



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Area
Store 9 - Marietta
Machine Id
FLOOR 2 PUMP
Component
Hydraulic System
Fluid
CITGO AW68 (--- GAL)

RECOMMENDATION

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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0047346	LEC0047341	---
Sample Date		Client Info		05 Feb 2024	26 Jan 2024	---
Machine Age	hrs	Client Info		0	0	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Not Chngd	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	SEVERE	---

WEAR

All component wear rates are normal.

PQ		ASTM D8184		17	20	---
Iron	ppm	ASTM D5185m	>20	4	▲ 23	---
Chromium	ppm	ASTM D5185m	>10	0	0	---
Nickel	ppm	ASTM D5185m	>10	0	2	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m		0	0	---
Aluminum	ppm	ASTM D5185m	>10	0	<1	---
Lead	ppm	ASTM D5185m	>10	0	▲ 26	---
Copper	ppm	ASTM D5185m	>75	5	50	---
Tin	ppm	ASTM D5185m	>10	<1	<1	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	▲ LIGHT	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

Moderate concentration of visible dirt/debris present in the oil.

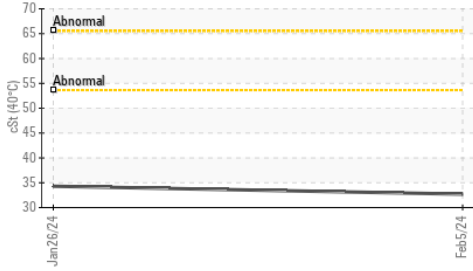
Silicon	ppm	ASTM D5185m	>20	0	2	---
Potassium	ppm	ASTM D5185m	>20	0	2	---
Water		WC Method	>0.1	NEG	NEG	---
Particles >4µm		ASTM D7647	>5000	---	● 252958	---
Particles >6µm		ASTM D7647	>1300	---	● 100173	---
Particles >14µm		ASTM D7647	>160	---	● 5139	---
Particles >21µm		ASTM D7647	>40	---	● 829	---
Particles >38µm		ASTM D7647	>10	---	9	---
Particles >71µm		ASTM D7647	>3	---	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	---	● 25/24/20	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	▲ MODER	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	---

FLUID CONDITION

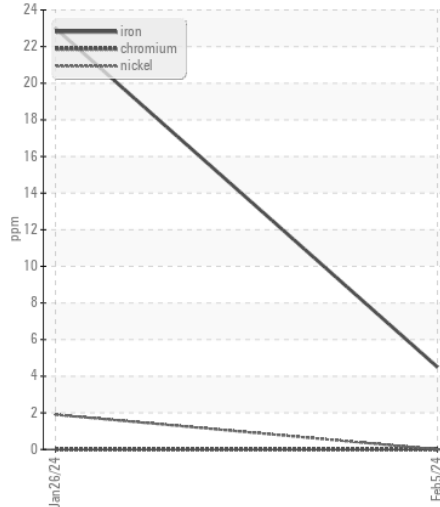
Viscosity of sample indicates oil is within ISO 32 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m		<1	<1	---
Boron	ppm	ASTM D5185m		0	3	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		0	2	---
Manganese	ppm	ASTM D5185m		0	<1	---
Magnesium	ppm	ASTM D5185m		0	7	---
Calcium	ppm	ASTM D5185m		22	59	---
Phosphorus	ppm	ASTM D5185m		25	51	---
Zinc	ppm	ASTM D5185m		23	31	---
Sulfur	ppm	ASTM D5185m		877	1047	---
Acid Number (AN)	mg KOH/g	ASTM D8045		0.14	0.17	---
Visc @ 40°C	cSt	ASTM D445		▲ 32.7	34.3	---

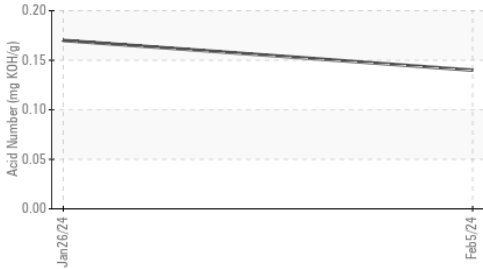
▲ Viscosity @ 40°C



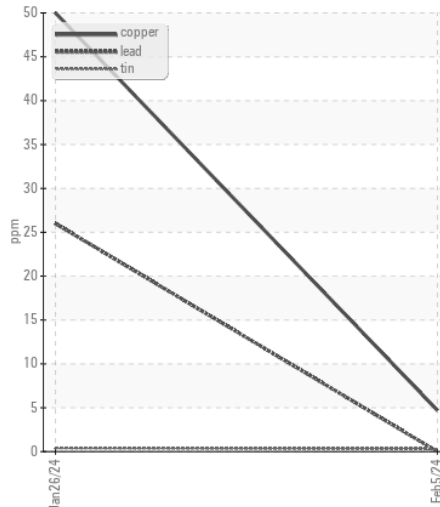
Ferrous Alloys



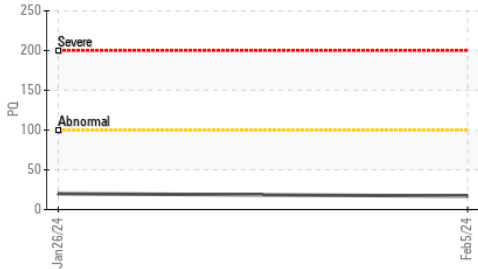
Acid Number



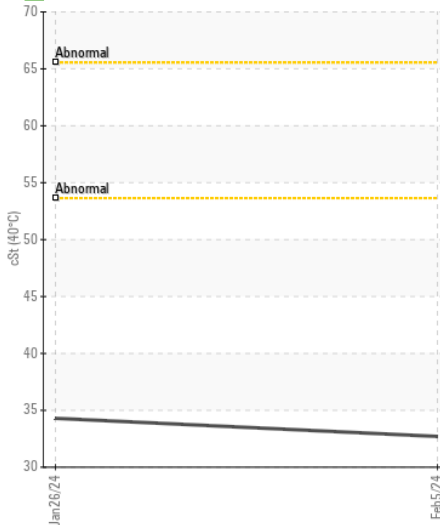
Non-ferrous Metals



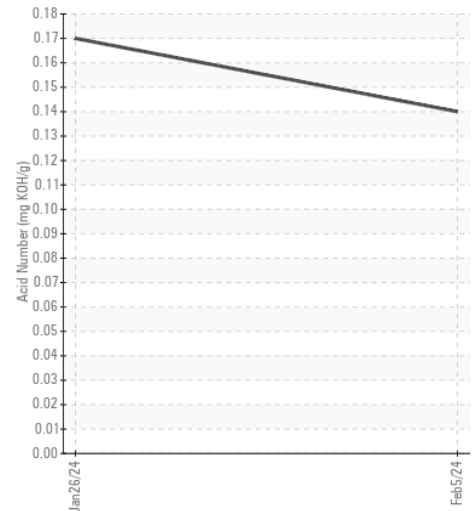
PQ



▲ Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0047346 **Received** : 08 Feb 2024
Lab Number : 06083539 **Tested** : 10 Feb 2024
Unique Number : 10870984 **Diagnosed** : 10 Feb 2024 - Don Baldrige
Test Package : CONST (Additional Tests: PQ)

SUTTON LAKE
 PO BOX 426
 SUTTON, WV
 US 26601

Contact: LINDSEY CASTO
 lindsey.j.casto@usace.army.mil
 T: (304)765-2816

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)

F: