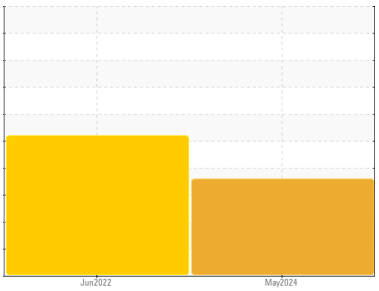
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Area
[23093]
Machine Id
30-70
Component
Hydraulic System
Fluid
CONOCO PHILLIPS GUARDOL ECT 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

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

Contamination
There is a high amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material.

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		**WC0940713**	WC0619297	---
Sample Date		Client Info		**29 May 2024**	02 Jun 2022	---
Machine Age	hrs	Client Info		**4535**	3563	---
Oil Age	hrs	Client Info		**2560**	250	---
Oil Changed		Client Info		**Changed**	N/A	---
Sample Status				**ABNORMAL**	ABNORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	▲ **44**	▲ 129	---
Chromium	ppm	ASTM D5185m	>10	**0**	2	---
Nickel	ppm	ASTM D5185m	>10	**0**	<1	---
Titanium	ppm	ASTM D5185m		**<1**	<1	---
Silver	ppm	ASTM D5185m		**0**	<1	---
Aluminum	ppm	ASTM D5185m	>10	**3**	● 13	---
Lead	ppm	ASTM D5185m	>10	**0**	▲ 10	---
Copper	ppm	ASTM D5185m	>75	**3**	29	---
Tin	ppm	ASTM D5185m	>10	**0**	1	---
Vanadium	ppm	ASTM D5185m		**0**	<1	---
Cadmium	ppm	ASTM D5185m		**0**	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	85	**52**	340	---
Barium	ppm	ASTM D5185m		**0**	0	---
Molybdenum	ppm	ASTM D5185m		**5**	61	---
Manganese	ppm	ASTM D5185m		**<1**	2	---
Magnesium	ppm	ASTM D5185m	350	**191**	40	---
Calcium	ppm	ASTM D5185m	1800	**693**	3410	---
Phosphorus	ppm	ASTM D5185m	1000	**596**	1011	---
Zinc	ppm	ASTM D5185m	1100	**672**	1152	---
Sulfur	ppm	ASTM D5185m	3500	**2520**	5916	---

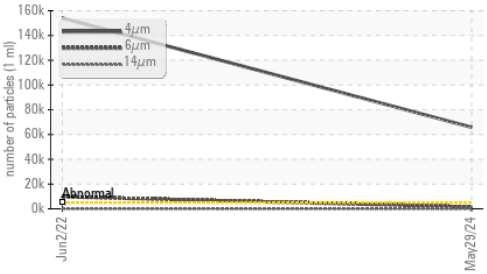
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	▲ **24**	▲ 87	---
Sodium	ppm	ASTM D5185m		**1**	4	---
Potassium	ppm	ASTM D5185m	>20	**<1**	2	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	▲ **65856**	▲ 154089	---
Particles >6µm		ASTM D7647	>1300	● **1474**	▲ 9740	---
Particles >14µm		ASTM D7647	>160	**9**	47	---
Particles >21µm		ASTM D7647	>40	**3**	9	---
Particles >38µm		ASTM D7647	>10	**0**	0	---
Particles >71µm		ASTM D7647	>3	**0**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ **23/18/10**	▲ 24/20/13	---

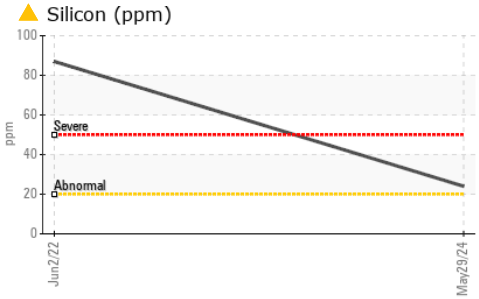
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**1.03**	1.55	---

OIL ANALYSIS REPORT

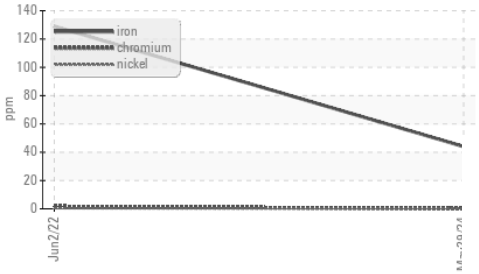
Particle Trend



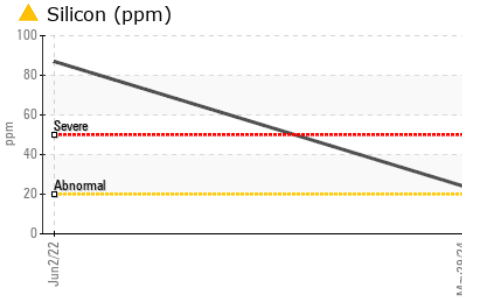
Silicon (ppm)



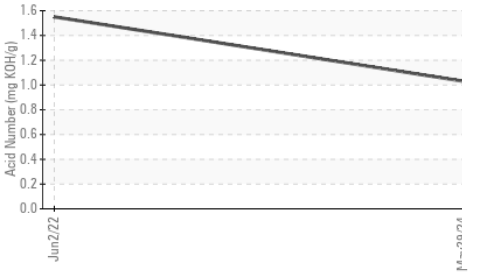
Ferrous Alloys



Silicon (ppm)

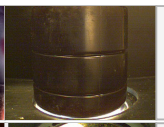
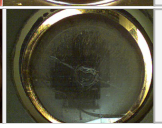


Acid Number



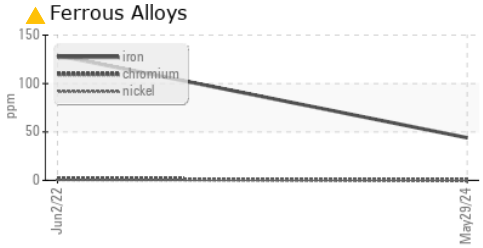
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	LIGHT	---
Sand/Dirt	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	---
Free Water	scalar	*Visual		**NEG**	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	115	**52.1**	55.9	---

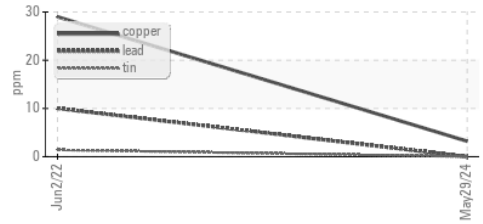
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

GRAPHS

Ferrous Alloys

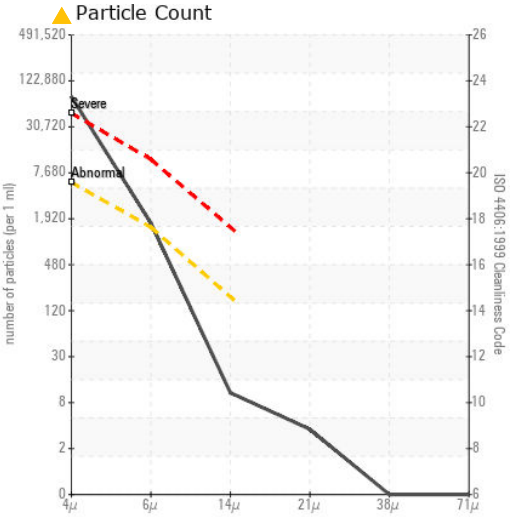


Non-ferrous Metals

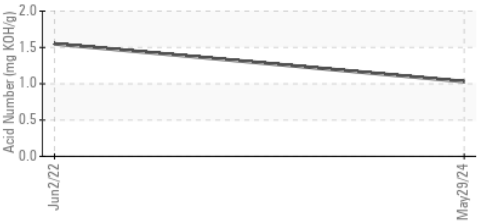


Viscosity @ 40°C

Particle Count



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0940713
Lab Number : 06207063
Unique Number : 11074524
Test Package : CONST

Received : 11 Jun 2024
Tested : 13 Jun 2024
Diagnosed : 13 Jun 2024 - Angela Borella

Certificate L2367

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] 06207063 (Generated: 06/15/2024 09:14:01) Rev: 1

Submitted By: JAMES STEELMON