TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	SEVERE

Machine Id
MACK GU713 84 (S/N 1M2AX09C9HM030241)
Component
Diesel Engine
Fluid
TRC MOLY XL PRO-SPEC IV XP 15W40 (40 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

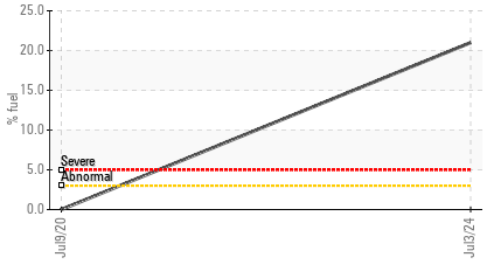
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

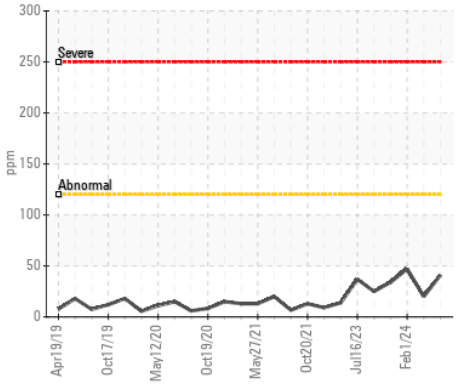
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06230909	TR06177905	TR06087608
Sample Date		Client Info		03 Jul 2024	08 May 2024	01 Feb 2024
Machine Age	hrs	Client Info		3385	3055	2710
Oil Age	hrs	Client Info		675	345	720
Filter Age	hrs	Client Info		675	345	720
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Filter Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				SEVERE	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>120	41	20	47
Chromium	ppm	ASTM D5185m	>20	1	<1	1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	13	11	33
Lead	ppm	ASTM D5185m	>40	4	1	2
Copper	ppm	ASTM D5185m	>330	2	0	2
Tin	ppm	ASTM D5185m	>15	<1	1	<1
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	8
Potassium	ppm	ASTM D5185m	>20	28	19	71
Fuel	%	ASTM D3524	>3.0	▲ 21.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>4	1.2	0.9	0.9
Nitration	Abs/cm	*ASTM D7624	>20	14.5	12.1	12.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.8	24.2	27.0
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		2	2	<1
Boron	ppm	ASTM D5185m		<1	2	0
Barium	ppm	ASTM D5185m		0	1	0
Molybdenum	ppm	ASTM D5185m		96	106	134
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		12	15	17
Calcium	ppm	ASTM D5185m		3045	3422	3769
Phosphorus	ppm	ASTM D5185m		674	863	846
Zinc	ppm	ASTM D5185m		846	971	1107
Sulfur	ppm	ASTM D5185m		2890	4183	3923
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.7	15.6	15.6
Base Number (BN)	mg KOH/g	ASTM D2896		6.16	9.56	10.16
Visc @ 100°C	cSt	ASTM D445		▲ 10.4	12.9	15.4

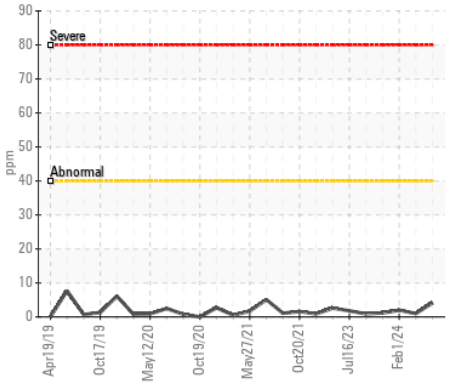
Fuel Dilution



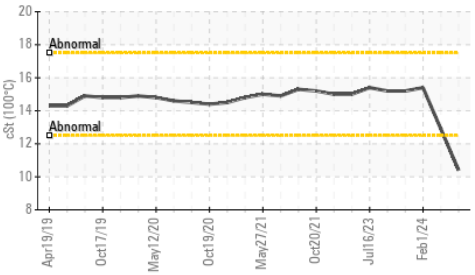
Iron (ppm)



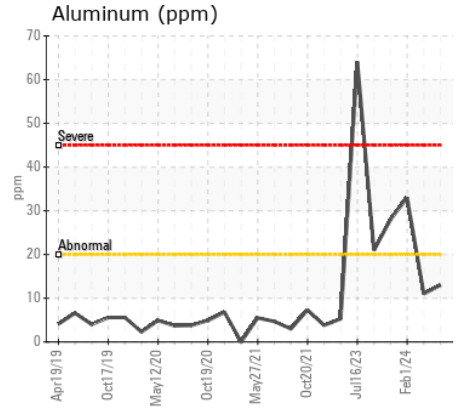
Lead (ppm)



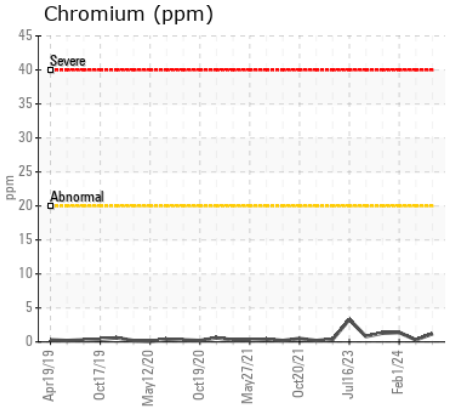
Viscosity @ 100°C



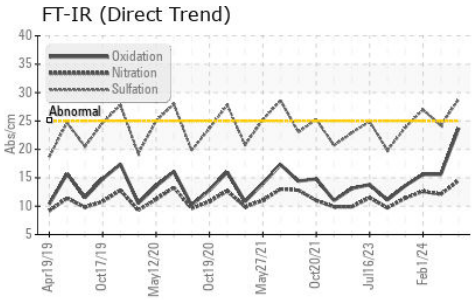
Aluminum (ppm)



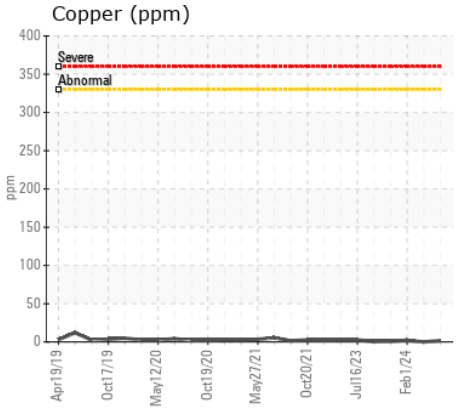
Chromium (ppm)



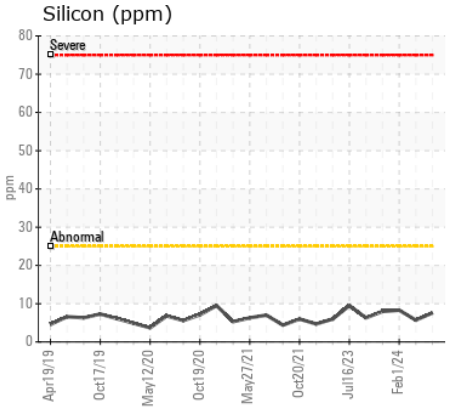
FT-IR (Direct Trend)



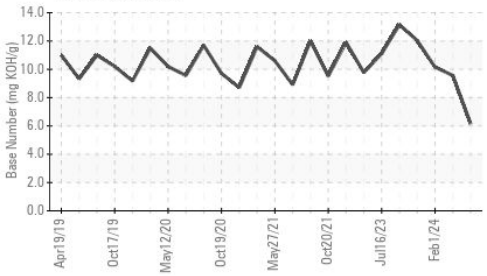
Copper (ppm)



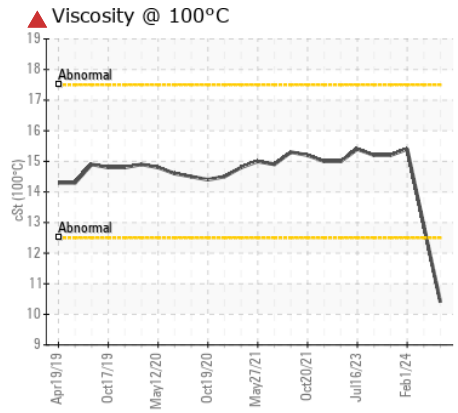
Silicon (ppm)



Base Number



Viscosity @ 100°C



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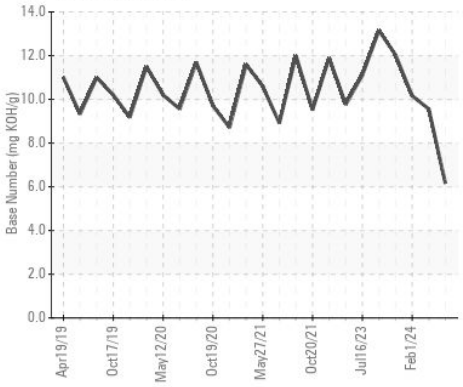

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06230909
Lab Number : 06230909
Unique Number : 11114402
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

Received : 08 Jul 2024
Tested : 11 Jul 2024
Diagnosed : 11 Jul 2024 - Wes Davis

ANDREWS CONSTRUCTION COMPANY
PO BOX 720
CAMPTON, NH
US 03223-0720
Contact: DON PERCY

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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