



# OIL ANALYSIS REPORT

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

Area  
**T.M.B.**  
Machine Id  
**5502-CVD-003**

Component  
**3 Gearbox**  
Fluid  
**ESSO SPARTAN EP 220 (--- LTR)**

## RECOMMENDATION

Échantillonner de nouveau l'équipement au prochain intervalle de vidange afin d'en surveiller la condition. À NOTER: S.V.P. inclure, avec le prochain échantillon, des détails de la capacité du réservoir et le type et le degré de filtration.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0902395</b>	WC0884530	WC0818927
Sample Date		Client Info		<b>29 Feb 2024</b>	05 Dec 2023	21 Aug 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>NORMAL</b>	ABNORMAL	ABNORMAL

## WEAR

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

PQ		ASTM D8184*		<b>12</b>	▲ 203	96
Iron	ppm	ASTM D5185(m)	>200	<b>22</b>	▲ 386	▲ 243
Chromium	ppm	ASTM D5185(m)	>15	<b>0</b>	3	3
Nickel	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>25	<b>&lt;1</b>	6	5
Lead	ppm	ASTM D5185(m)	>100	<b>0</b>	0	0
Copper	ppm	ASTM D5185(m)	>200	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>25	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	VLITE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

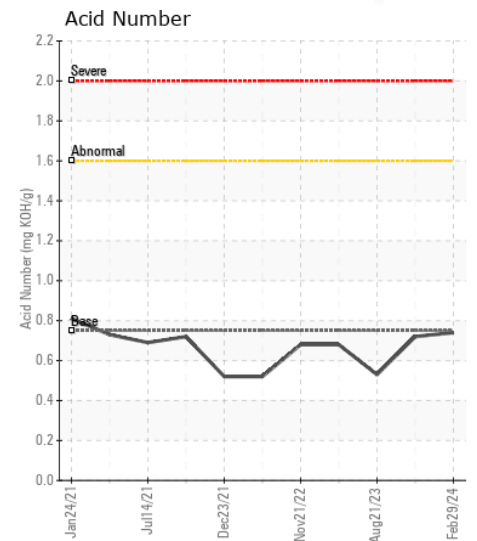
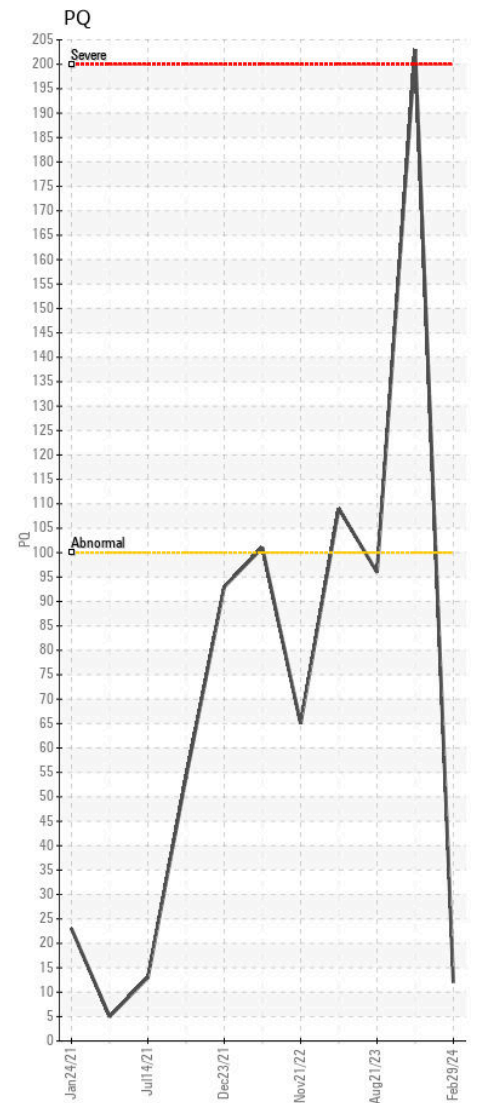
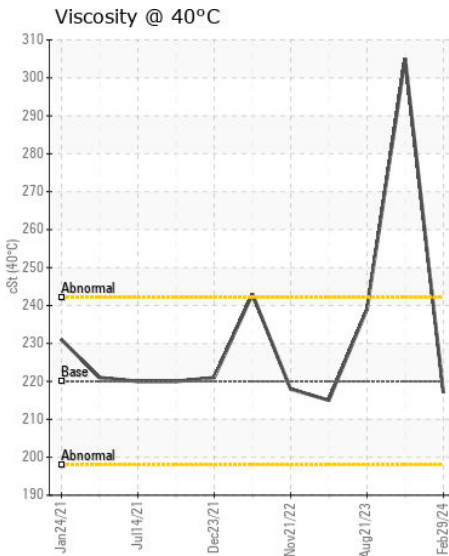
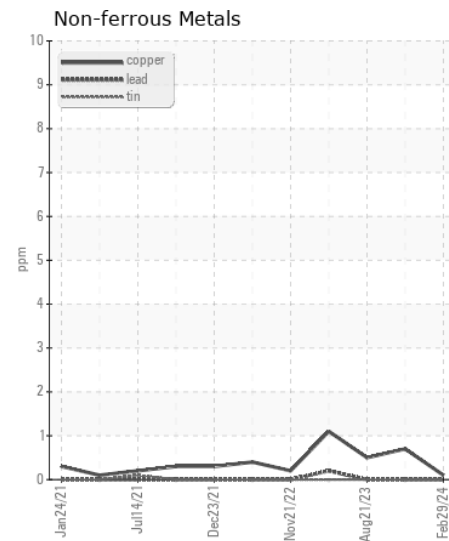
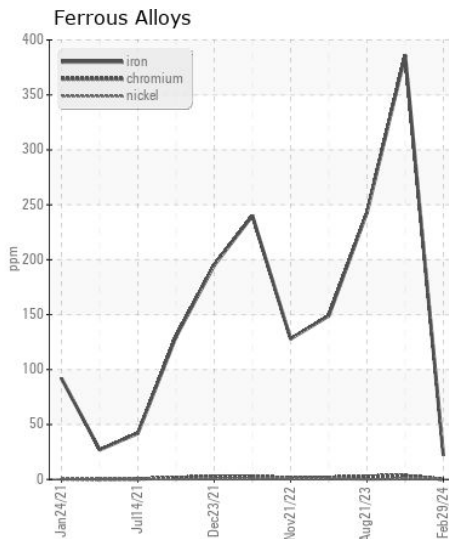
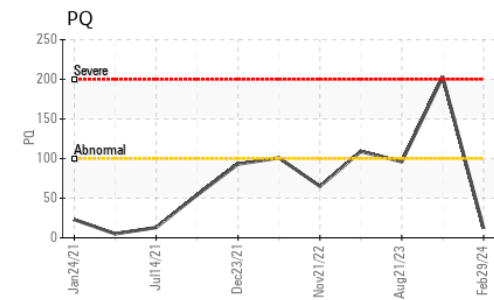
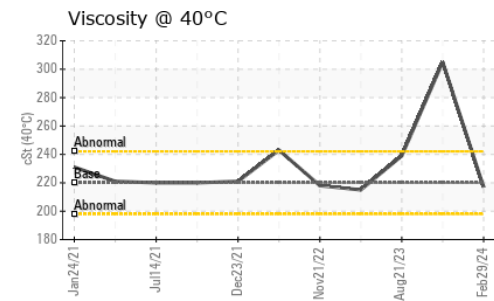
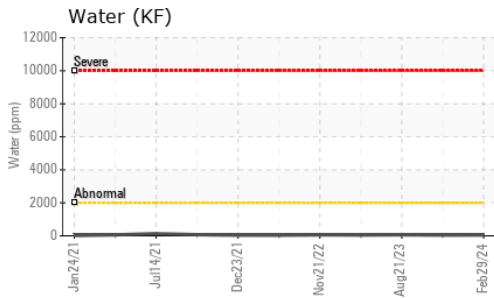
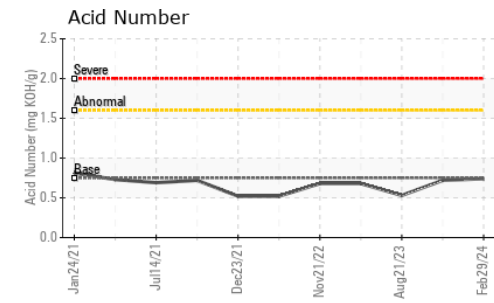
La teneur en eau est négligeable. Il n'y a aucun indice de contamination dans l'huile.

Silicon	ppm	ASTM D5185(m)	>50	<b>&lt;1</b>	5	5
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	1	<1
Water	%	ASTM D6304*	>0.2	<b>0.004</b>	0.003	0.005
ppm Water	ppm	ASTM D6304*	>2000	<b>44</b>	39	59.9
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	VLITE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	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

Le AN est acceptable pour ce fluide. L'état de l'huile permet d'en prolonger l'utilisation.

Sodium	ppm	ASTM D5185(m)		<b>0</b>	3	3
Boron	ppm	ASTM D5185(m)	.5	<b>30</b>	30	27
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	3	2
Magnesium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	<1
Calcium	ppm	ASTM D5185(m)	1.7	<b>&lt;1</b>	3	4
Phosphorus	ppm	ASTM D5185(m)	250	<b>325</b>	306	326
Zinc	ppm	ASTM D5185(m)	.3	<b>9</b>	7	9
Sulfur	ppm	ASTM D5185(m)		<b>14449</b>	14505	14180
Acid Number (AN)	mg KOH/g	ASTM D974*	0.75	<b>0.74</b>	0.72	0.53
Visc @ 40°C	cSt	ASTM D7279(m)	220	<b>217</b>	▲ 305	239



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0902395  
**Lab Number** : 02619407  
**Unique Number** : 5736517  
**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