2023	23 Aug 2023
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	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m) >200	40	38	26
Chromium	ppm	ASTM D5185(m) >15	0	0	0
Nickel	ppm	ASTM D5185(m) >15	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	<1	0
Aluminum	ppm	ASTM D5185(m) >25	<1	<1	<1
Lead	ppm	ASTM D5185(m) >100	0	<1	0
Copper	ppm	ASTM D5185(m) >200	6	4	3
Tin	ppm	ASTM D5185(m) >25	0	0	0
Antimony	ppm	ASTM D5185(m) >5	0	<1	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)	1	2	<1
Barium	ppm	ASTM D5185(m)	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	<1	0	<1
Magnesium	ppm	ASTM D5185(m)	<1	0	0
Calcium	ppm	ASTM D5185(m)	<1	2	1
Phosphorus	ppm	ASTM D5185(m)	12	12	10
Zinc	ppm	ASTM D5185(m)	8	9	9
Sulfur	ppm	ASTM D5185(m)	5165	5224	5075
Lithium	ppm	ASTM D5185(m)	▲ 17	▲ 18	▲ 16

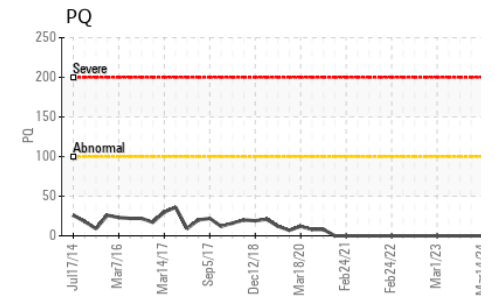
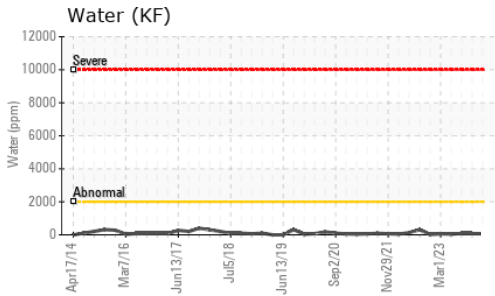
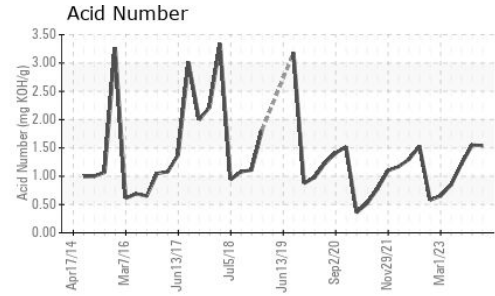
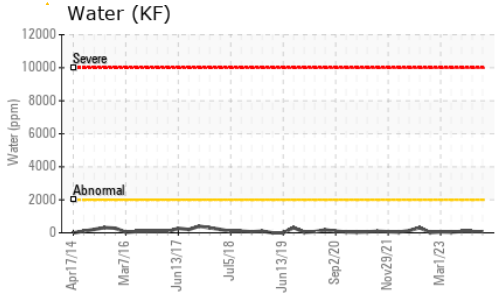
CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >50	<1	1	1
Sodium	ppm	ASTM D5185(m)	<1	<1	<1
Potassium	ppm	ASTM D5185(m) >20	<1	0	0
Water	%	ASTM D6304* >0.2	0.006	0.007	0.008
ppm Water	ppm	ASTM D6304* >2000	67	75	82.1

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	1.54	1.55	1.22

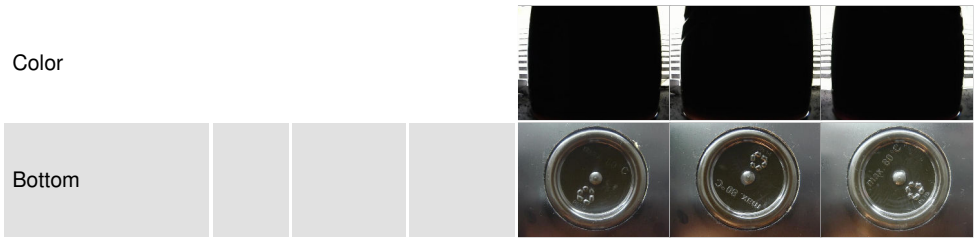
OIL ANALYSIS REPORT



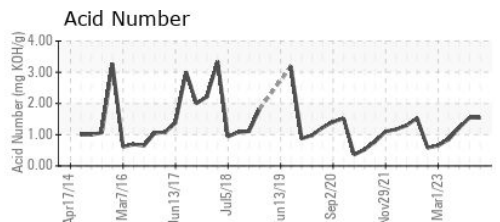
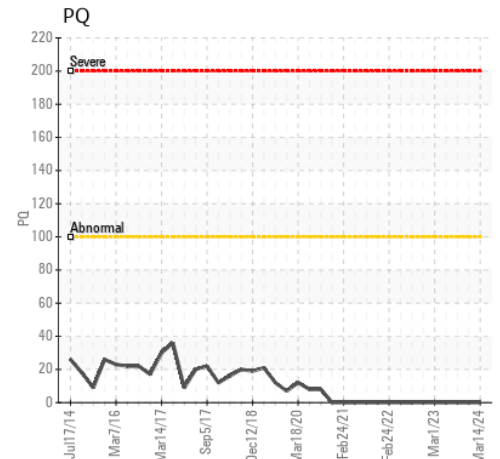
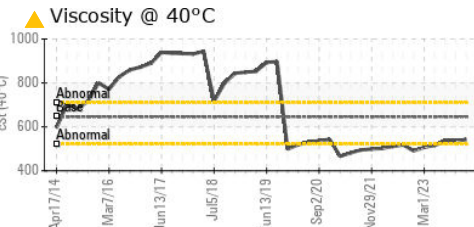
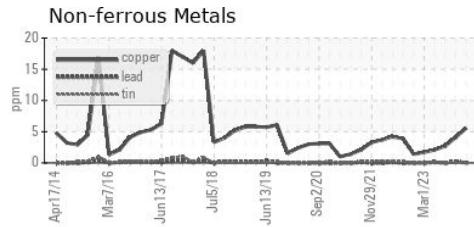
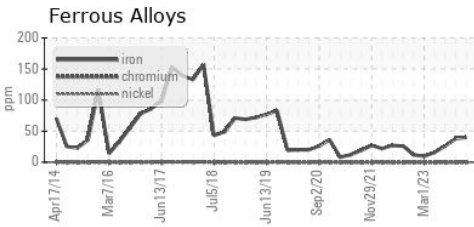
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	646 ▲ 543	▲ 535	▲ 535

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. : WC0902402 **Received** : 08 Apr 2024
Lab Number : 02627522 **Tested** : 10 Apr 2024
Unique Number : 5760654 **Diagnosed** : 10 Apr 2024 - Kevin Marson
Test Package : IND 2 (Additional Tests: KF, TAN Man)

RTA - ALMA
 3000 RUE DES PINS OUEST, BATISSE 7103 MEZZALINE
 ALMA, QC
 CA G8B 6T3
 Contact: Guy Dufour
 guy.dufour-almacou@riotinto.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.

T:
 F: (418)480-6004