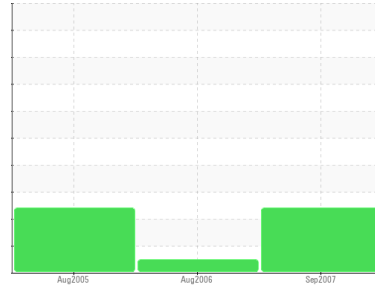




# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Area

**M.S.E.**

Machine Id  
**RETLT 103S (S/N 6)**

Component

**3 Gearbox**

Fluid

**ESSO SPARTAN SYNTHETIC EP 220 (68 LTR)**

## DIAGNOSIS

### Recommendation

Nous vous recommandons de remplacer le filtre et d'utiliser un système de filtrage hors-ligne afin d'améliorer la propreté du fluide.

### Wear

Le taux d'étain est marginal. Le taux de cuivre est marginal. Il y a indication d'usure de roulements-coussinets et/ou d'engrenages.

### Contamination

Il n'y a aucun indice de contamination dans le composant.

### Fluid Condition

L'état de l'huile est acceptable pour la durée de service.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>WC21012227</b>	WC21010294	WC21008710
Sample Date	Client Info	<b>18 Sep 2007</b>	16 Aug 2006	26 Aug 2005
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	<b>N/A</b>	Not Changd	Not Changd
Sample Status		<b>ABNORMAL</b>	NORMAL	ABNORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	<b>6</b>	3	5
Chromium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	<b>▲ 11</b>	7	▲ 14
Titanium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	<b>0</b>	0	<1
Lead	ppm	ASTM D5185(m)	<b>2</b>	<1	3
Copper	ppm	ASTM D5185(m)	<b>▲ 650</b>	▲ 473	▲ 856
Tin	ppm	ASTM D5185(m)	<b>▲ 66</b>	▲ 43	▲ 88
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	0	<1

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	<b>&lt;1</b>	0	2
Barium	ppm	ASTM D5185(m)	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185(m)	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	<b>0</b>	0	<1
Calcium	ppm	ASTM D5185(m)	<b>1</b>	1	1
Phosphorus	ppm	ASTM D5185(m)	<b>170</b>	128	208
Zinc	ppm	ASTM D5185(m)	<b>4</b>	4	4
Sulfur	ppm	ASTM D5185(m)	<b>2521</b>	2136	2535

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	<b>3</b>	1	2
Sodium	ppm	ASTM D5185(m)	<b>0</b>	0	2
Potassium	ppm	ASTM D5185(m)	<b>0</b>	0	0

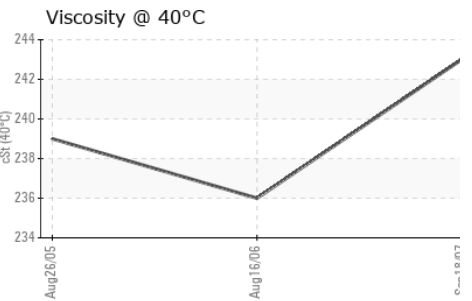
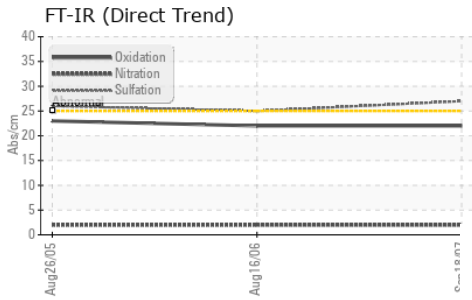
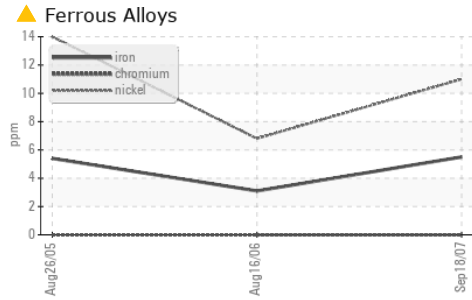
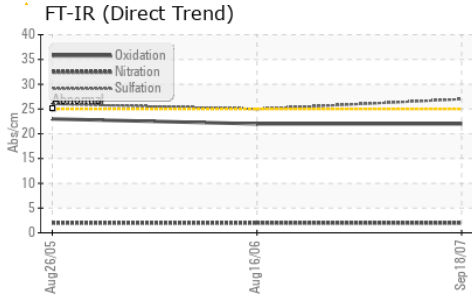
## INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	<b>0</b>	0	0
Nitration	Abs/cm	ASTM D7624*	<b>2</b>	2	2
Sulfation	Abs.1mm	ASTM D7415*	<b>27</b>	25	26

## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs.1mm	ASTM D7414*	<b>22</b>	22	23

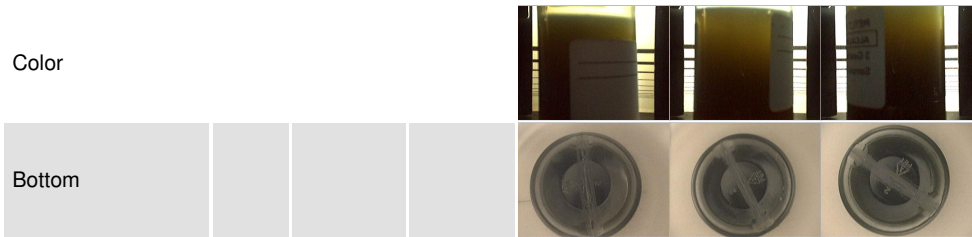
# OIL ANALYSIS REPORT



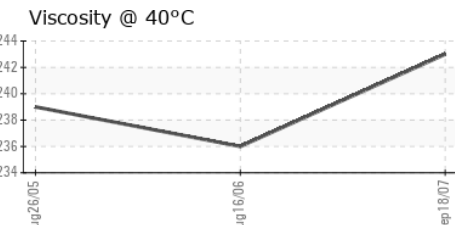
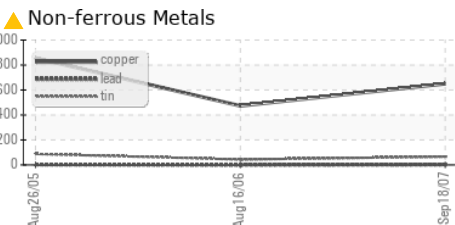
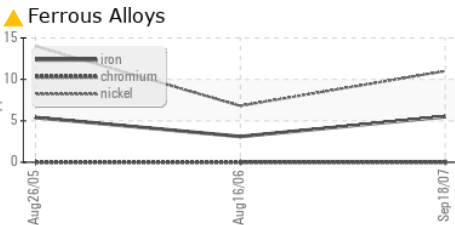
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	HAZY
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	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)	243	236	239

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.** : WC21012227  
**Lab Number** : 01411796  
**Unique Number** : 2526502  
**Test Package** : IND 1 ( Additional Tests: FT-IR )

**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