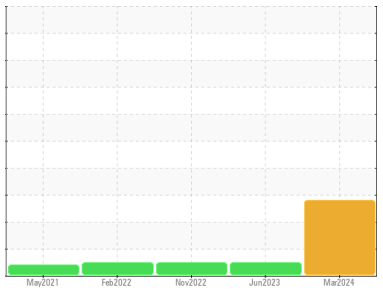
OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Area
[21108]
Machine Id
80-227
Component
Hydraulic System
Fluid
CONOCOPHILLIPS POWERTRAN (--- GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. 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. (Customer Sample Comment: ConocoPhillips powertran oil)

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of visible silt present in the sample. Moderate concentration of visible dirt/debris present in the oil. There is a light concentration of water present in the oil.

Fluid Condition
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0836213**	WC0802385	WC0754765
Sample Date		Client Info		**27 Mar 2024**	26 Jun 2023	04 Nov 2022
Machine Age	hrs	Client Info		**5222**	4700	4115
Oil Age	hrs	Client Info		**1097**	585	1115
Oil Changed		Client Info		**Changed**	Not Changd	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**5**	4	5
Chromium	ppm	ASTM D5185m	>10	**0**	0	<1
Nickel	ppm	ASTM D5185m	>10	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	<1	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>10	**<1**	<1	<1
Lead	ppm	ASTM D5185m	>10	**0**	<1	0
Copper	ppm	ASTM D5185m	>75	**4**	2	4
Tin	ppm	ASTM D5185m	>10	**0**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**2**	2	3

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**96**	116	114
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**<1**	1	3
Manganese	ppm	ASTM D5185m		**0**	<1	0
Magnesium	ppm	ASTM D5185m		**18**	28	27
Calcium	ppm	ASTM D5185m		**2756**	2865	2899
Phosphorus	ppm	ASTM D5185m		**893**	960	995
Zinc	ppm	ASTM D5185m		**1010**	1175	1125
Sulfur	ppm	ASTM D5185m		**3685**	4305	4656

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**10**	13	11
Sodium	ppm	ASTM D5185m		**4**	4	3
Potassium	ppm	ASTM D5185m	>20	**0**	2	4
Water	%	ASTM D6304	>0.1	▲ **0.380**	---	---
ppm Water	ppm	ASTM D6304	>1000	▲ **3800**	---	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**---**	3733	819
Particles >6µm		ASTM D7647	>1300	**---**	141	58
Particles >14µm		ASTM D7647	>160	**---**	20	5
Particles >21µm		ASTM D7647	>40	**---**	6	2
Particles >38µm		ASTM D7647	>10	**---**	1	0
Particles >71µm		ASTM D7647	>3	**---**	1	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**---**	19/14/11	17/13/10

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**1.20**	0.93	0.96

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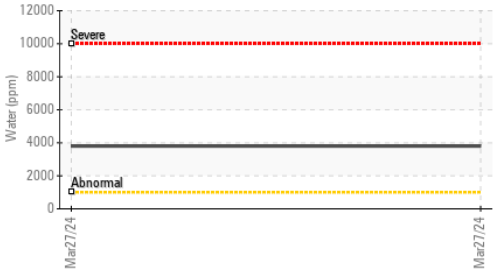
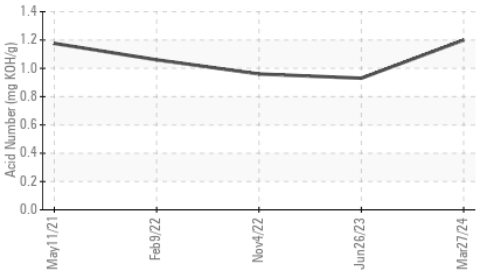
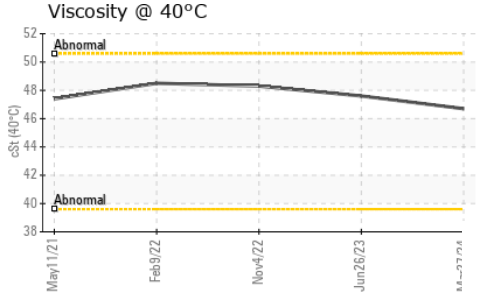
Water (KF)



Acid Number



Viscosity @ 40°C



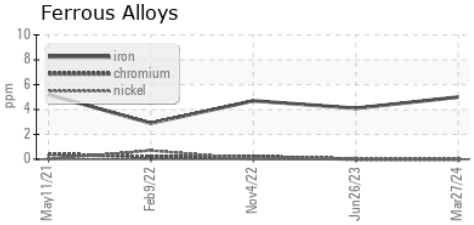
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Debris	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
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	>0.1	**0.2%**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**46.7**	47.6	48.3

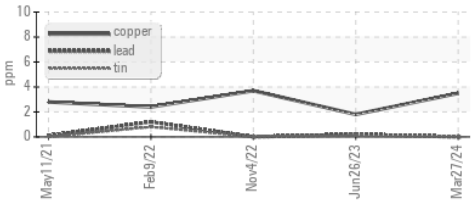
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

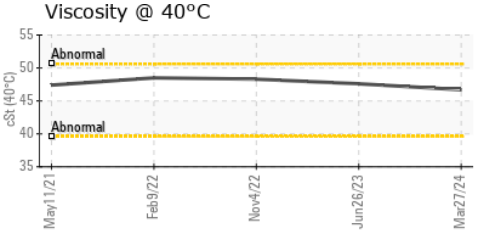
Ferrous Alloys



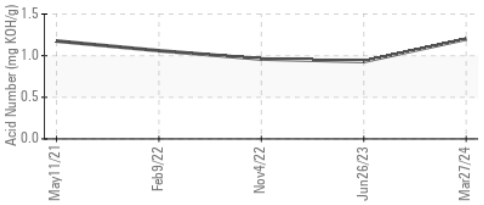
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0836213
Lab Number : 06149506
Unique Number : 10979584
Test Package : CONST (Additional Tests: KF)

Received : 15 Apr 2024
Tested : 17 Apr 2024
Diagnosed : 17 Apr 2024 - Don Baldridge

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)

MANHATTAN ROAD AND BRIDGE
5601 S 122ND E AVE
TULSA, OK
US 74146
Contact: BEN CALDWELL
kevin.marson@wearcheck.com
T: (918)728-5749
F:

Report Id: MANTUL [WUSCAR] 06149506 (Generated: 04/17/2024 23:36:34) Rev: 1

Submitted By: JAMES STEELMON