



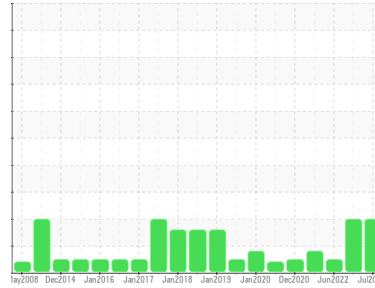
PROBLEM SUMMARY

Sample Rating Trend

ISO

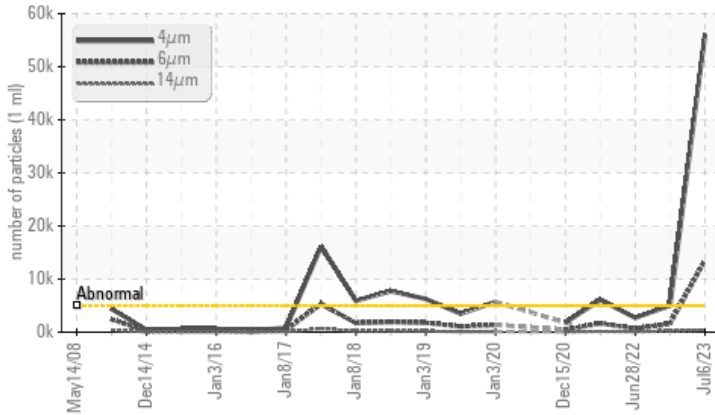


Machine Id
MARK STAAB-ST (S/N STEERING)
Component
Hydraulic System
Fluid
CHEVRON RANDO HD 68 (200 GAL)



COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	ATTENTION	NORMAL
Particles >4µm	ASTM D7647	>5000	▲ 56103	▲ 5006	2703
Particles >6µm	ASTM D7647	>1300	▲ 13602	▲ 1582	677
Particles >14µm	ASTM D7647	>160	▲ 389	▲ 183	59
Particles >21µm	ASTM D7647	>40	▲ 45	▲ 62	13
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 23/21/16	▲ 20/18/15	19/17/13

Customer Id: AMELOU
Sample No.: MW0047588
Lab Number: 05899303
Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.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
Change Filter	---	---	?	We recommend you service the filters on this component.

HISTORICAL DIAGNOSIS

15 Dec 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 particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



28 Jun 2022 Diag: Doug Bogart

NORMAL



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

view report



28 Dec 2021 Diag: Don Baldrige

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 < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

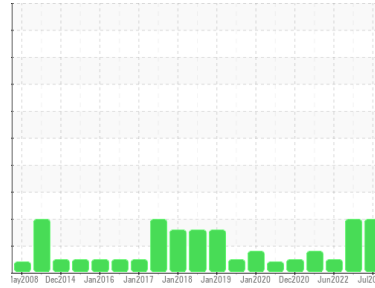
view report





OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
MARK STAAB-ST (S/N STEERING)

Component
Hydraulic System

Fluid
CHEVRON RANDO HD 68 (200 GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

Fluid Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		MW0047588	MW0037691	MW0037749
Sample Date	Client Info		06 Jul 2023	15 Dec 2022	28 Jun 2022
Machine Age	hrs	Client Info	75925	71716	67840
Oil Age	hrs	Client Info	45898	41699	37813
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status			ABNORMAL	ATTENTION	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >20	<1	0	<1
Chromium	ppm	ASTM D5185m >10	0	0	0
Nickel	ppm	ASTM D5185m >10	0	0	<1
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	<1
Aluminum	ppm	ASTM D5185m >10	<1	0	0
Lead	ppm	ASTM D5185m >20	0	0	3
Copper	ppm	ASTM D5185m >20	7	7	6
Tin	ppm	ASTM D5185m >10	0	0	<1
Antimony	ppm	ASTM D5185m	---	---	---
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	<1
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	0	<1	<1
Manganese	ppm	ASTM D5185m	<1	0	0
Magnesium	ppm	ASTM D5185m	<1	0	0
Calcium	ppm	ASTM D5185m	42	44	52
Phosphorus	ppm	ASTM D5185m	350	325	323
Zinc	ppm	ASTM D5185m	441	409	397
Sulfur	ppm	ASTM D5185m	973	908	927

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	4	3	3
Sodium	ppm	ASTM D5185m	1	0	0
Potassium	ppm	ASTM D5185m >20	0	0	0

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	▲ 56103	▲ 5006	2703
Particles >6µm	ASTM D7647	>1300	▲ 13602	▲ 1582	677
Particles >14µm	ASTM D7647	>160	▲ 389	▲ 183	59
Particles >21µm	ASTM D7647	>40	▲ 45	▲ 62	13
Particles >38µm	ASTM D7647	>10	0	4	3
Particles >71µm	ASTM D7647	>3	0	0	1
Oil Cleanliness	ISO 4406 (c)	>19/17/14	▲ 23/21/16	▲ 20/18/15	19/17/13

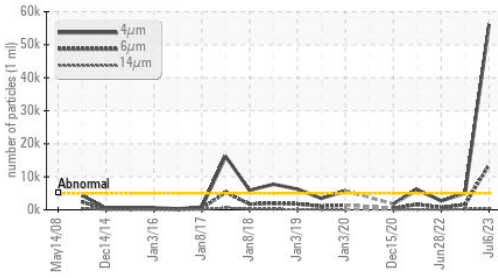
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.36	0.38	0.38

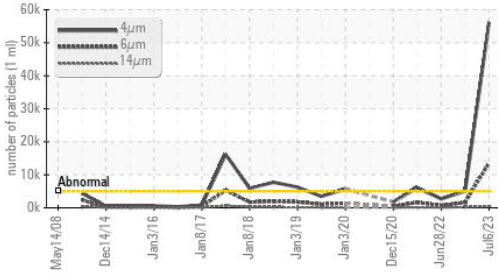


OIL ANALYSIS REPORT

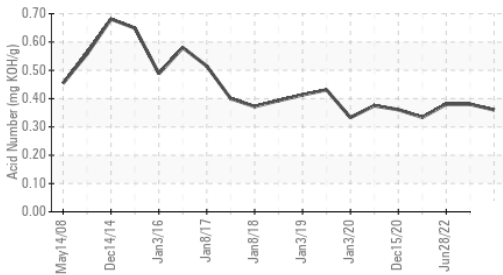
Particle Trend



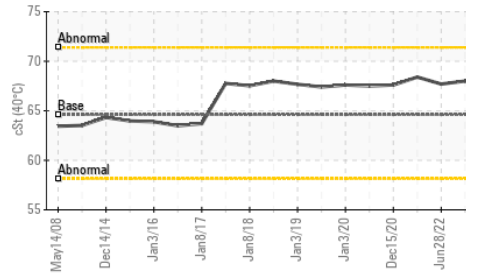
Particle Trend



Acid Number



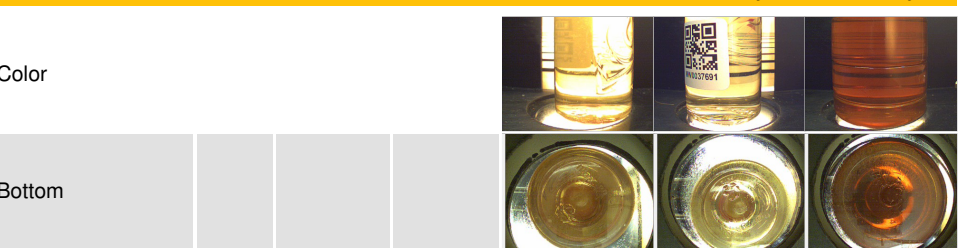
Viscosity @ 40°C



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	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

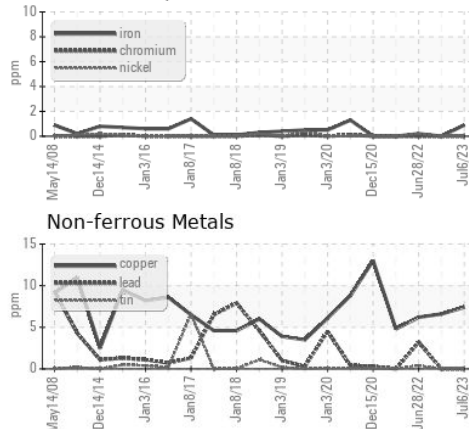
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	64.6	68.0	67.7

SAMPLE IMAGES

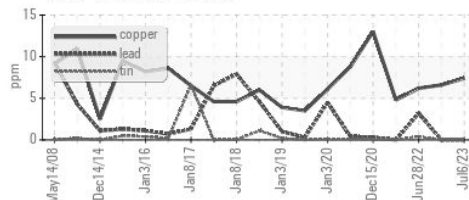


GRAPHS

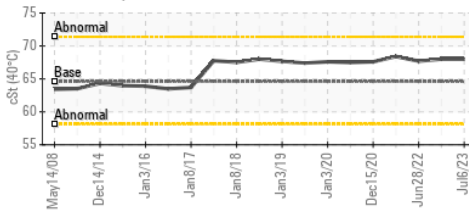
Ferrous Alloys



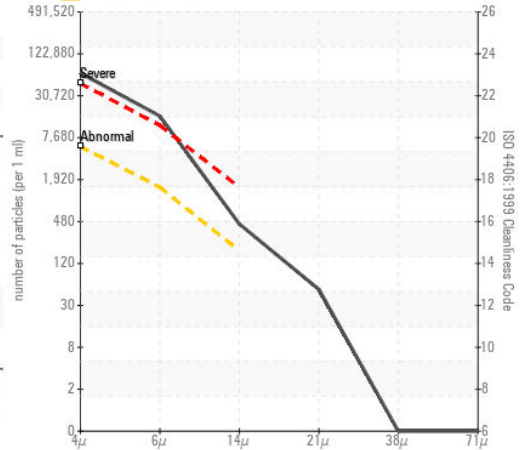
Non-ferrous Metals



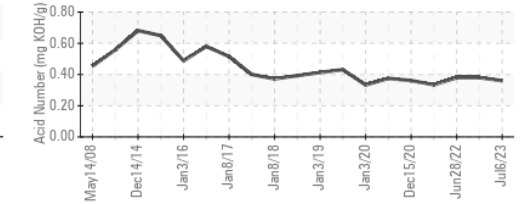
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : MW0047588 Received : 14 Jul 2023
 Lab Number : 05899303 Diagnosed : 18 Jul 2023
 Unique Number : 10560659 Diagnostician : Jonathan Hester
 Test Package : MAR 2

AMERICAN COMMERCIAL LINES
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 JEFFERSONVILLE, IN
 US 47130
 Contact: RONALD SCHNEIDER
 ronald.schneider@bargaeacbl.com

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)

T:
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