TRC TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
MACK CV713 19 - M011051 (S/N 1M2AG11C34M011051)
Component
Diesel Engine
Fluid
TRC MOLY XL PRO-SPEC III SYNTHETIC15W40 (--- QTS)

RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

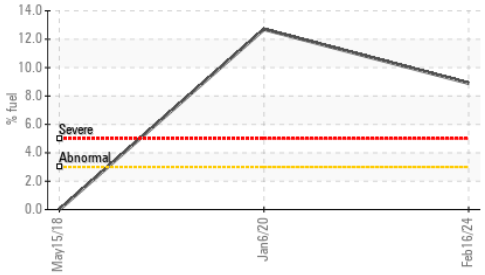
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

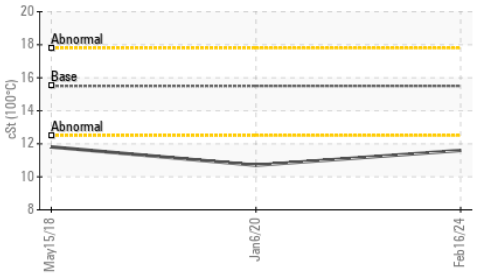
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06101161	TR04907243	TR04614230
Sample Date		Client Info		16 Feb 2024	06 Jan 2020	15 May 2018
Machine Age	mls	Client Info		226151	209812	0
Oil Age	mls	Client Info		14512	0	0
Filter Age	mls	Client Info		5428	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				SEVERE	SEVERE	NORMAL
Iron	ppm	ASTM D5185m	>120	27	44	35
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	4	4
Lead	ppm	ASTM D5185m	>40	3	32	5
Copper	ppm	ASTM D5185m	>330	36	15	12
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	8	6	7
Potassium	ppm	ASTM D5185m	>20	0	2	0
Fuel	%	ASTM D3524	>3.0	▲ 8.9	▲ 12.7	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	1.6	2.1	2.3
Nitration	Abs/cm	*ASTM D7624	>20	11.7	13.8	12.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.7	29.5	26.6
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		0	4	4
Boron	ppm	ASTM D5185m		94	60	134
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		196	167	200
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		388	329	442
Calcium	ppm	ASTM D5185m	4500	3527	3209	3837
Phosphorus	ppm	ASTM D5185m		707	706	808
Zinc	ppm	ASTM D5185m	1400	897	795	980
Sulfur	ppm	ASTM D5185m		3244	3353	2987
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.1	20.9	16.6
Base Number (BN)	mg KOH/g	ASTM D2896	15	10.45	6.31	11.1
Visc @ 100°C	cSt	ASTM D445	15.5	▲ 11.6	▲ 10.7	11.81

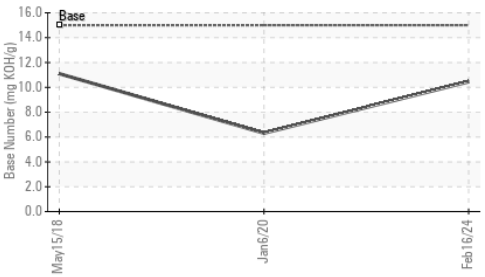
Fuel Dilution



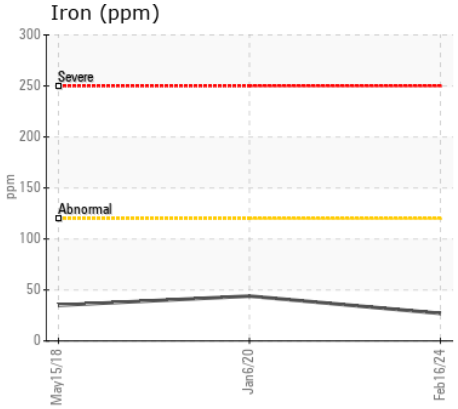
Viscosity @ 100°C



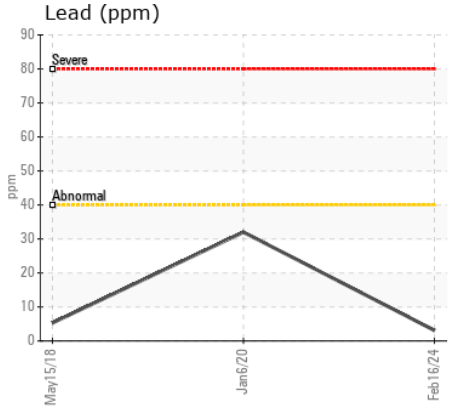
Base Number



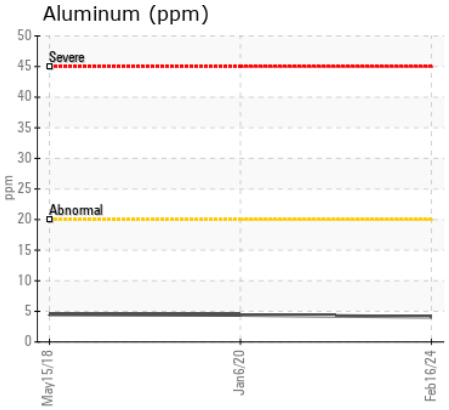
Iron (ppm)



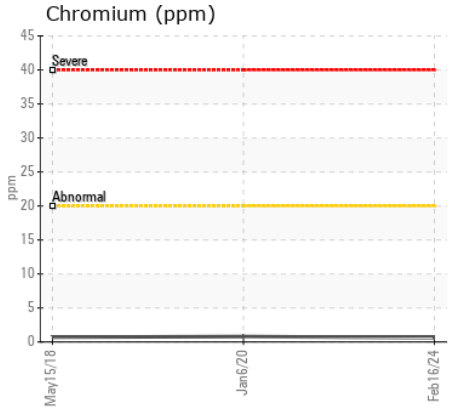
Lead (ppm)



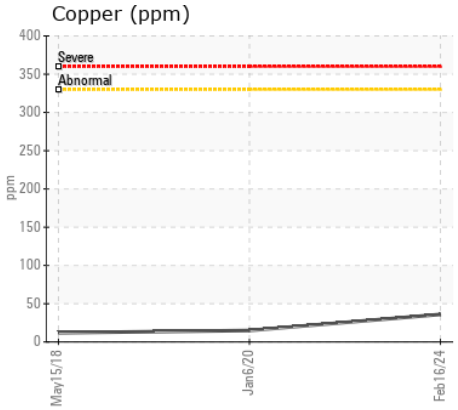
Aluminum (ppm)



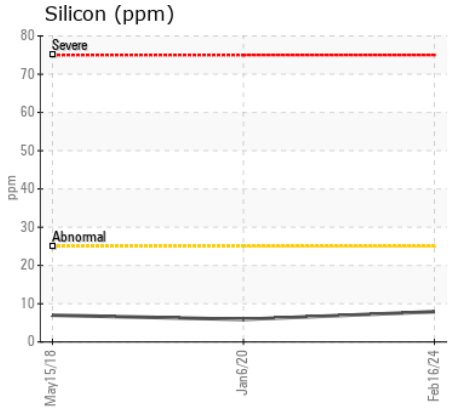
Chromium (ppm)



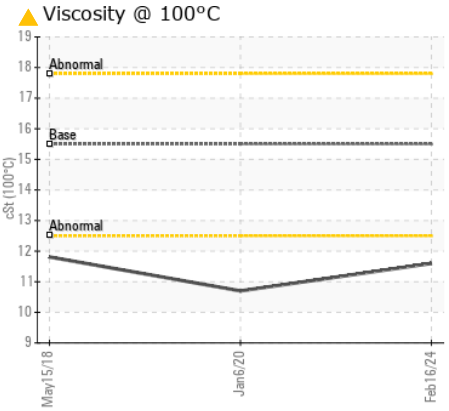
Copper (ppm)



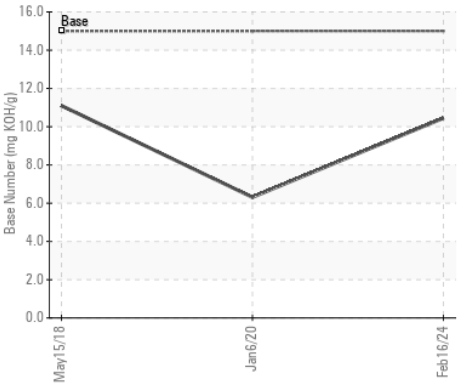
Silicon (ppm)



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06101161
Lab Number : 06101161
Unique Number : 10899391
Test Package : MOB 2 (Additional Tests: PercentFuel)

Received : 26 Feb 2024
Tested : 29 Feb 2024
Diagnosed : 29 Feb 2024 - Wes Davis

Certificate L2367

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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