



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id  
**MACK 18-SIMP-01-001-M**

Component  
**Diesel Engine**

Fluid  
**SHELL ROTELLA T4 15W40 (--- GAL)**

**PRODUIT : ZP-700 ADDITIF MOTEUR - Cas d'étude #13-a / 3de4**



## RECOMMENDATION

*Texte & Soulignement en bleu par Adrenalube*

We recommend that you drain the oil from the component if this has not already been done. Confirm the source of the lubricant being utilized for top-up/fill. No other corrective action is recommended at this time.

### Commentaires :

*Ce camion dompeur (12 roues), terre, pierre, neige.*

*Current : L'huile a été changée.*

*Ajout de 2L / ZP-700 (5%).*

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number				WC0416890	---	---
Sample Date				11 Dec 2019	---	---
Machine Age	hrs			6401	---	---
Oil Age	hrs			507	---	---
Filter Age	hrs			507	---	---
Oil Changed				Not Changed	---	---
Filter Changed				Not Changed	---	---
Sample Status				ABNORMAL	---	---

## WEAR

All component wear rates are normal.

*Taux d'usure acceptables, mais en hausse régulière pour le fer du à la contamination.*

*Concentrations des métaux d'usure acceptables.*

Iron	ppm	ASTM D5185	>120	55	---	---
Chromium	ppm	ASTM D5185	>20	1	---	---
Nickel	ppm	ASTM D5185	>5	<1	---	---
Titanium	ppm	ASTM D5185	>2	<1	---	---
Silver	ppm	ASTM D5185	>2	0	---	---
Aluminum	ppm	ASTM D5185	>20	2	---	---
Lead	ppm	ASTM D5185	>40	4	---	---
Copper	ppm	ASTM D5185	>330	5	---	---
Tin	ppm	ASTM D5185	>15	<1	---	---
Vanadium	ppm	ASTM D5185		<1	---	---
White Metal	scalar	Visual	NONE	VLITE	---	---
Yellow Metal	scalar	Visual	NONE	NONE	---	---

## CONTAMINATION

There is an abnormal level of sulfation indicated. Light fuel dilution occurring. Light concentration of carbon/soot present in the oil. No other contaminants were detected in the oil.

### Current :

*Contamination externe acceptable.*

*Légère présence de carburant dans l'huile.*

*Légère contamination par la suie.*

*Contamination dues aux conditions d'opération (ralentis excessifs, basses vitesses, mélange trop riche...)*

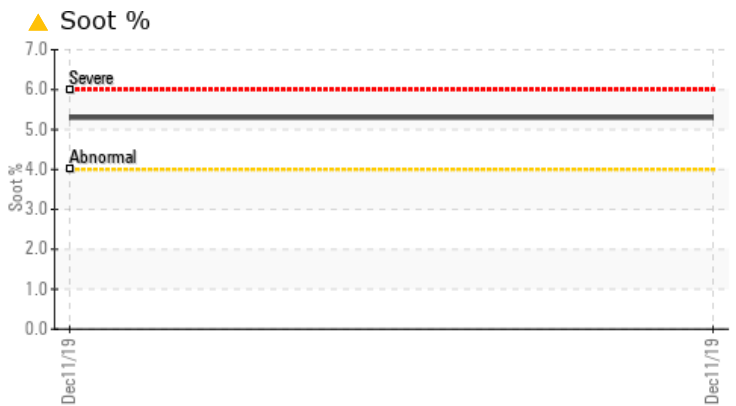
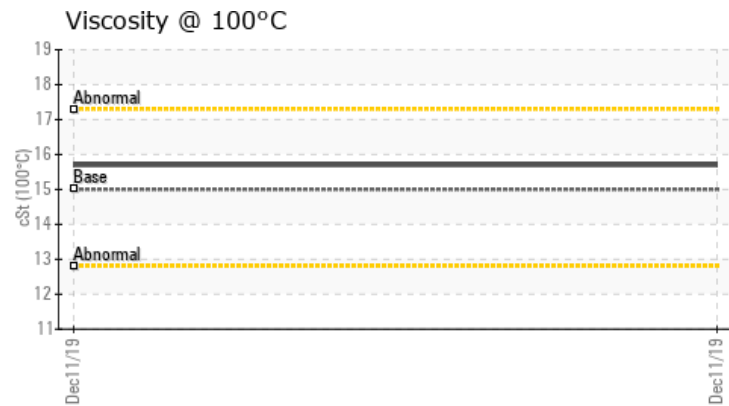
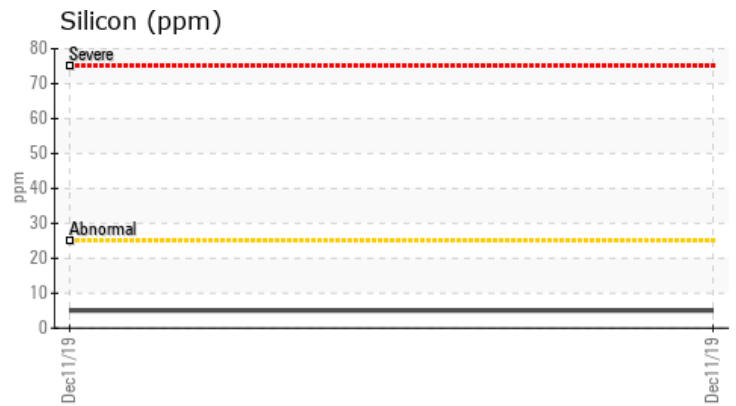
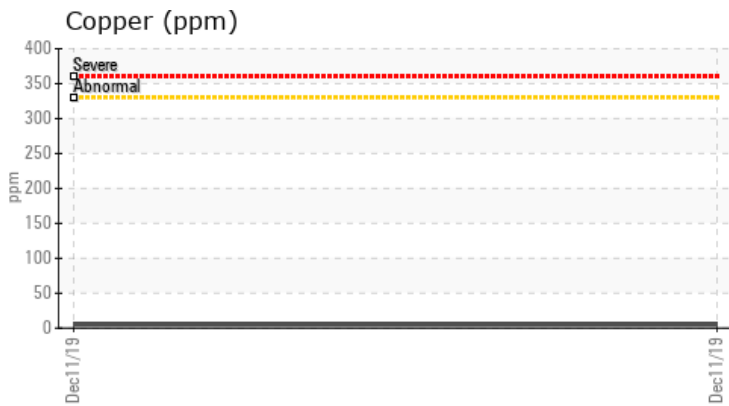
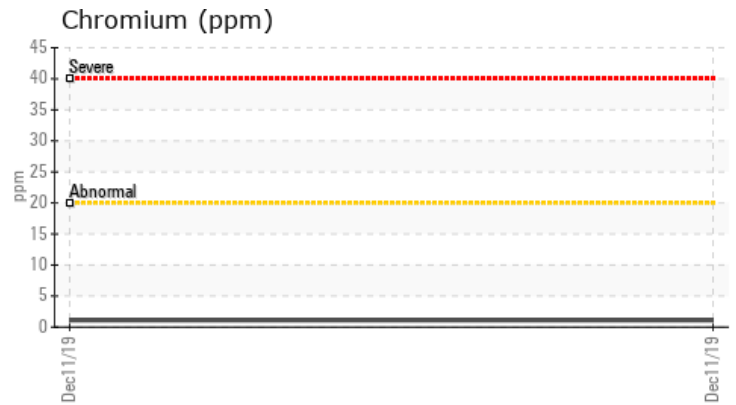
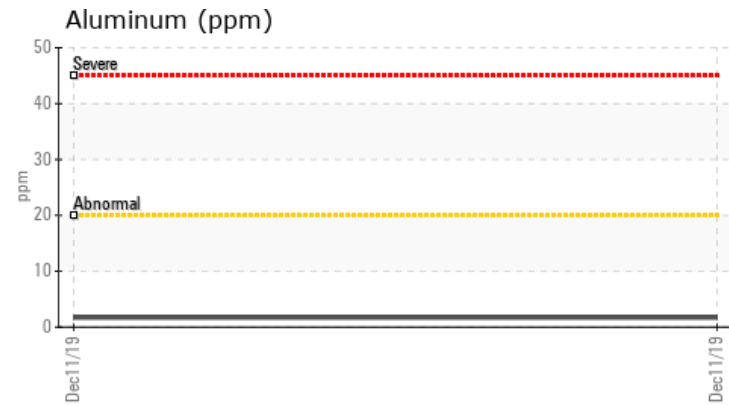
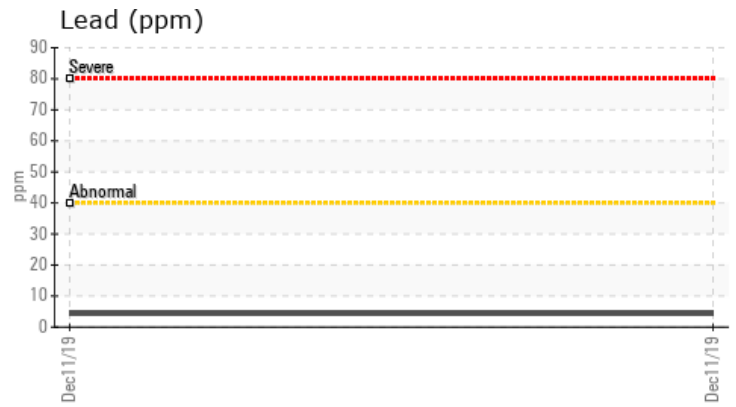
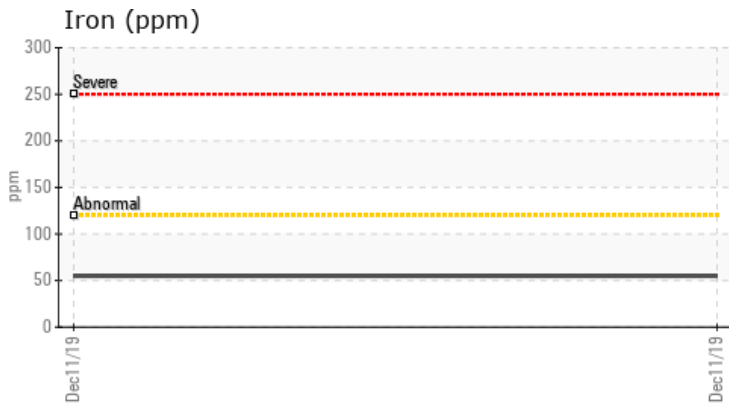
*Sulfatation légèrement élevée.*

Silicon	ppm	ASTM D5185	>25	5	---	---
Potassium	ppm	ASTM D5185	>20	50	---	---
Fuel	%	ASTM D3524	>3.0	2.3	---	---
Glycol	%	ASTM D2982		0.0	---	---
Soot %	%	ASTM D7686	>4	▲ 5.3	---	---
Nitration	Abs/cm	ASTM D7624	>20	14.2	---	---
Sulfation	Abs/.1mm	ASTM D7415	>30	▲ 38.0	---	---
Silt	scalar	Visual	NONE	NONE	---	---
Debris	scalar	Visual	NONE	NONE	---	---
Sand/Dirt	scalar	Visual	NONE	NONE	---	---
Appearance	scalar	Visual	NORML	NORML	---	---
Odor	scalar	Visual	NORML	NORML	---	---
Emulsified Water	scalar	Visual	>0.2	NEG	---	---

## FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185		62	---	---
Boron	ppm	ASTM D5185		32	---	---
Barium	ppm	ASTM D5185		0	---	---
Molybdenum	ppm	ASTM D5185		12	---	---
Manganese	ppm	ASTM D5185		<1	---	---
Magnesium	ppm	ASTM D5185		12	---	---
Calcium	ppm	ASTM D5185		2190	---	---
Phosphorus	ppm	ASTM D5185		911	---	---
Zinc	ppm	ASTM D5185		1134	---	---
Sulfur	ppm	ASTM D5185		2737	---	---
Oxidation	Abs/.1mm	ASTM D7414	>25	20.8	---	---
Visc @ 100°C	cSt	ASTM D7279	15	15.7	---	---



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0416890      **Received** : 19 Dec 2019  
**Lab Number** : 02327982      **Diagnosed** : 20 Dec 2019  
**Unique Number** : 4979285      **Diagnostician** : Bill Quesnel  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, Glycol, PercentFuel, Visual )

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