



# OIL ANALYSIS REPORT

WEAR	<b>ABNORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>ABNORMAL</b>

Area

**T.M.B.**  
Machine Id

**5502-CWC-400 (S/N 19)**

Component

**4 Gearbox**

Fluid

**CHEVRON CYLINDER OIL W ISO 680 (20 LTR)**

## 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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0928349</b>	WC0902404	WC0884538
Sample Date		Client Info		<b>22 May 2024</b>	14 Mar 2024	06 Dec 2023
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR

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

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184*		<b>65</b>	64	60
Iron	ppm	ASTM D5185(m)	>200	<b>▲ 312</b>	▲ 274	▲ 212
Chromium	ppm	ASTM D5185(m)	>15	<b>2</b>	1	1
Nickel	ppm	ASTM D5185(m)	>15	<b>2</b>	2	2
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185(m)	>25	<b>2</b>	2	2
Lead	ppm	ASTM D5185(m)	>100	<b>2</b>	1	2
Copper	ppm	ASTM D5185(m)	>200	<b>108</b>	93	67
Tin	ppm	ASTM D5185(m)	>25	<b>14</b>	13	9
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

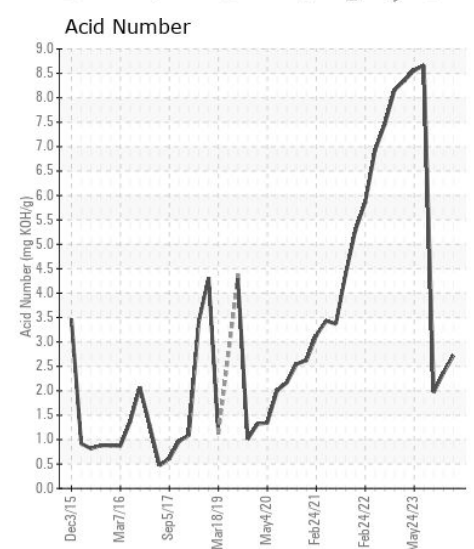
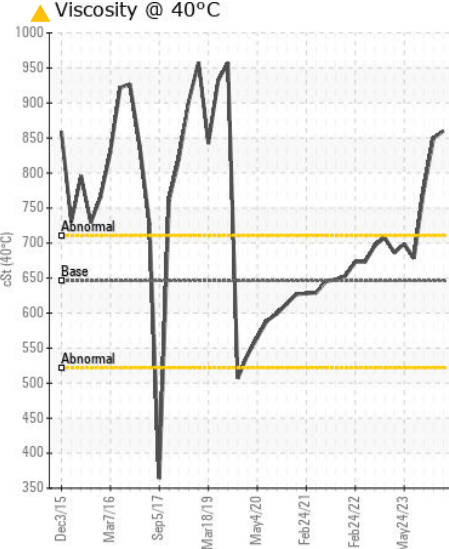
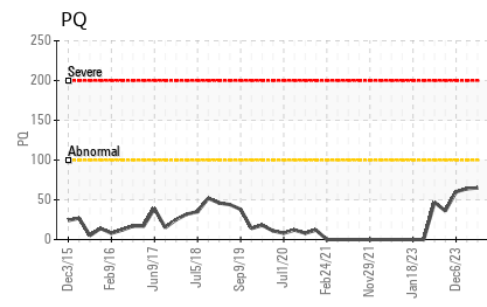
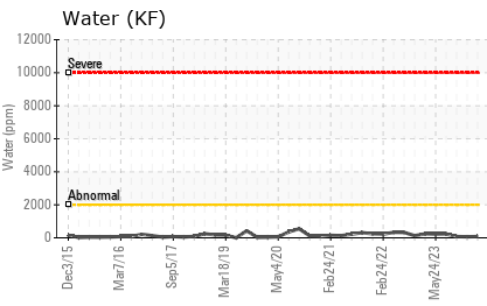
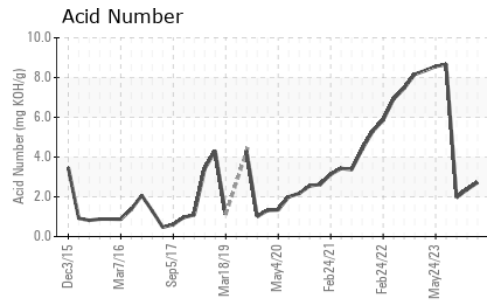
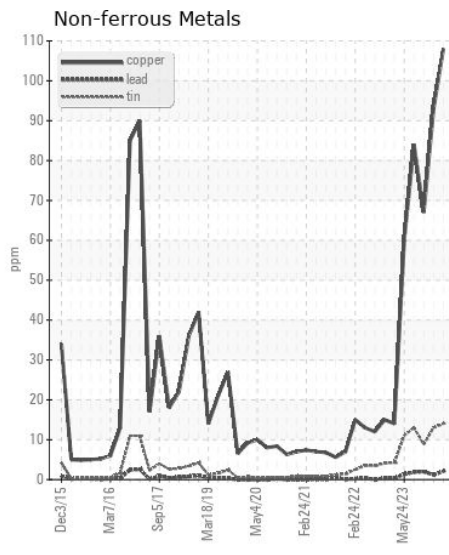
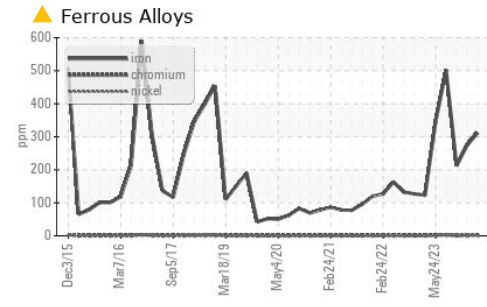
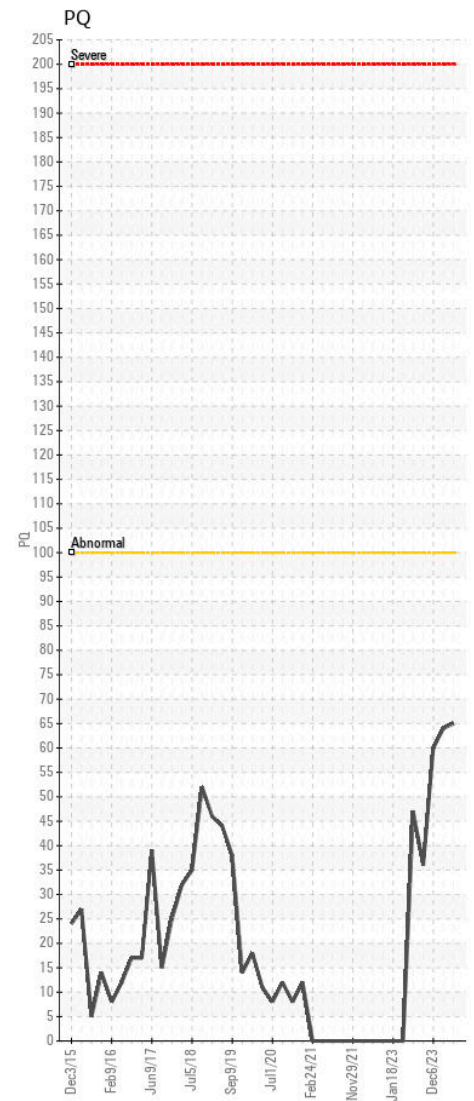
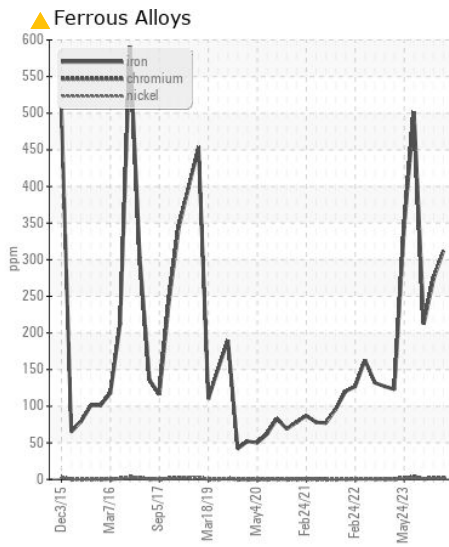
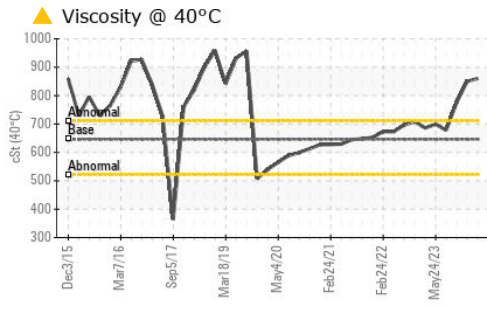
La teneur en eau est négligeable. Il n'y a aucun indice de contamination dans l'huile.

Silicon	ppm	ASTM D5185(m)	>50	<b>2</b>	2	4
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	0
Water	%	ASTM D6304*	>0.2	<b>0.007</b>	0.006	0.007
ppm Water	ppm	ASTM D6304*	>2000	<b>77</b>	63	78
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	VLITE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

La viscosité de l'échantillon se situe dans la portée de l'ISO 1000; nous vous conseillons de vérifier. 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.

Sodium	ppm	ASTM D5185(m)		<b>2</b>	<1	1
Boron	ppm	ASTM D5185(m)		<b>2</b>	1	1
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>2</b>	2	1
Magnesium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	0
Calcium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Phosphorus	ppm	ASTM D5185(m)		<b>9</b>	5	4
Zinc	ppm	ASTM D5185(m)		<b>9</b>	5	3
Sulfur	ppm	ASTM D5185(m)		<b>3722</b>	3828	4037
Acid Number (AN)	mg KOH/g	ASTM D974*		<b>2.72</b>	2.37	1.97
Visc @ 40°C	cSt	ASTM D7279(m)	646	<b>▲ 860</b>	▲ 850	775



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0928349  
**Lab Number** : 02639477  
**Unique Number** : 5788639  
**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  
 T:  
 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.