TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
TORO OUTCROSS 07511AA (S/N 404684565)
Component
Diesel Engine
Fluid
TRC PRO-SPEC IV XP SYN BLEND SAE 10W30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

Metal levels are typical for a new component breaking in.

CONTAMINATION

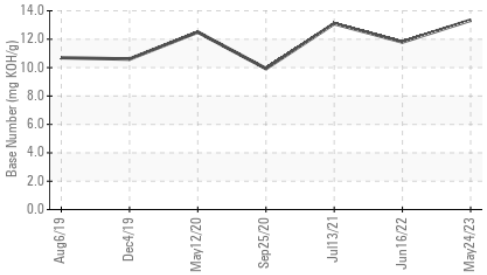
There is no indication of any contamination in the oil.

FLUID CONDITION

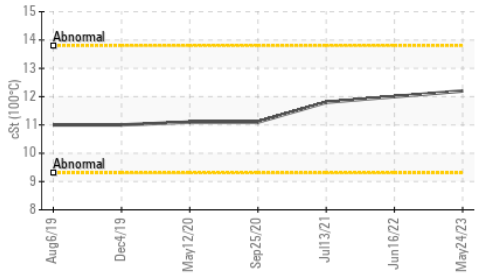
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05858698	TR05611439	TR05302677
Sample Date		Client Info		24 May 2023	16 Jun 2022	13 Jul 2021
Machine Age	hrs	Client Info		706	538	0
Oil Age	hrs	Client Info		168	538	0
Filter Age	hrs	Client Info		706	538	0
Oil Changed		Client Info		Changed	Not Changd	N/A
Filter Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	72	41	18
Chromium	ppm	ASTM D5185m	>20	2	1	0
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	4	4	0
Lead	ppm	ASTM D5185m	>40	2	1	0
Copper	ppm	ASTM D5185m	>330	264	234	18
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	13	10	8
Potassium	ppm	ASTM D5185m	>20	2	<1	0
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.2	0.9	0.5
Nitration	Abs/cm	*ASTM D7624	>20	12.5	11.3	9.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.0	22.7	19.4
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	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	>0.2	NEG	NEG	NEG
Sodium	ppm	ASTM D5185m		5	4	3
Boron	ppm	ASTM D5185m		<1	4	<1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		10	8	7
Manganese	ppm	ASTM D5185m		1	<1	0
Magnesium	ppm	ASTM D5185m		105	96	93
Calcium	ppm	ASTM D5185m		4320	4078	3963
Phosphorus	ppm	ASTM D5185m		986	901	891
Zinc	ppm	ASTM D5185m		1230	1105	1006
Sulfur	ppm	ASTM D5185m		4633	3827	3216
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.2	14.8	11.8
Base Number (BN)	mg KOH/g	ASTM D2896		13.34	11.8	13.1
Visc @ 100°C	cSt	ASTM D445		12.2	12.0	11.8

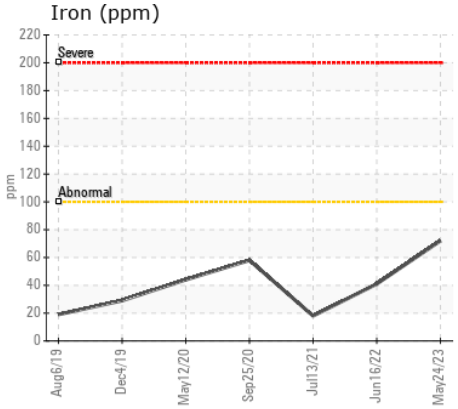
Base Number



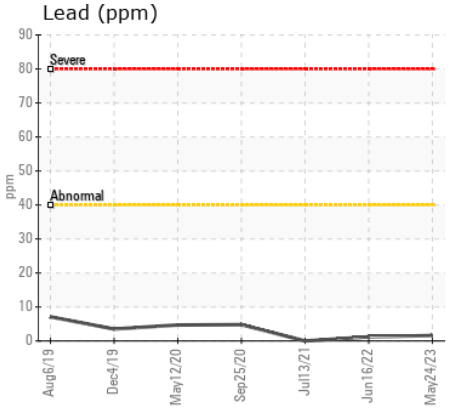
Viscosity @ 100°C



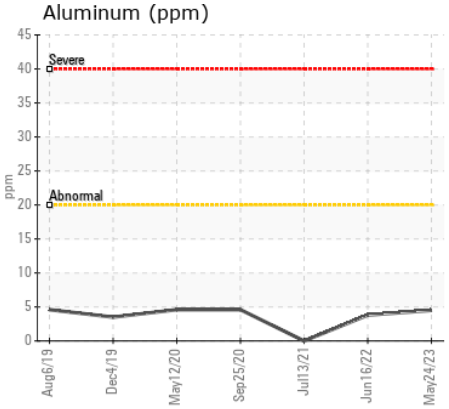
Iron (ppm)



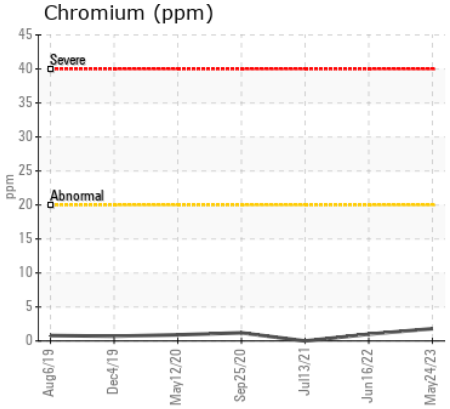
Lead (ppm)



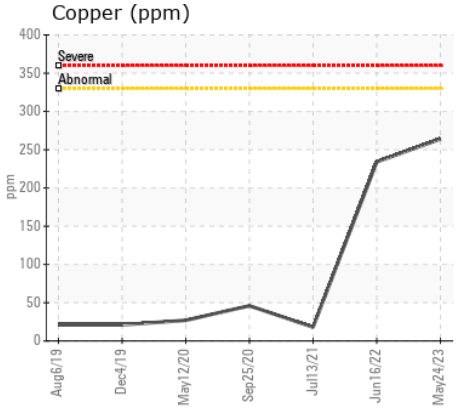
Aluminum (ppm)



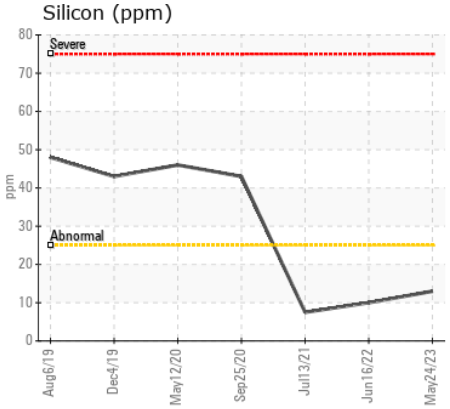
Chromium (ppm)



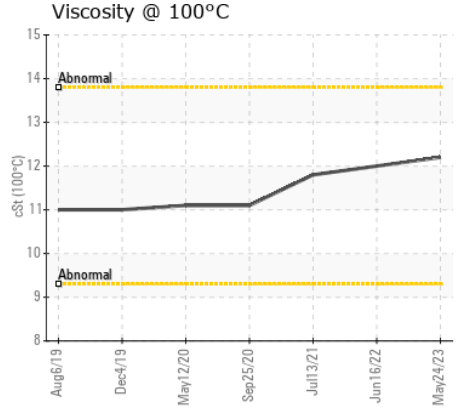
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



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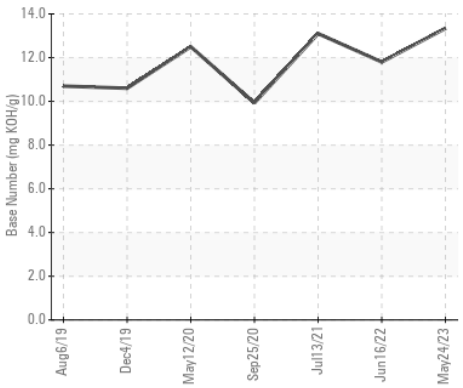

Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: TR05858698	**Received**	: 26 May 2023
Lab Number	: 05858698	**Tested**	: 30 May 2023
Unique Number	: 10493163	**Diagnosed**	: 30 May 2023 - Wes Davis
Test Package	: MOB 2		

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)

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