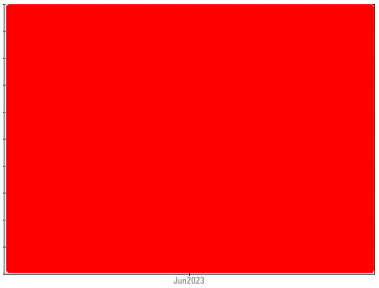
PROBLEM SUMMARY

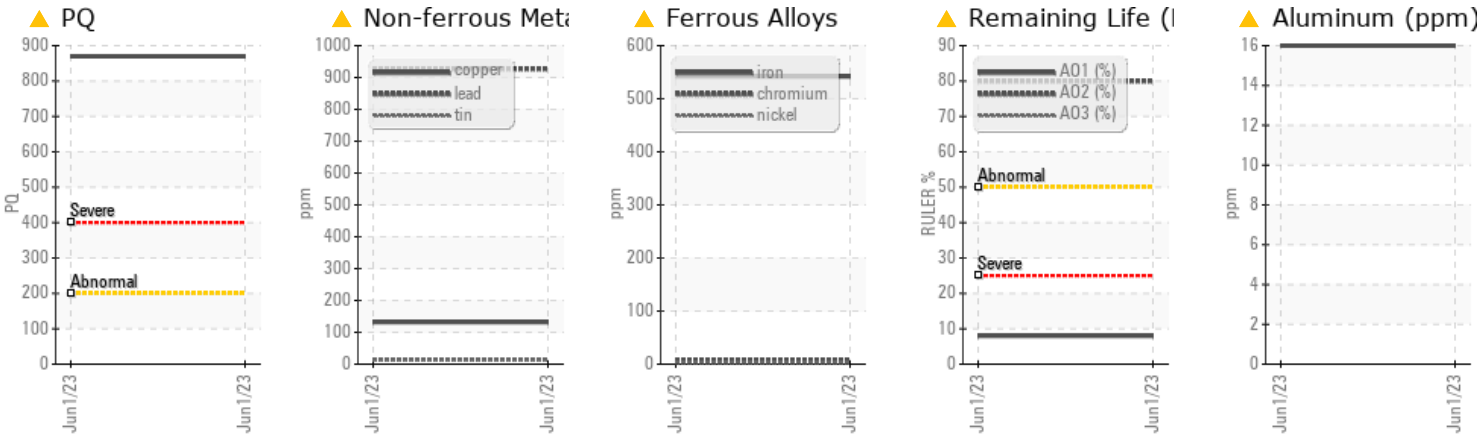
Sample Rating Trend



WEAR

Machine Id
ROWLOCK 09FB055A - ELECTRICA AUTOMOTRIZ OMEGA
Component
Grease
Fluid
PARAGON 3000 GREASE 2 FROM TRC (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend that you re-grease the component if this has not already been done. No corrective action is recommended at this time. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time. Analytical Ferrography: Results suggest there is excessive contamination of both external debris and red oxide (rust). We suggest purging the grease in this system with fresh grease to displace the contaminated grease. We also suggest investigating the source of contamination and repairing it if possible. Wear is elevated but not excessive for the contamination present, and it does not appear that a significant fault is present, but it appears that one is forming because of the contamination present and this will continue to deteriorate without intervention.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	---	---
PQ		ASTM D8184	>200	▲ **870**	---	---
Iron	ppm	ASTM D5185m	>250	▲ **542**	---	---
Titanium	ppm	ASTM D5185m		▲ **20**	---	---
Lead	ppm	ASTM D5185m	>25	▲ **927**	---	---
Copper	ppm	ASTM D5185m	>75	▲ **132**	---	---
Tin	ppm	ASTM D5185m	>5	▲ **13**	---	---
Ferrous Rubbing	Scale 0-10	*ASTM D7684		▲ **5**		
Ferrous Sliding	Scale 0-10	*ASTM D7684		▲ **3**		
Ferrous Rolling	Scale 0-10	*ASTM D7684		▲ **3**		
Ferrous Red Oxides	Scale 0-10	*ASTM D7684		▲ **6**		
Other	Scale 0-10	*ASTM D7684		▲ **4**		
Aluminum	ppm	ASTM D5185m		▲ **16**	---	---
Anti-Oxidant 1	%	ASTM D6971	<25%	▲ **8**	---	---

Customer Id: TEXFOR02
Sample No.: TR05877636
Lab Number: 05877636
Test Package: GRS 3

To manage this report scan the QR code

To discuss the diagnosis or test data:
Aaron Black +1
aaron.black@wearcheck.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

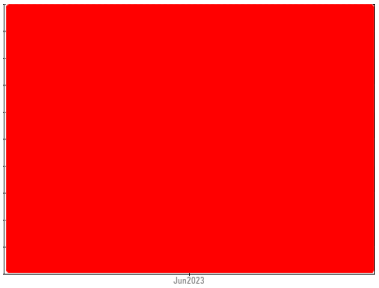
RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Resample	---	---	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

GREASE ANALYSIS

Sample Rating Trend



WEAR

Machine Id
ROWLOCK 09FB055A - ELECTRICA AUTOMOTRIZ OMEGA
Component
Grease
Fluid
PARAGON 3000 GREASE 2 FROM TRC (--- GAL)

DIAGNOSIS

Recommendation

We recommend that you re-grease the component if this has not already been done. No corrective action is recommended at this time. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time. Analytical Ferrography: Results suggest there is excessive contamination of both external debris and red oxide (rust). We suggest purging the grease in this system with fresh grease to displace the contaminated grease. We also suggest investigating the source of contamination and repairing it if possible. Wear is elevated but not excessive for the contamination present, and it does not appear that a significant fault is present, but it appears that one is forming because of the contamination present and this will continue to deteriorate without intervention.

Wear

Abnormal wear is indicated.

Grease Condition

Linear Sweep Voltammetry (RULER– ASTM D6971) testing indicates a low amount of one of the anti-oxidants present in the oil, however, the other anti-oxidant(s) are still performing adequately. The grease is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history 1	history 2
Sample Number		Client Info		**TR05877636**	---	---
Sample Date		Client Info		**01 Jun 2023**	---	---
Machine Age	hrs	Client Info		**0**	---	---
Grease Age	hrs	Client Info		**0**	---	---
Grease Serviced		Client Info		**N/A**	---	---
Sample Status				**ABNORMAL**	---	---

WEAR METALS		method	limit/base	current	history 1	history 2
PQ		ASTM D8184	>200	▲ **870**	---	---
Iron	ppm	ASTM D5185m	>250	▲ **542**	---	---
Chromium	ppm	ASTM D5185m	>10	**7**	---	---
Nickel	ppm	ASTM D5185m	>5	**3**	---	---
Cadmium	ppm	ASTM D5185m		**3**	---	---
Titanium	ppm	ASTM D5185m		▲ **20**	---	---
Vanadium	ppm	ASTM D5185m		**1**	---	---
Lead	ppm	ASTM D5185m	>25	▲ **927**	---	---
Copper	ppm	ASTM D5185m	>75	▲ **132**	---	---
Tin	ppm	ASTM D5185m	>5	▲ **13**	---	---
Silver	ppm	ASTM D5185m	>5	**0**	---	---

ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m		**214**	---	---
Magnesium	ppm	ASTM D5185m		**36**	---	---
Manganese	ppm	ASTM D5185m		**7**	---	---
Molybdenum	ppm	ASTM D5185m		**1**	---	---
Phosphorus	ppm	ASTM D5185m		**18**	---	---
Zinc	ppm	ASTM D5185m		**73**	---	---

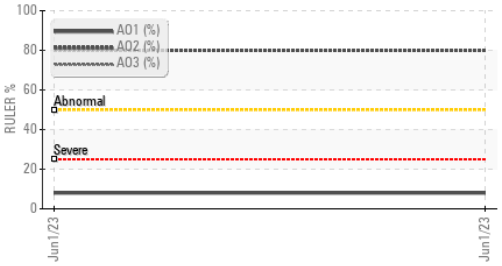
THICKENER/SOAP		method	limit/base	current	history 1	history 2
Aluminum	ppm	ASTM D5185m		▲ **16**	---	---
Barium	ppm	ASTM D5185m		**49**	---	---
Calcium	ppm	ASTM D5185m		**6113**	---	---
Sodium	ppm	ASTM D5185m		**51**	---	---
Lithium	ppm	ASTM D5185m		**2310**	---	---
Sulfur	ppm	ASTM D5185m		**6321**	---	---

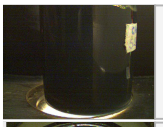
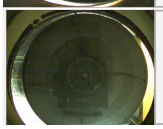
CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	>150	**50**	---	---
Potassium	ppm	ASTM D5185m		**9**	---	---
Water	%	ASTM D6304	>0.1	**0.033**	---	---
ppm Water	ppm	ASTM D6304	>1000	**339.5**	---	---

GREASE CONDITION		method	limit/base	current	history 1	history 2
Grease Color		*Visual		**Green**	---	---
Texture		*In-house		**Buttery**	---	---
NLGI Consistency	NLGI Scale	*SKF Method		**1-2**	---	---
Anti-Oxidant 1	%	ASTM D6971	<25%	▲ **8**	---	---
Anti-Oxidant 2	%	ASTM D6971	<25%	**80**	---	---

GREASE ANALYSIS

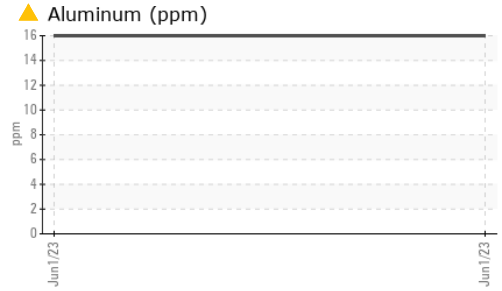
Remaining Life (RULER)



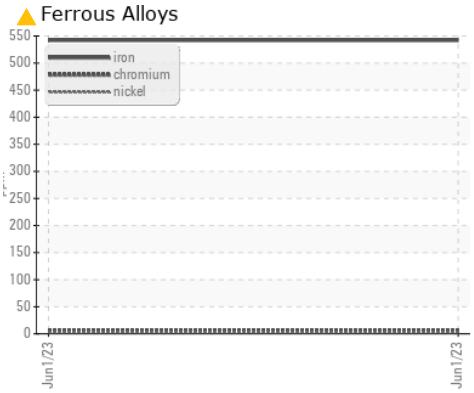
SAMPLE IMAGES	method	limit/base	current	history 1	history 2
Color				*no image*	*no image*
Bottom				*no image*	*no image*

GRAPHS

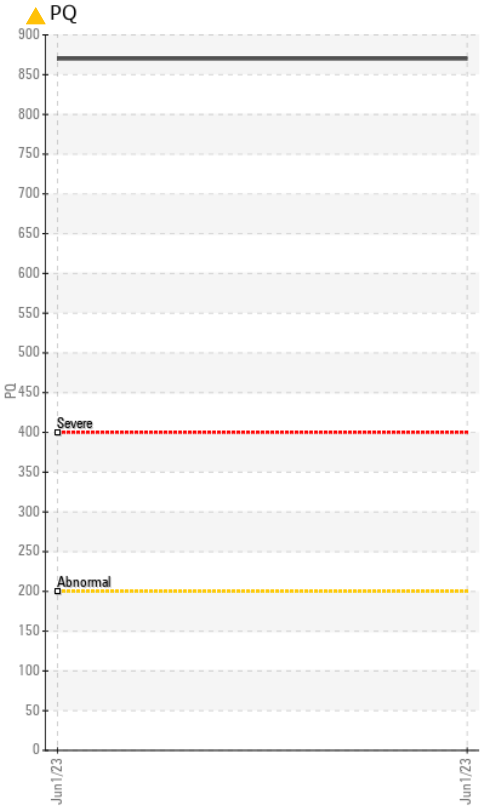
Aluminum (ppm)



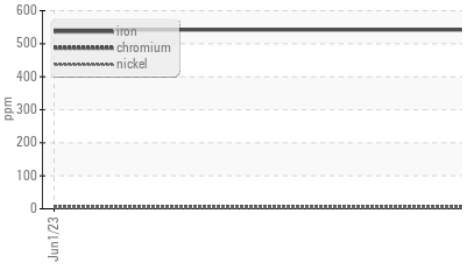
Ferrous Alloys



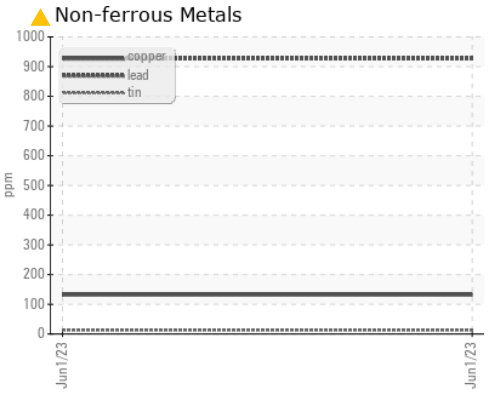
PQ



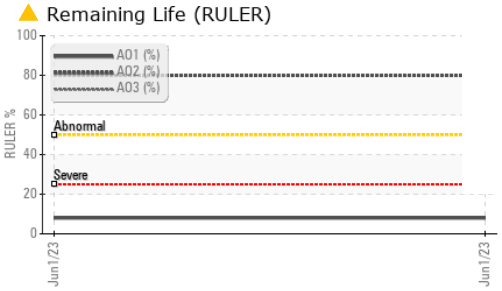
Ferrous Alloys



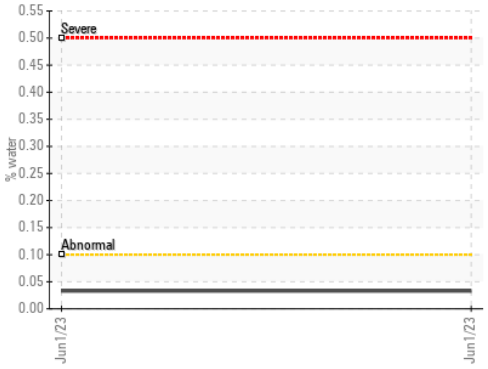
Non-ferrous Metals



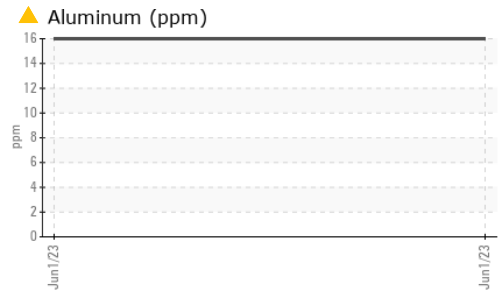
Remaining Life (RULER)



Water



Aluminum (ppm)



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR05877636 **Received** : 19 Jun 2023
Lab Number : 05877636 **Diagnosed** : 07 Jul 2023
Unique Number : 10522739 **Diagnostician** : Aaron Black
Test Package : GRS 3 (Additional Tests: SCREEN)

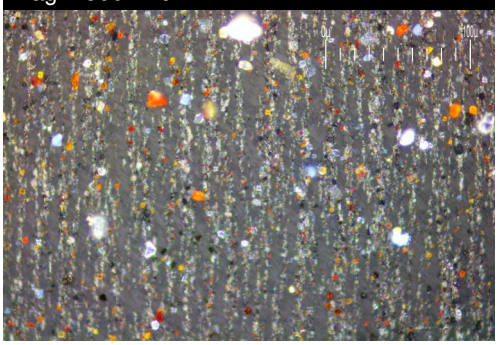
To discuss this sample report, contact Customer Service at 1-800-827-0711.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

TEXAS REFINERY - MEXICO
FORT WORTH, TX
US 76106
Contact: JOSE PEPE GARCIA
pedidos@texasrefinery.com.mx;josegpegarcia@texasrefinery.com.mx
T:
F: (817)336-6103

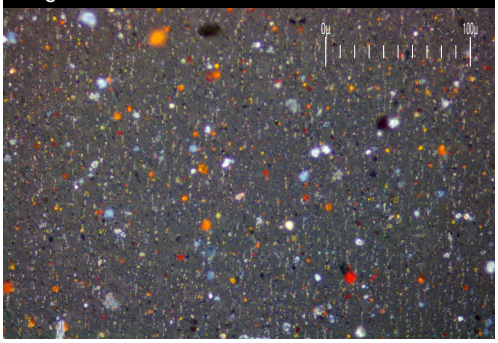
FERROGRAPHY REPORT

Machine Id
ROWLOCK 09FB055A - ELECTRICA AUTOMOTRIZ OMEGA
Component
Grease
Fluid
PARAGON 3000 GREASE 2 FROM TRC (--- GAL)

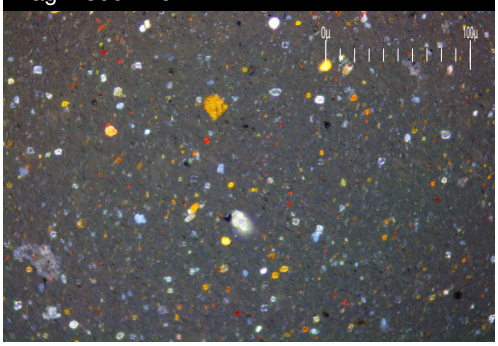
Magn: 500x Illum: RW



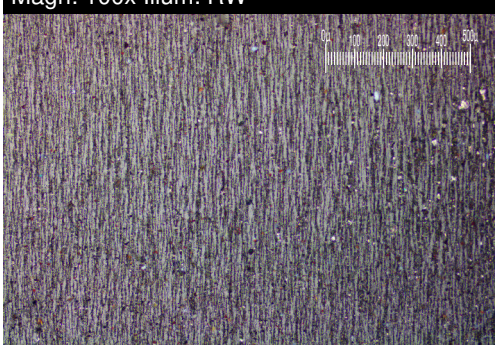
Magn: 500x Illum: RW



Magn: 500x Illum: RW



Magn: 100x Illum: RW



FERROGRAPHY		method	limit/base	current	history 1	history 2
Ferrous Rubbing	Scale 0-10	*ASTM D7684		5		
Ferrous Sliding	Scale 0-10	*ASTM D7684		3		
Ferrous Cutting	Scale 0-10	*ASTM D7684				
Ferrous Rolling	Scale 0-10	*ASTM D7684		3		
Ferrous Break-in	Scale 0-10	*ASTM D7684				
Ferrous Spheres	Scale 0-10	*ASTM D7684				
Ferrous Black Oxides	Scale 0-10	*ASTM D7684				
Ferrous Red Oxides	Scale 0-10	*ASTM D7684		6		
Ferrous Corrosive	Scale 0-10	*ASTM D7684				
Ferrous Other	Scale 0-10	*ASTM D7684				
Nonferrous Rubbing	Scale 0-10	*ASTM D7684				
Nonferrous Sliding	Scale 0-10	*ASTM D7684		2		
Nonferrous Cutting	Scale 0-10	*ASTM D7684				
Nonferrous Rolling	Scale 0-10	*ASTM D7684				
Nonferrous Other	Scale 0-10	*ASTM D7684				
Carbonaceous Material	Scale 0-10	*ASTM D7684				
Lubricant Degradation	Scale 0-10	*ASTM D7684				
Sand/Dirt	Scale 0-10	ASTM D7684				
Fibres	Scale 0-10	*ASTM D7684				
Spheres	Scale 0-10	*ASTM D7684				
Other	Scale 0-10	*ASTM D7684		4		

WEAR

Abnormal wear is indicated.

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