



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

Area  
**DALE A HELLER**  
Machine Id  
**[DALE A HELLER] 010 624201-10**  
Component  
**Steering**  
Fluid  
**CHEVRON RANDO HDZ 68 (--- 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>MW06186650</b>	MW06186648	MW0058850
Sample Date		Client Info		<b>01 May 2024</b>	01 May 2024	01 Nov 2023
Machine Age	hrs	Client Info		<b>74655</b>	74655	70500
Oil Age	hrs	Client Info		<b>0</b>	0	70500
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>2</b>	2	<1
Chromium	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Lead	ppm	ASTM D5185m	>10	<b>2</b>	2	0
Copper	ppm	ASTM D5185m	>50	<b>22</b>	21	19
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

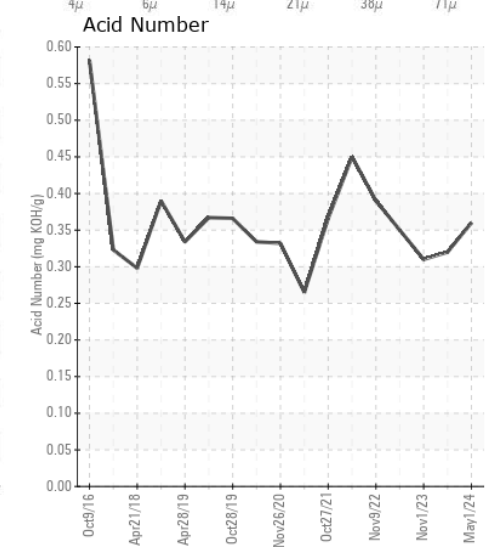
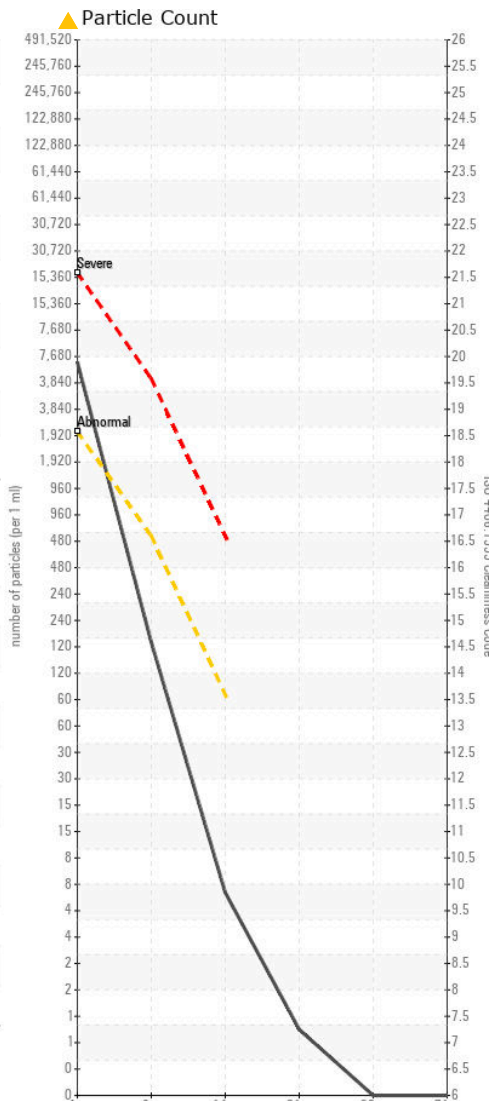
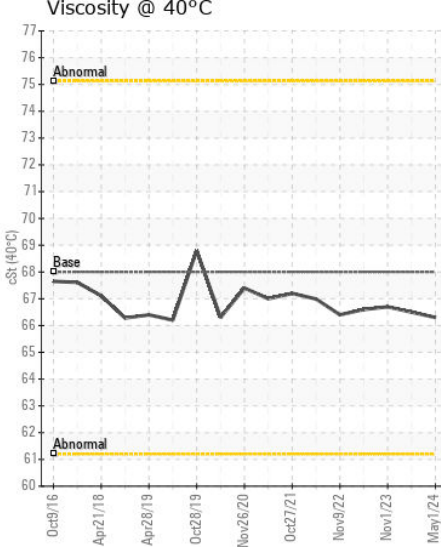
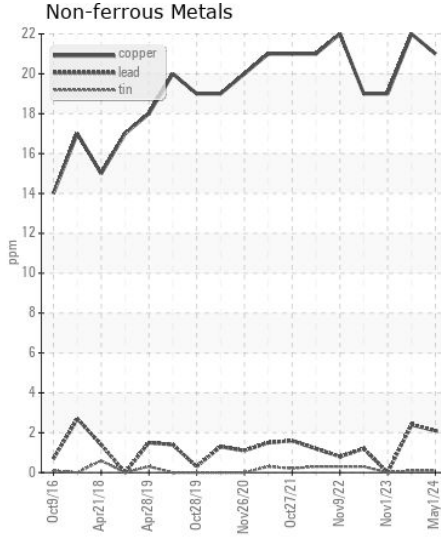
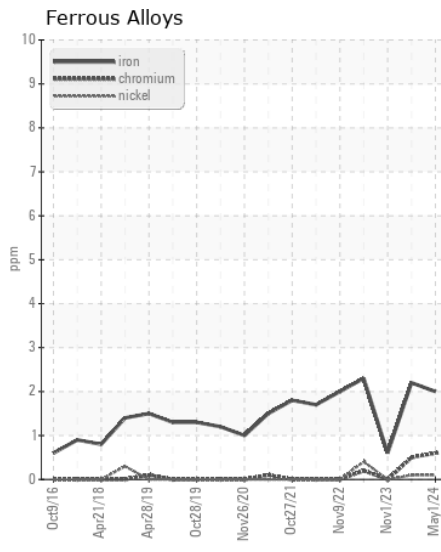
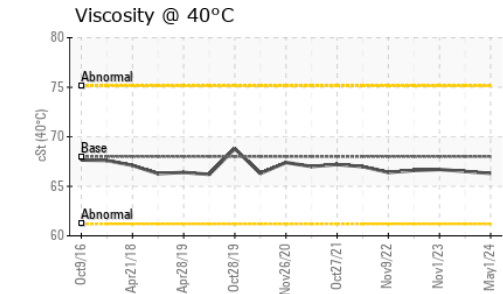
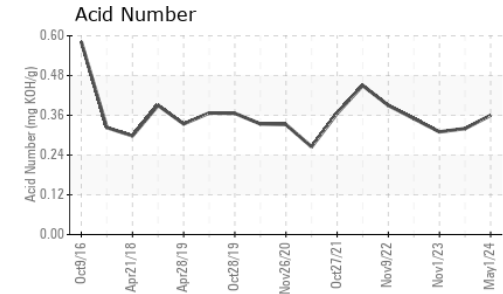
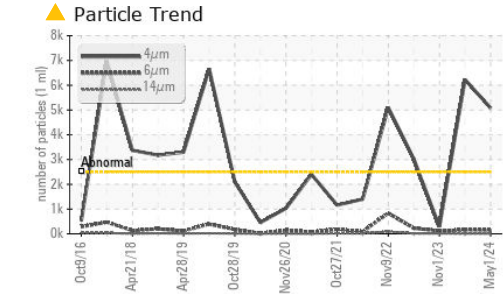
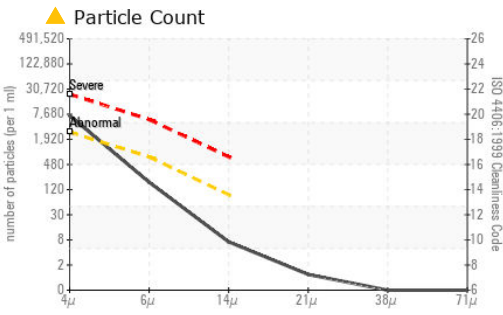
There is a high amount of silt (particulates < 6 microns in size) present in the fluid.

Silicon	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	0
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>6223</b>	5079	290
Particles >6µm		ASTM D7647	>640	<b>159</b>	142	117
Particles >14µm		ASTM D7647	>80	<b>6</b>	10	13
Particles >21µm		ASTM D7647	>20	<b>1</b>	3	5
Particles >38µm		ASTM D7647	>4	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	<b>20/14/10</b>	20/14/10	15/14/11
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	<1
Boron	ppm	ASTM D5185m	0	<b>0</b>	0	0
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	0	<b>&lt;1</b>	0	0
Calcium	ppm	ASTM D5185m	75	<b>47</b>	47	42
Phosphorus	ppm	ASTM D5185m	275	<b>385</b>	389	343
Zinc	ppm	ASTM D5185m	350	<b>492</b>	494	403
Sulfur	ppm	ASTM D5185m	550	<b>1102</b>	1115	967
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.36</b>	0.32	0.31
Visc @ 40°C	cSt	ASTM D445	68.0	<b>66.3</b>	66.5	66.7



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW06186650 **Received** : 21 May 2024  
**Lab Number** : 06186650 **Tested** : 23 May 2024  
**Unique Number** : 11043402 **Diagnosed** : 23 May 2024 - Jonathan Hester  
**Test Package** : MAR 2 ( Additional Tests: PrtCount )

**INGRAM BARGE**  
 900 S 3RD ST  
 PADUCAH, KY  
 US 42003  
 Contact: JUSTIN WHEELER  
 justin.wheeler@ingrambarga.com  
 T:  
 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)