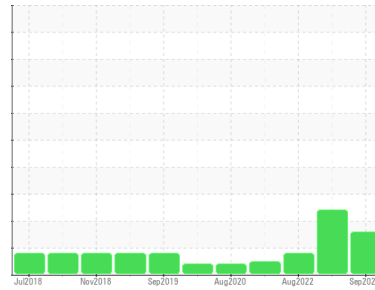




# PROBLEM SUMMARY

## Sample Rating Trend

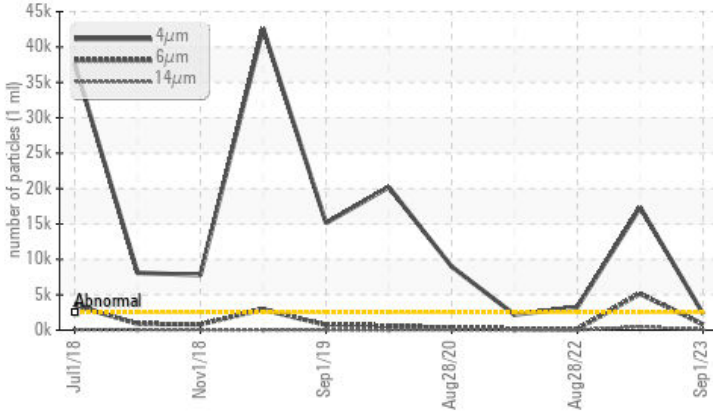
ISO



Area  
**MARTHA LYNN**  
 Machine Id  
**[MARTHA LYNN] 010 504678-10**  
 Component  
**Steering**  
 Fluid  
**CHEVRON RANDO HDZ 68 (--- GAL)**

## COMPONENT CONDITION SUMMARY

### ▲ Particle Trend



## RECOMMENDATION

No corrective action is recommended at this time.  
 Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status			ATTENTION	ABNORMAL	ATTENTION
Particles >6µm	ASTM D7647	>640	▲ 812	▲ 5140	116
Particles >14µm	ASTM D7647	>80	▲ 99	▲ 452	4
Particles >21µm	ASTM D7647	>20	▲ 27	▲ 138	1
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 18/17/14	▲ 21/20/16	▲ 19/14/9

Customer Id: INGPAD  
 Sample No.: MW0058748  
 Lab Number: 05964158  
 Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

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

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

### 01 Mar 2023 Diag: Don Baldrige

ISO



No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of particulates present in the fluid. The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

view report



### 28 Aug 2022 Diag: Jonathan Hester

ISO



No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of silt (particulates < 6 microns in size) present in the fluid. The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

view report



### 28 Feb 2022 Diag: Doug Bogart

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

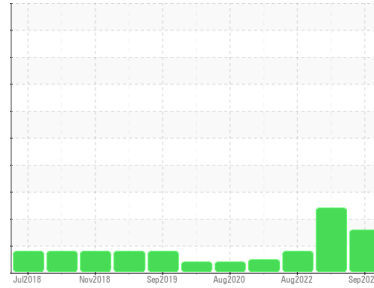
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area  
**MARTHA LYNN**  
 Machine Id  
**[MARTHA LYNN] 010 504678-10**  
 Component  
**Steering**  
 Fluid  
**CHEVRON RANDO HDZ 68 (--- GAL)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is a moderate amount of particulates present in the fluid.

### Fluid Condition

The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>MW0058748</b>	MW0051323	MW0043456
Sample Date	Client Info	<b>01 Sep 2023</b>	01 Mar 2023	28 Aug 2022
Machine Age	hrs	Client Info	11820	8000
Oil Age	hrs	Client Info	11820	8000
Oil Changed	Client Info	<b>N/A</b>	Not Changd	Not Changd
Sample Status		<b>ATTENTION</b>	ABNORMAL	ATTENTION

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >50	<b>0</b>	0	0
Chromium	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m >5	<b>0</b>	0	<1
Lead	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >50	<b>13</b>	12	11
Tin	ppm	ASTM D5185m >5	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	<b>0</b>	0	<1
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 0	<b>0</b>	0	<1
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m 0	<b>0</b>	<1	0
Calcium	ppm	ASTM D5185m 75	<b>52</b>	56	52
Phosphorus	ppm	ASTM D5185m 275	<b>366</b>	369	356
Zinc	ppm	ASTM D5185m 350	<b>439</b>	444	436
Sulfur	ppm	ASTM D5185m 550	<b>988</b>	773	928

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >15	<b>&lt;1</b>	2	<1
Sodium	ppm	ASTM D5185m	<b>0</b>	0	<1
Potassium	ppm	ASTM D5185m >20	<b>1</b>	0	0

## FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >2500	<b>2336</b>	▲ 17328	▲ 3246
Particles >6µm	ASTM D7647 >640	▲ <b>812</b>	▲ 5140	116
Particles >14µm	ASTM D7647 >80	▲ <b>99</b>	▲ 452	4
Particles >21µm	ASTM D7647 >20	▲ <b>27</b>	▲ 138	1
Particles >38µm	ASTM D7647 >4	<b>3</b>	▲ 11	1
Particles >71µm	ASTM D7647 >3	<b>0</b>	1	0
Oil Cleanliness	ISO 4406 (c) >18/16/13	▲ <b>18/17/14</b>	▲ 21/20/16	▲ 19/14/9

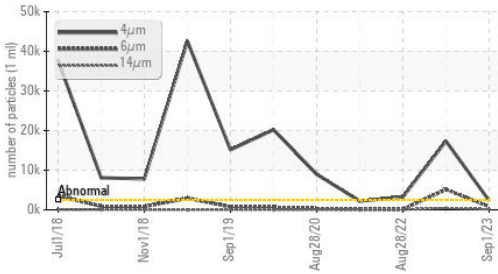
## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.25</b>	0.25	0.36

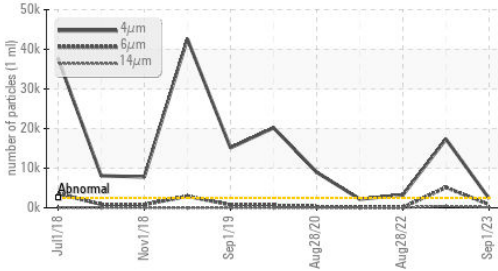


# OIL ANALYSIS REPORT

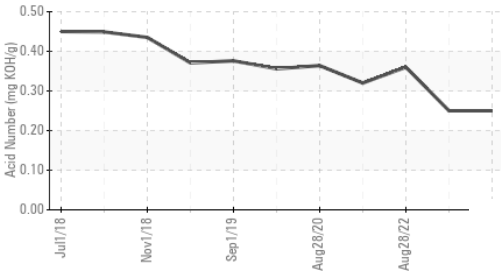
## ▲ Particle Trend



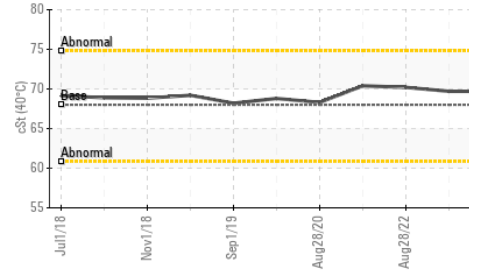
## ▲ Particle Trend



## Acid Number



## Viscosity @ 40°C

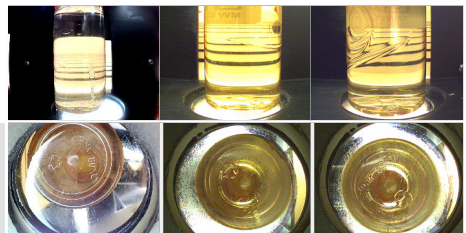


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	68.0	69.7	70.2

SAMPLE IMAGES	method	limit/base	current	history1	history2
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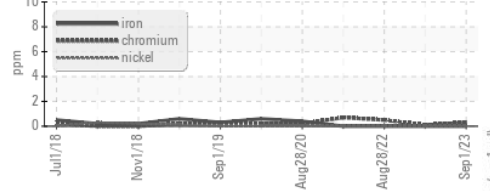
Color



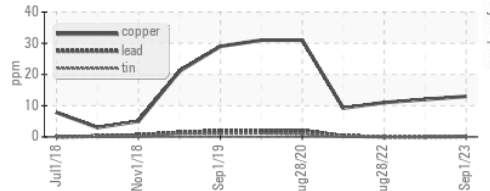
Bottom

## GRAPHS

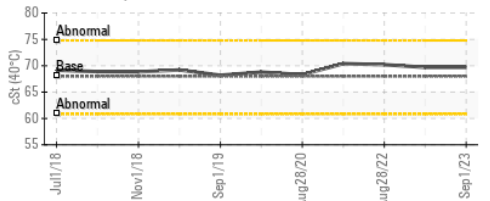
### Ferrous Alloys



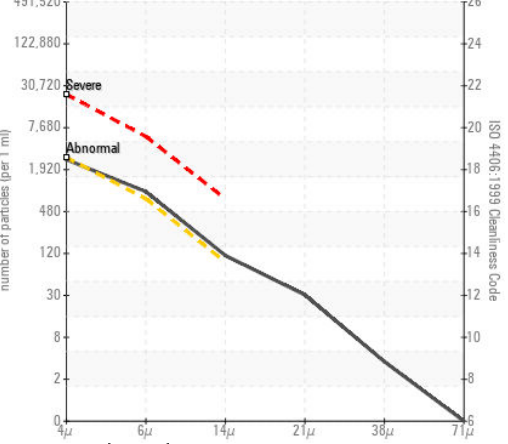
### Non-ferrous Metals



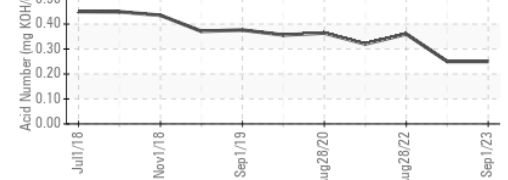
### Viscosity @ 40°C



### ▲ Particle Count



### Acid Number



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0058748 **Received** : 28 Sep 2023  
**Lab Number** : 05964158 **Diagnosed** : 01 Oct 2023  
**Unique Number** : 10670709 **Diagnostician** : Don Baldrige  
**Test Package** : MAR 2 ( Additional Tests: PrtCount )

**INGRAM BARGE**  
 900 S 3RD ST  
 PADUCAH, KY  
 US 42003  
 Contact: GLENN ELLIS  
 glen.ellis@ingrambarga.com  
 T: (270)415-4467  
 F: (615)695-3697

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - 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)