



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
SAMUEL B RICHMOND
Machine Id
[SAMUEL B RICHMOND] 011 - FLANKING 652589-11 - FL
Component
Hydraulic System
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		MW0062881	MW0053805	MW0041692
Sample Date		Client Info		01 Mar 2024	01 Sep 2023	01 Mar 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	N/A	Not Changd
Filter Changed		Client Info		None	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

The copper level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	4	4	3
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>10	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>10	0	0	0
Lead	ppm	ASTM D5185m	>20	2	1	2
Copper	ppm	ASTM D5185m	>20	▲ 37	32	30
Tin	ppm	ASTM D5185m	>10	1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

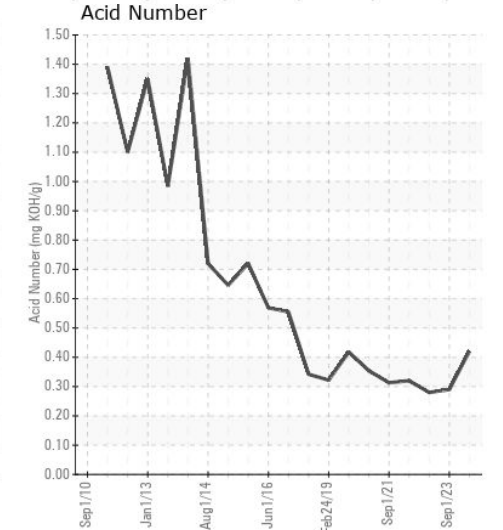
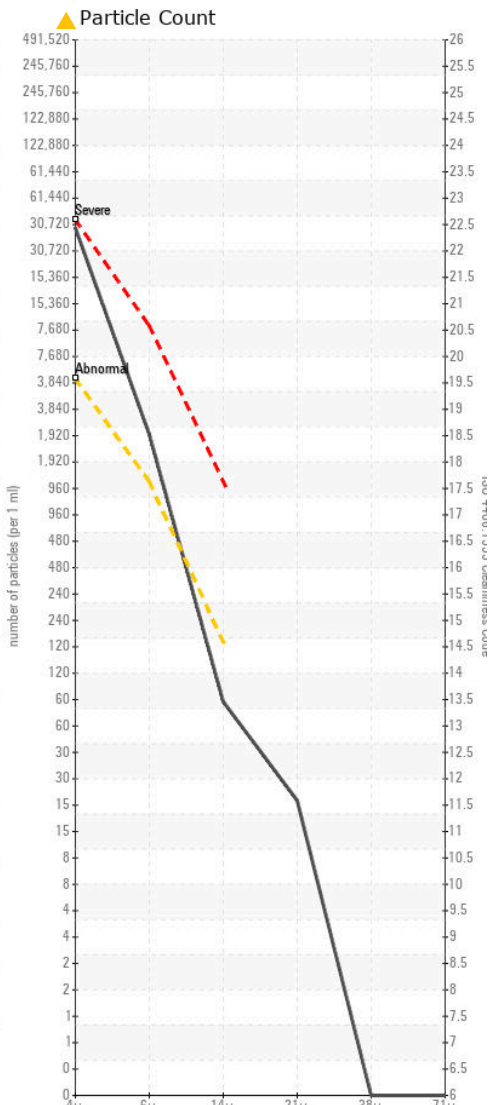
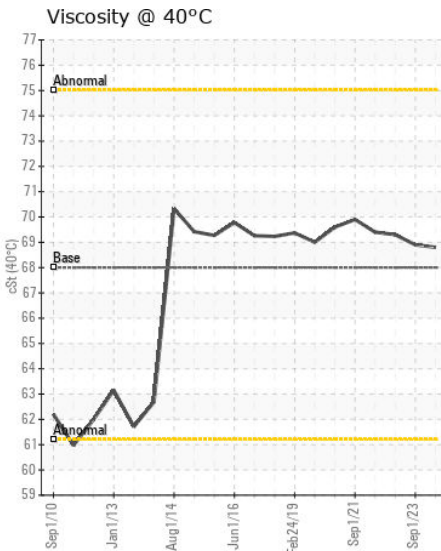
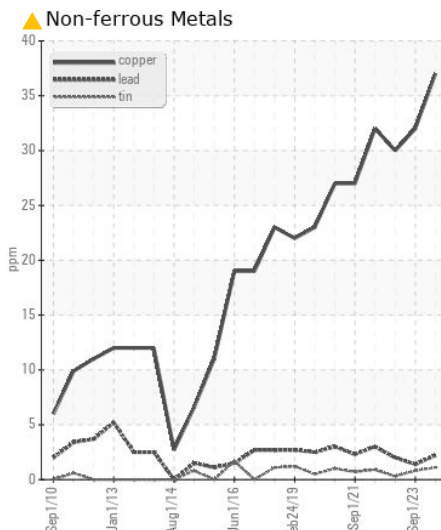
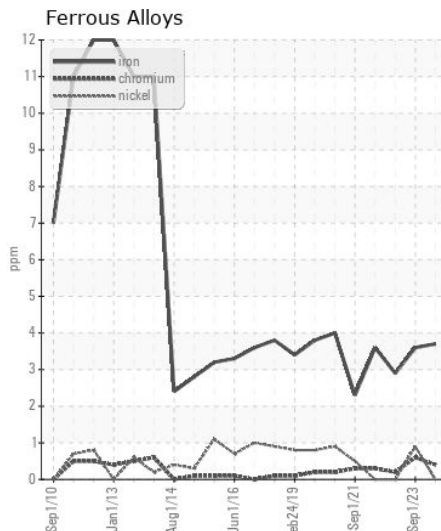
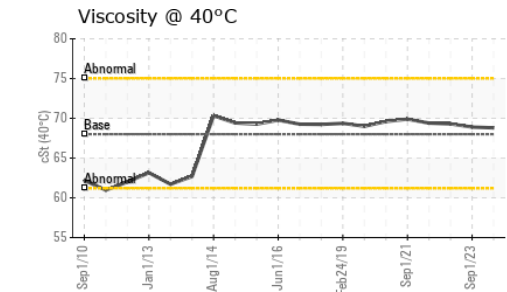
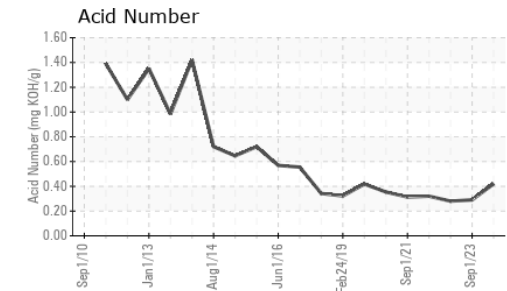
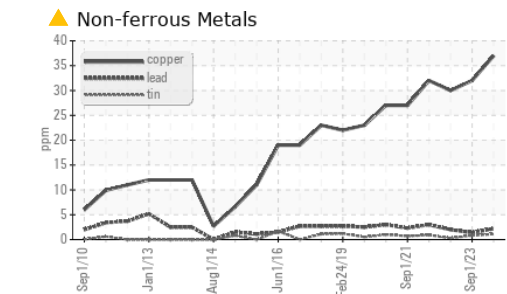
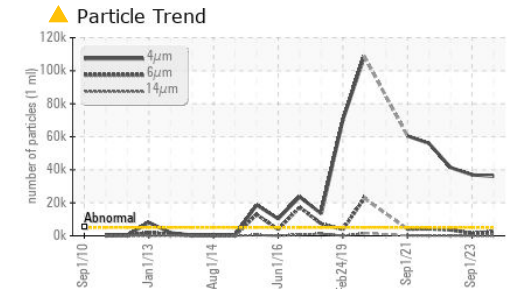
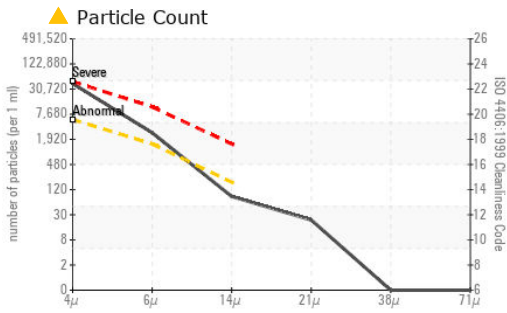
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>15	<1	<1	2
Potassium	ppm	ASTM D5185m	>20	0	1	0
Water		WC Method	>0.05	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	▲ 36101	▲ 36936	▲ 41383
Particles >6µm		ASTM D7647	>1300	● 2417	● 1381	▲ 3637
Particles >14µm		ASTM D7647	>160	73	14	106
Particles >21µm		ASTM D7647	>40	20	3	20
Particles >38µm		ASTM D7647	>10	0	0	1
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 22/18/13	▲ 22/18/11	▲ 23/19/14
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	>0.05	NEG	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		1	2	0
Boron	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	0	<1	0	0
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	0	0	<1	<1
Calcium	ppm	ASTM D5185m	75	43	44	55
Phosphorus	ppm	ASTM D5185m	275	386	394	401
Zinc	ppm	ASTM D5185m	350	471	486	480
Sulfur	ppm	ASTM D5185m	550	1605	1766	1371
Acid Number (AN)	mg KOH/g	ASTM D8045		0.42	0.29	0.28
Visc @ 40°C	cSt	ASTM D445	68.0	68.8	68.9	69.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0062881
Lab Number : 06125596
Unique Number : 10939747
Test Package : MAR 2

Received : 21 Mar 2024
Tested : 26 Mar 2024
Diagnosed : 26 Mar 2024 - Jonathan Hester

INGRAM BARGE
 900 S 3RD ST
 PADUCAH, KY
 US 42003
 Contact: JEFF BISHOP
 jeff.bishop@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)