TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
MACK MACK 223
Component
Diesel Engine
Fluid
TRC MOLY XL PRO-SPEC IV XP 15W40 (10 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

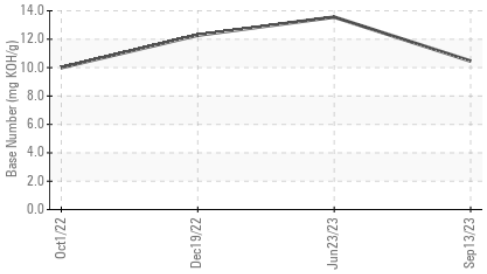
There is no indication of any contamination in the oil.

FLUID CONDITION

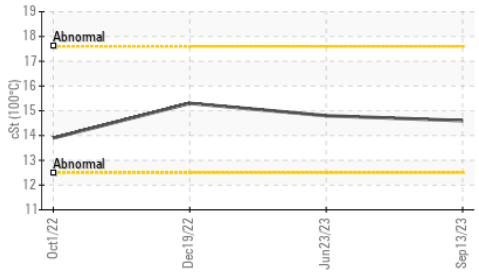
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05957152	TR05887534	TR05728592
Sample Date		Client Info		13 Sep 2023	23 Jun 2023	19 Dec 2022
Machine Age	mls	Client Info		10000000	1000000	29000
Oil Age	mls	Client Info		5000	10000	500
Filter Age	mls	Client Info		5000	10000	500
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>120	45	23	16
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	3	2
Lead	ppm	ASTM D5185m	>40	7	0	0
Copper	ppm	ASTM D5185m	>330	5	3	1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	5	4	6
Potassium	ppm	ASTM D5185m	>20	3	2	2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	3.2	2.1	1.1
Nitration	Abs/cm	*ASTM D7624	>20	13.0	9.8	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	31.7	22.6	19.7
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		3	2	2
Boron	ppm	ASTM D5185m		9	7	3
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		99	98	96
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		25	20	14
Calcium	ppm	ASTM D5185m		4008	3990	3764
Phosphorus	ppm	ASTM D5185m		822	854	809
Zinc	ppm	ASTM D5185m		1005	1032	945
Sulfur	ppm	ASTM D5185m		4566	5035	4494
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.5	13.3	10.7
Base Number (BN)	mg KOH/g	ASTM D2896		10.46	13.56	12.28
Visc @ 100°C	cSt	ASTM D445		14.6	14.8	15.3

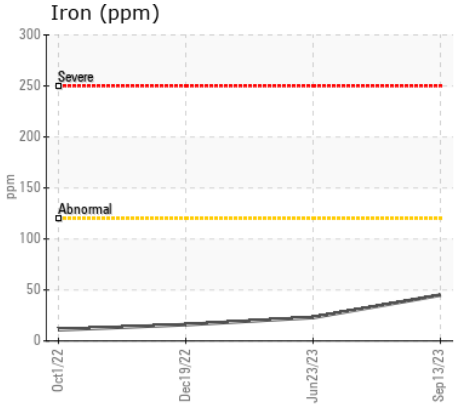
Base Number



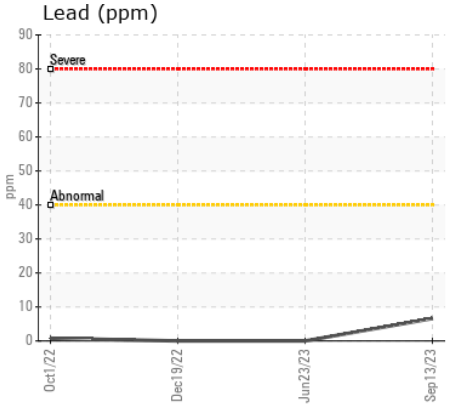
Viscosity @ 100°C



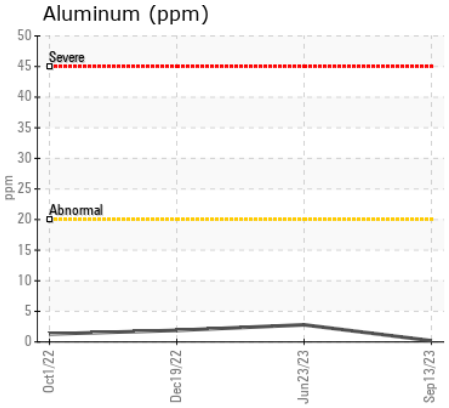
Iron (ppm)



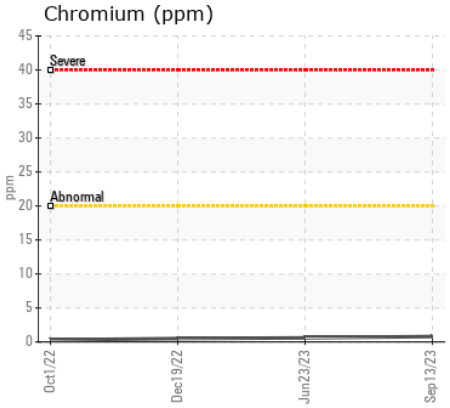
Lead (ppm)



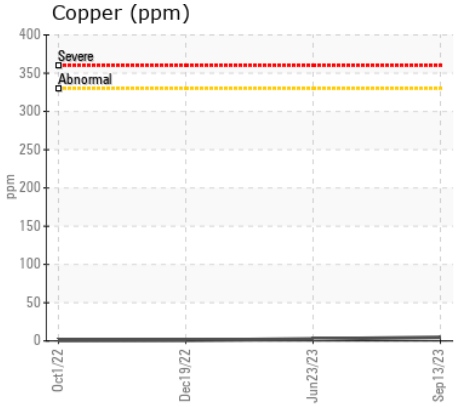
Aluminum (ppm)



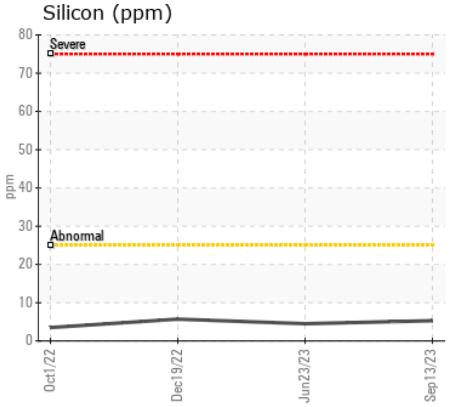
Chromium (ppm)



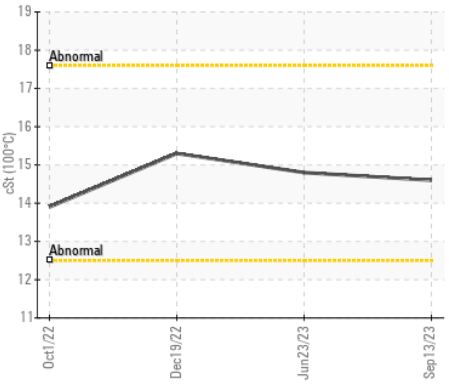
Copper (ppm)



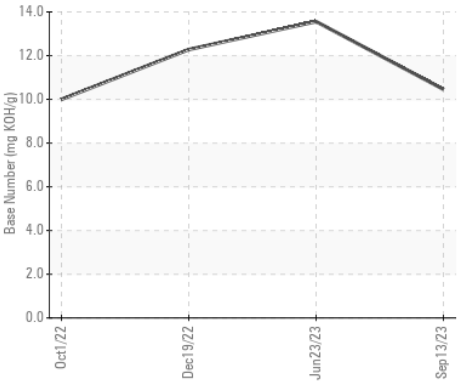
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR05957152
Lab Number : 05957152
Unique Number : 10658365
Test Package : MOB 2

Received : 20 Sep 2023
Tested : 25 Sep 2023
Diagnosed : 25 Sep 2023 - Jonathan Hester

SPRAGUE RANCH
6907 ROUTE 14
BROOKFIELD, VT
US 05036
Contact: SCOTT BURRELL

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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