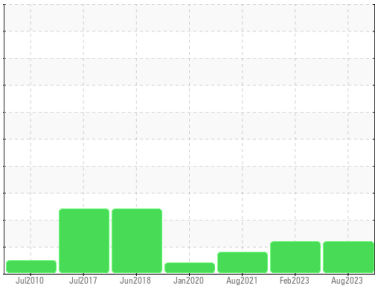
PROBLEM SUMMARY

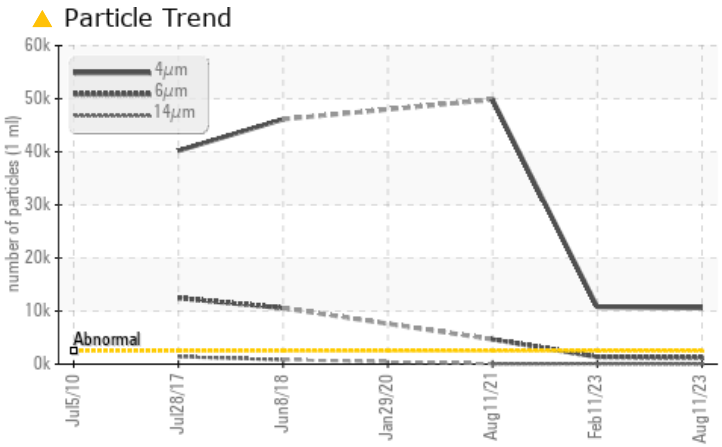
Sample Rating Trend



ISO

Area
MARY K CAVARRA
Machine Id
[MARY K CAVARRA] 010 579878-10
Component
Steering
Fluid
CHEVRON RANDO HDZ 68 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL
Particles >4µm		ASTM D7647	>2500	▲ **10591**	▲ 10774	▲ 49840
Particles >6µm		ASTM D7647	>640	▲ **1210**	▲ 1347	▲ 4668
Oil Cleanliness		ISO 4406 (c)	>18/16/13	▲ **21/17/12**	▲ 21/18/13	▲ 23/19/13

Customer Id: INGPAD
Sample No.: MW0049542
Lab Number: 05936636
Test Package: MAR 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

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

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

11 Feb 2023 Diag: Doug Bogart

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 high amount of silt (particulates < 14 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

---

11 Aug 2021 Diag: Don Baldridge

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 high amount of silt (particulates < 14 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

---

29 Jan 2020 Diag: Jonathan Hester

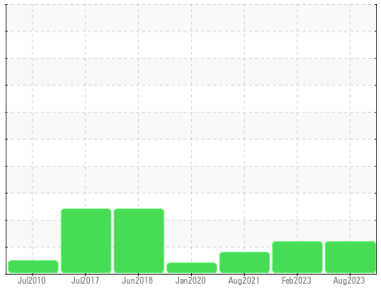
VIS DEBRIS

We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.All component wear rates are normal. Moderate concentration of visible dirt/debris present in the fluid. The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
MARY K CAVARRA
Machine Id
[MARY K CAVARRA] 010 579878-10
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 high amount of silt (particulates < 14 microns in size) 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		**MW0049542**	MW0049790	MW0022306
Sample Date		Client Info		**11 Aug 2023**	11 Feb 2023	11 Aug 2021
Machine Age	yrs	Client Info		**10**	71546	0
Oil Age	yrs	Client Info		**0**	71546	0
Oil Changed		Client Info		**Not Changd**	Not Changd	N/A
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**1**	0	1
Chromium	ppm	ASTM D5185m	>15	**<1**	0	0
Nickel	ppm	ASTM D5185m	>5	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>5	**<1**	<1	0
Lead	ppm	ASTM D5185m	>10	**1**	2	2
Copper	ppm	ASTM D5185m	>50	**24**	23	26
Tin	ppm	ASTM D5185m	>5	**<1**	<1	<1
Antimony	ppm	ASTM D5185m		**---**	---	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	<1
Barium	ppm	ASTM D5185m	0	**0**	3	0
Molybdenum	ppm	ASTM D5185m	0	**0**	<1	<1
Manganese	ppm	ASTM D5185m		**<1**	1	0
Magnesium	ppm	ASTM D5185m	0	**1**	11	0
Calcium	ppm	ASTM D5185m	75	**75**	77	72
Phosphorus	ppm	ASTM D5185m	275	**389**	359	348
Zinc	ppm	ASTM D5185m	350	**496**	479	460
Sulfur	ppm	ASTM D5185m	550	**1669**	1352	1083

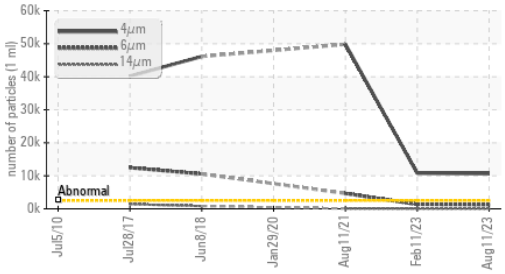
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**<1**	1	<1
Sodium	ppm	ASTM D5185m		**1**	0	0
Potassium	ppm	ASTM D5185m	>20	**0**	<1	0

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	▲ **10591**	▲ 10774	▲ 49840
Particles >6µm		ASTM D7647	>640	▲ **1210**	▲ 1347	▲ 4668
Particles >14µm		ASTM D7647	>80	**33**	66	68
Particles >21µm		ASTM D7647	>20	**10**	25	18
Particles >38µm		ASTM D7647	>4	**0**	2	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	▲ **21/17/12**	▲ 21/18/13	▲ 23/19/13

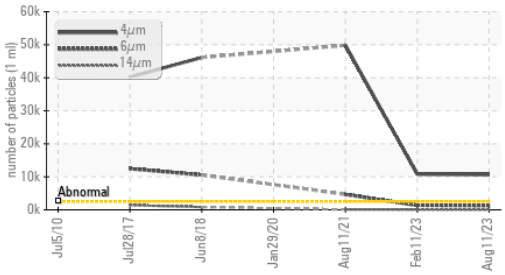
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.28**	0.32	0.342

OIL ANALYSIS REPORT

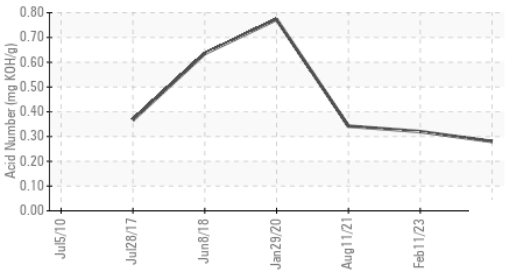
Particle Trend



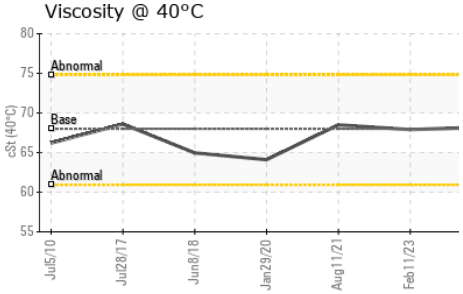
Particle Trend



Acid Number

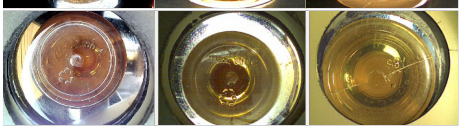


Viscosity @ 40°C



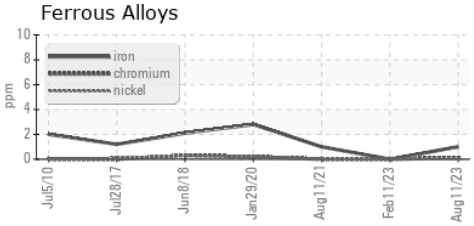
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	68.0	**68.2**	67.9	68.5

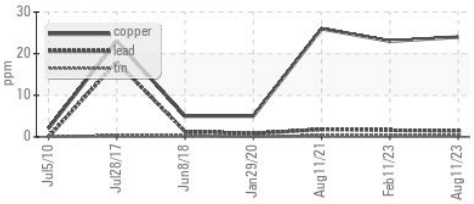
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

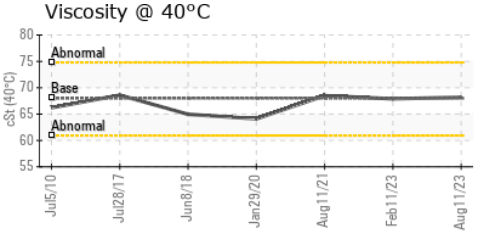
Ferrous Alloys



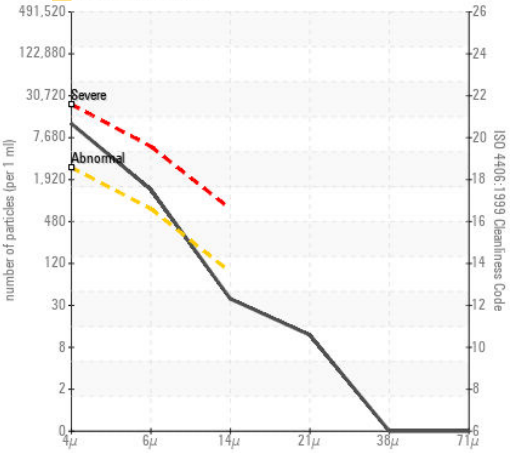
Non-ferrous Metals



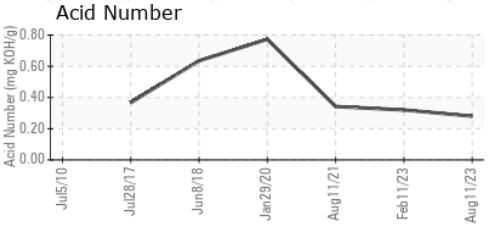
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0049542 **Received** : 28 Aug 2023
Lab Number : 05936636 **Diagnosed** : 29 Aug 2023
Unique Number : 10621907 **Diagnostician** : Don Baldridge
Test Package : MAR 2 (Additional Tests: PrtCount)

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)

INGRAM BARGE
900 S 3RD ST
PADUCAH, KY
US 42003
Contact: DALE MORIE
dale.morie@ingrambarge.com
T: (270)415-4467
F: (615)695-3697