



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>ABNORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**PAUL F BROTZGE**

Component  
**Steering**

Fluid  
**CHEVRON RANDO HD 68 (240 GAL)**

**RECOMMENDATION**

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0066426</b>	MW0046356	MW0032566
Sample Date		Client Info		<b>26 Jan 2024</b>	31 May 2023	04 Dec 2022
Machine Age	mths	Client Info		<b>0</b>	25448	0
Oil Age	mths	Client Info		<b>0</b>	0	51385
Filter Age	mths	Client Info		<b>6</b>	0	1009
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ATTENTION	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>4</b>	5	4
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>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>5	<b>0</b>	<1	4
Lead	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>50	<b>17</b>	15	16
Tin	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

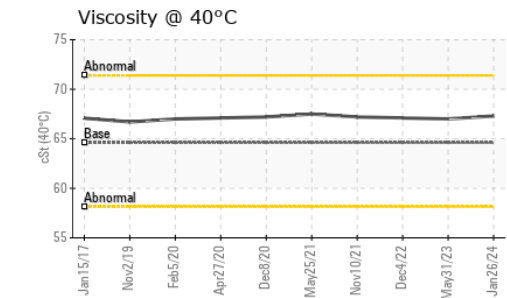
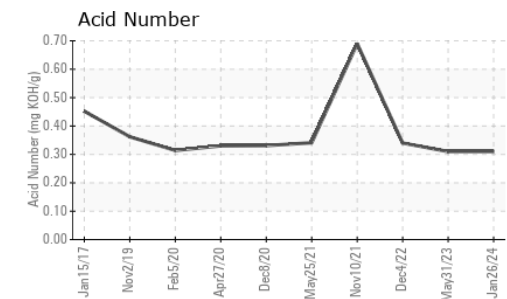
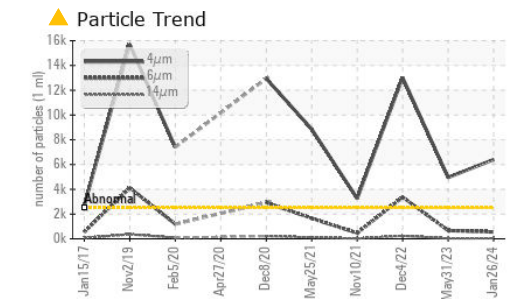
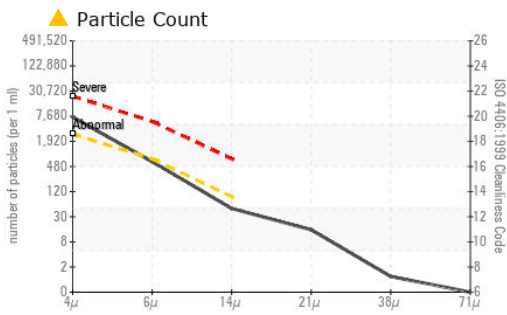
There is a high amount of silt (particulates < 14 microns in size) present in the fluid.

Silicon	ppm	ASTM D5185m	>15	<b>5</b>	<1	<1
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>2500	<b>6401</b>	4956	13023
Particles >6µm		ASTM D7647	>640	<b>551</b>	670	3361
Particles >14µm		ASTM D7647	>80	<b>42</b>	31	240
Particles >21µm		ASTM D7647	>20	<b>13</b>	6	51
Particles >38µm		ASTM D7647	>4	<b>1</b>	1	5
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	1
Oil Cleanliness		ISO 4406 (c)	>18/16/13	<b>20/16/13</b>	19/17/12	21/19/15
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

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

Sodium	ppm	ASTM D5185m		<b>1</b>	<1	0
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	4
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>0</b>	0	0
Calcium	ppm	ASTM D5185m		<b>26</b>	40	34
Phosphorus	ppm	ASTM D5185m		<b>298</b>	330	318
Zinc	ppm	ASTM D5185m		<b>337</b>	388	381
Sulfur	ppm	ASTM D5185m		<b>634</b>	833	568
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.31</b>	0.31	0.34
Visc @ 40°C	cSt	ASTM D445	64.6	<b>67.3</b>	67.0	67.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : MW0066426

Lab Number : 06100073

Unique Number : 10898303

Test Package : MAR 2 ( Additional Tests: PrtCount )

Received : 26 Feb 2024

Tested : 27 Feb 2024

Diagnosed : 27 Feb 2024 - Don Baldrige

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)

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