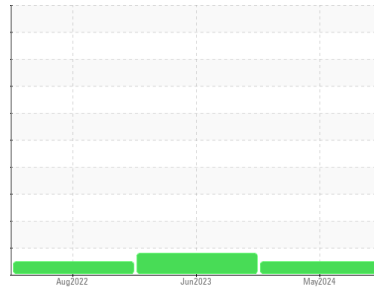




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
TORO GM4500 ROUGH 2 (S/N 403404569)
 Component
Diesel Engine
 Fluid
TRC PRO-SPEC IV XP SYN BLEND SAE 10W30 (6 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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		TR06184555	TR05870476	TR05638729
Sample Date	Client Info		16 May 2024	06 Jun 2023	22 Aug 2022
Machine Age	hrs	Client Info	0	2290	1921
Oil Age	hrs	Client Info	350	1450	1121
Oil Changed	Client Info		Not Changed	Not Changd	Not Changed
Sample Status			NORMAL	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	42	▲ 156	94
Chromium	ppm	ASTM D5185m >20	2	4	3
Nickel	ppm	ASTM D5185m >4	2	3	2
Titanium	ppm	ASTM D5185m	<1	<1	<1
Silver	ppm	ASTM D5185m >3	<1	0	<1
Aluminum	ppm	ASTM D5185m >20	6	9	8
Lead	ppm	ASTM D5185m >40	1	6	6
Copper	ppm	ASTM D5185m >330	16	117	101
Tin	ppm	ASTM D5185m >15	1	2	<1
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	14	3	0
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	129	142	125
Manganese	ppm	ASTM D5185m	1	2	1
Magnesium	ppm	ASTM D5185m	55	23	21
Calcium	ppm	ASTM D5185m	4366	5292	4738
Phosphorus	ppm	ASTM D5185m	1000	1017	910
Zinc	ppm	ASTM D5185m	1119	1270	1141
Sulfur	ppm	ASTM D5185m	4486	5265	4201

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	13	17	11
Sodium	ppm	ASTM D5185m	4	6	2
Potassium	ppm	ASTM D5185m >20	9	2	1

INFRA-RED

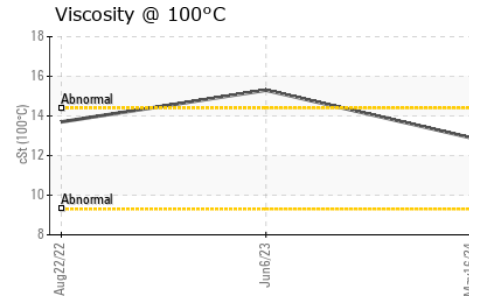
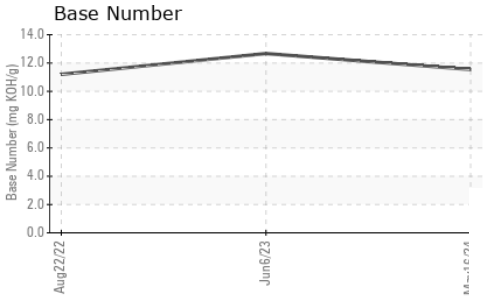
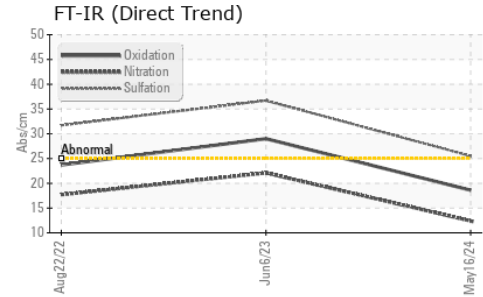
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1.5	3.5	2.3
Nitration	Abs/cm	*ASTM D7624 >20	12.4	22.1	17.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	25.5	36.7	31.7

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.6	29.0	23.7
Base Number (BN)	mg KOH/g	ASTM D2896	11.54	12.67	11.2



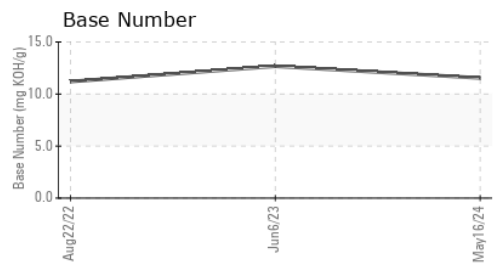
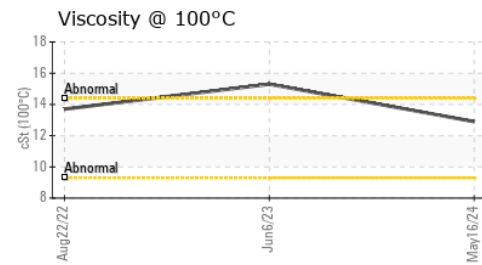
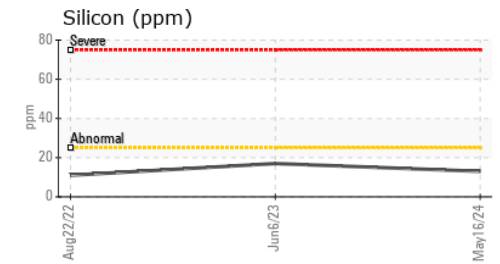
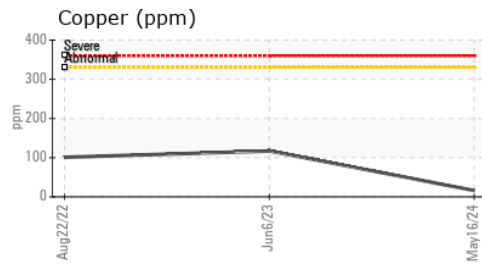
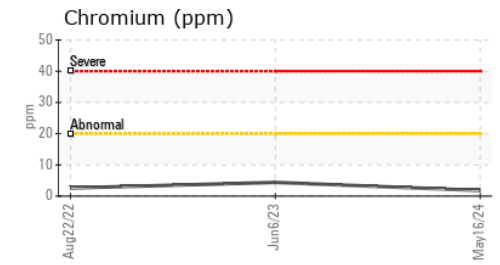
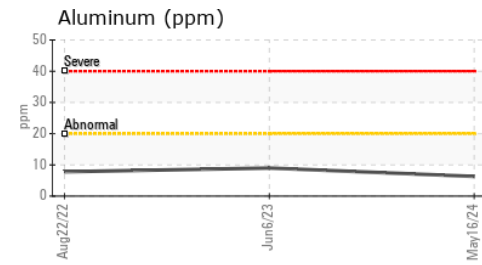
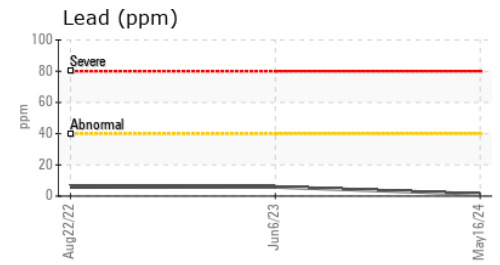
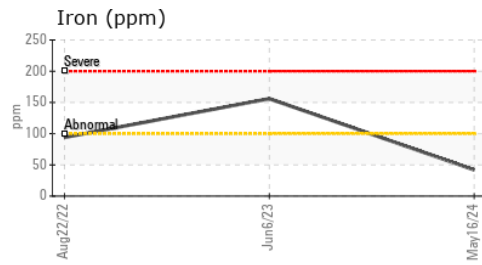
OIL ANALYSIS REPORT



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	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.9	15.3	13.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06184555 **Received** : 20 May 2024
Lab Number : 06184555 **Tested** : 21 May 2024
Unique Number : 11035881 **Diagnosed** : 22 May 2024 - Sean Felton
Test Package : MOB 2

CITY PARK GOLF COURSE
 3201 E 23RD AVE
 DENVER, CO
 US 80205
 Contact: COLIN MURPHY
 Colin.murphy@denvergov.org

To discuss this sample report, contact Customer Service at 1-800-827-0711.

* - 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)