TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
MACK MRU613 N-30 (S/N 014651)
Component
Diesel Engine
Fluid
TRC PRO-SPEC IV 15W40 (8 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

Metal levels are typical for a new component breaking in.

CONTAMINATION

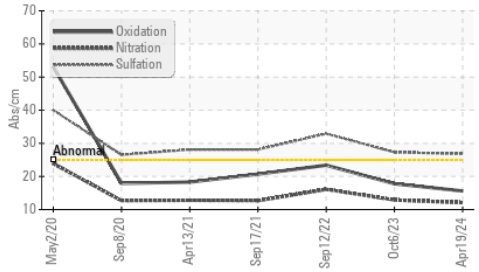
There is no indication of any contamination in the oil.

FLUID CONDITION

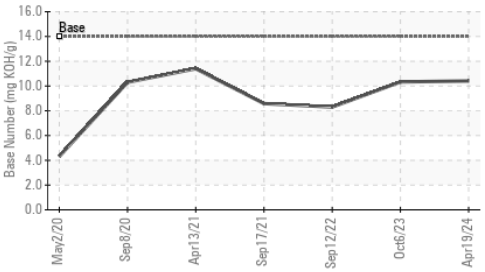
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06159859	TR05977786	TR05644316
Sample Date		Client Info		19 Apr 2024	06 Oct 2023	12 Sep 2022
Machine Age	hrs	Client Info		991	556	8705
Oil Age	hrs	Client Info		435	506	448
Filter Age	hrs	Client Info		435	506	448
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>120	10	13	18
Chromium	ppm	ASTM D5185m	>20	1	<1	1
Nickel	ppm	ASTM D5185m	>5	4	5	▲ 10
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	5	0	7
Lead	ppm	ASTM D5185m	>40	2	1	3
Copper	ppm	ASTM D5185m	>330	4	7	3
Tin	ppm	ASTM D5185m	>15	2	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
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	8	6	10
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	0.3	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	12.1	12.9	16.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.8	27.3	32.9
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	3	5
Boron	ppm	ASTM D5185m		<1	0	0
Barium	ppm	ASTM D5185m		<1	0	1
Molybdenum	ppm	ASTM D5185m		130	126	136
Manganese	ppm	ASTM D5185m		1	<1	1
Magnesium	ppm	ASTM D5185m		15	15	19
Calcium	ppm	ASTM D5185m	2300	4175	4080	4268
Phosphorus	ppm	ASTM D5185m		902	871	878
Zinc	ppm	ASTM D5185m	1200	1024	1036	1050
Sulfur	ppm	ASTM D5185m		4759	4715	4084
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.6	17.8	23.4
Base Number (BN)	mg KOH/g	ASTM D2896	14	10.41	10.33	8.30
Visc @ 100°C	cSt	ASTM D445	15.5	15.5	15.8	15.7

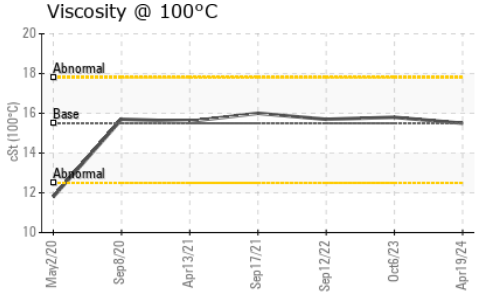
FT-IR (Direct Trend)



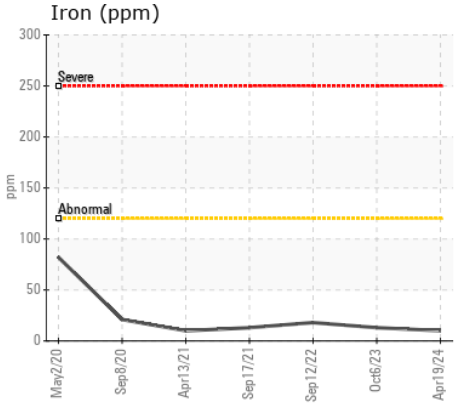
Base Number



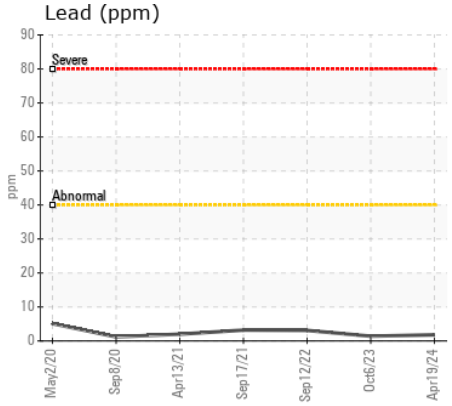
Viscosity @ 100°C



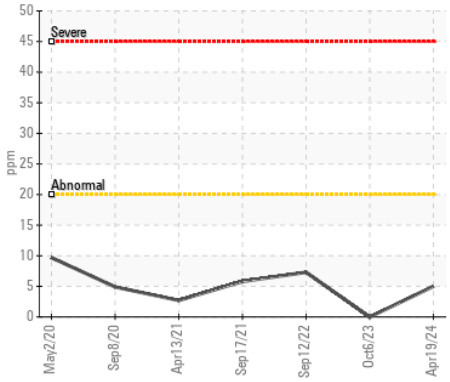
Iron (ppm)



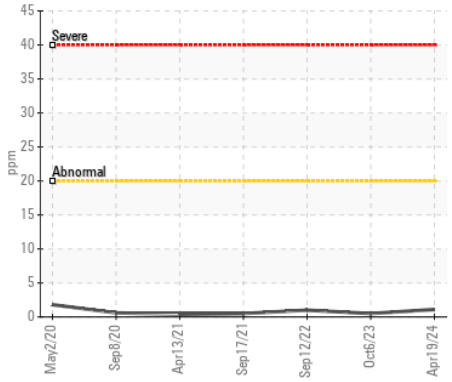
Lead (ppm)



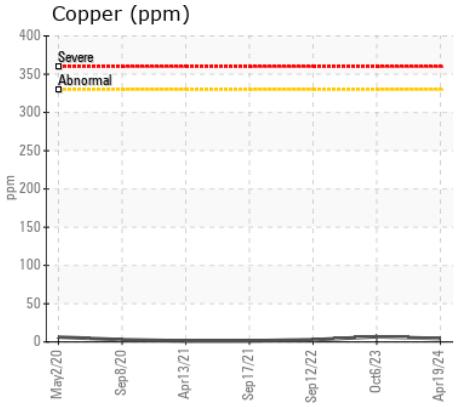
Aluminum (ppm)



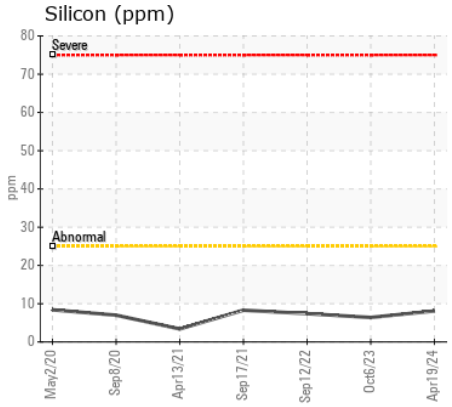
Chromium (ppm)



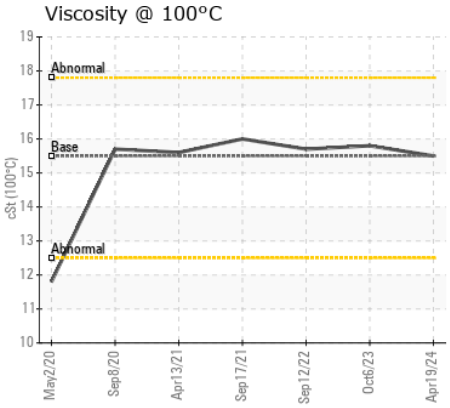
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



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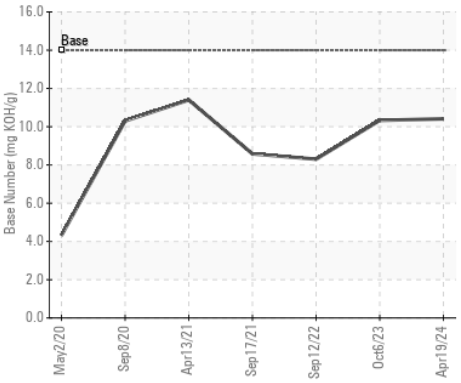

Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: TR06159859	**Received**	: 24 Apr 2024
Lab Number	: 06159859	**Tested**	: 25 Apr 2024
Unique Number	: 10995282	**Diagnosed**	: 25 Apr 2024 - Wes Davis
Test Package	: MOB 2		

NORTHLAND CONTRACTING INC
4735 W LAKE RD
DUNKIRK, NY
US 14048
Contact: NATE TERRILL

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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