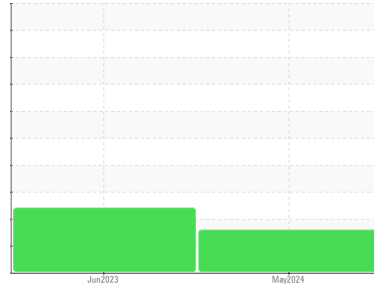




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area
TULSA [21990]

Machine ID
20-92

Component
Diesel Engine

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. (Customer Sample Comment: new hour meter however did not transfer old hour)

▲ Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

▲ Contamination

Light fuel dilution occurring.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0923370	WC0818636	---
Sample Date	Client Info			06 May 2024	13 Jun 2023	---
Machine Age	hrs	Client Info		148	7544	---
Oil Age	hrs	Client Info		250	500	---
Oil Changed	Client Info			Changed	Changed	---
Sample Status				ABNORMAL	SEVERE	---

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method	>0.2		NEG	NEG	---
Glycol	WC Method			NEG	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	17	26	---
Chromium	ppm	ASTM D5185m	>20	3	6	---
Nickel	ppm	ASTM D5185m	>2	<1	<1	---
Titanium	ppm	ASTM D5185m	>2	<1	7	---
Silver	ppm	ASTM D5185m	>2	<1	0	---
Aluminum	ppm	ASTM D5185m	>30	3	3	---
Lead	ppm	ASTM D5185m	>30	2	2	---
Copper	ppm	ASTM D5185m	>30	▲ 965	3	---
Tin	ppm	ASTM D5185m	>15	1	1	---
Vanadium	ppm	ASTM D5185m		<1	0	---
Cadmium	ppm	ASTM D5185m		0	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	85	79	26	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		8	59	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m	350	594	933	---
Calcium	ppm	ASTM D5185m	1800	1390	1269	---
Phosphorus	ppm	ASTM D5185m	1000	1086	1159	---
Zinc	ppm	ASTM D5185m	1100	1163	1407	---
Sulfur	ppm	ASTM D5185m	3500	3729	3846	---

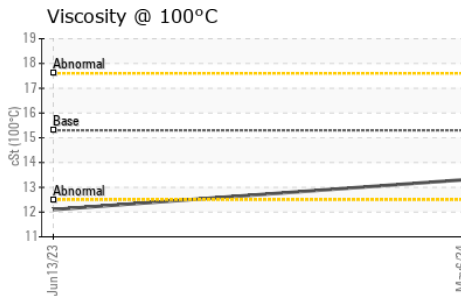
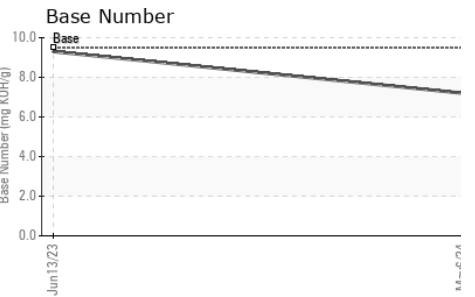
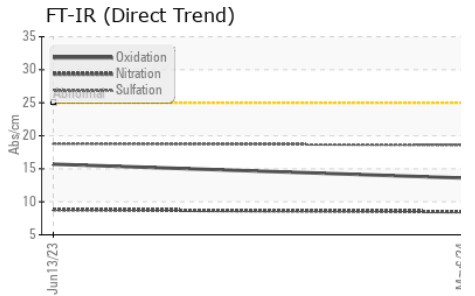
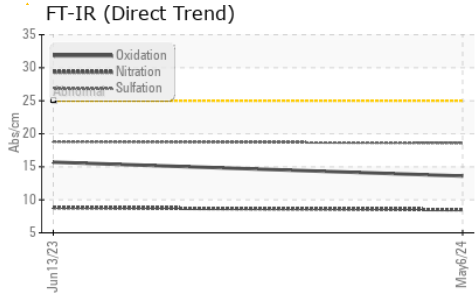
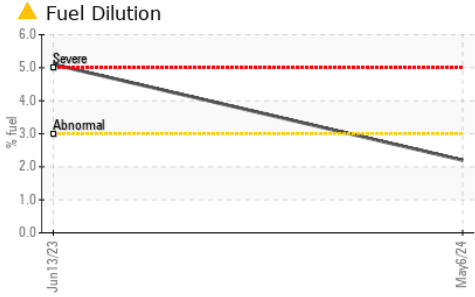
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	5	10	---
Sodium	ppm	ASTM D5185m		5	2	---
Potassium	ppm	ASTM D5185m	>20	4	3	---
Fuel	%	ASTM D3524	>3.0	▲ 2.2	▲ 5.1	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.5	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	8.5	8.8	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.6	18.8	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.6	15.7	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	7.2	9.3	---



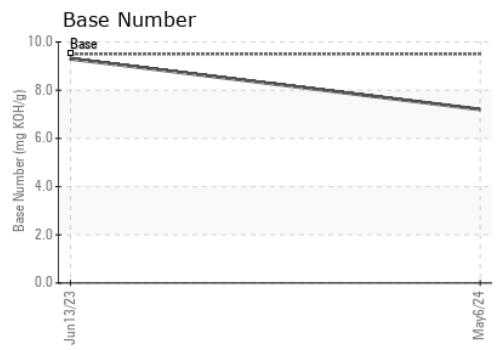
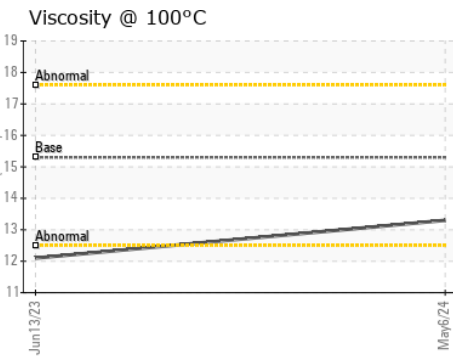
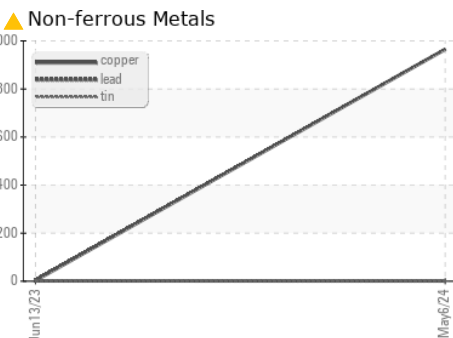
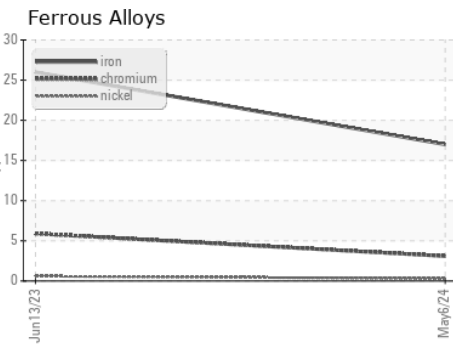
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.3	13.3	▲ 12.1

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0923370 **Received** : 20 May 2024
Lab Number : 06185423 **Tested** : 29 May 2024
Unique Number : 11036749 **Diagnosed** : 29 May 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: PercentFuel, TBN)

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 US 74146
 Contact: BEN CALDWELL
 kevin.marson@wearcheck.com
 T: (918)728-5749
 F:

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)