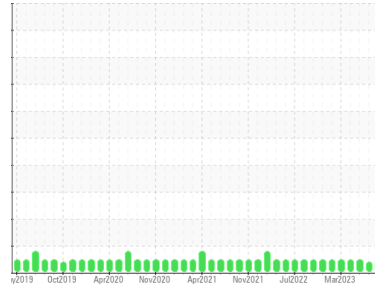




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
MACHINE SHOP
 Machine Id
0-5939-0000 DEC MANIPULATOR
 Component
Diesel Engine
 Fluid
ROYAL PURPLE 15W40 CI-4 (HD) (22 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0821650	WC0821656	WC0792328
Sample Date	Client Info		27 Aug 2023	02 Jul 2023	19 May 2023
Machine Age	hrs	Client Info	34617	33677	32718
Oil Age	hrs	Client Info	0	0	15316
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	MARGINAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	20	44	42
Chromium	ppm	ASTM D5185m >20	<1	1	1
Nickel	ppm	ASTM D5185m >4	<1	0	<1
Titanium	ppm	ASTM D5185m	<1	<1	1
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	4	3	2
Lead	ppm	ASTM D5185m >40	1	2	2
Copper	ppm	ASTM D5185m >330	11	16	15
Tin	ppm	ASTM D5185m >15	0	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	0	1
Barium	ppm	ASTM D5185m	0	2	0
Molybdenum	ppm	ASTM D5185m 120	58	71	85
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m	19	15	17
Calcium	ppm	ASTM D5185m 3000	3319	3874	4575
Phosphorus	ppm	ASTM D5185m 1150	1137	1202	1398
Zinc	ppm	ASTM D5185m 1250	1314	1486	1747
Sulfur	ppm	ASTM D5185m 16000	17511	18472	18242

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	5	5
Sodium	ppm	ASTM D5185m	<1	1	4
Potassium	ppm	ASTM D5185m >20	2	3	2

INFRA-RED

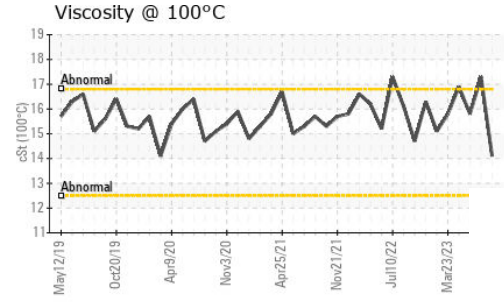
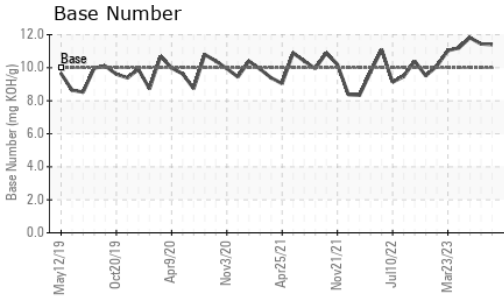
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.4	1.7	1.3
Nitration	Abs/cm	*ASTM D7624 >20	5.9	9.9	9.2
Sulfation	Abs/.1mm	*ASTM D7415 >30	25.7	33.4	31.8

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.5	21.8	19.9
Base Number (BN)	mg KOH/g	ASTM D2896 10	11.40	11.44	11.82



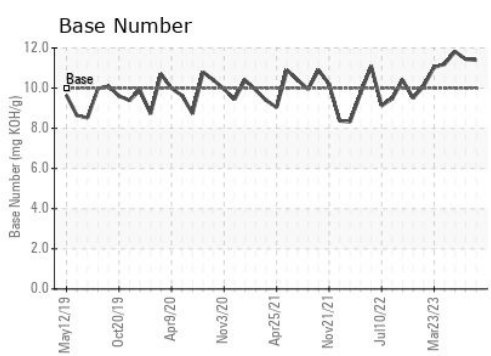
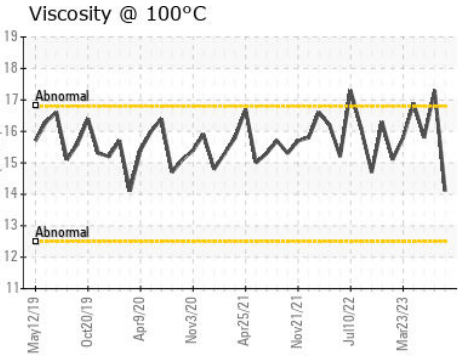
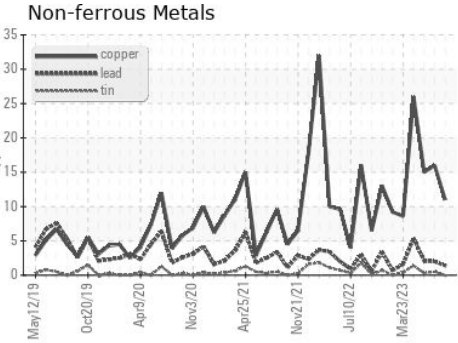
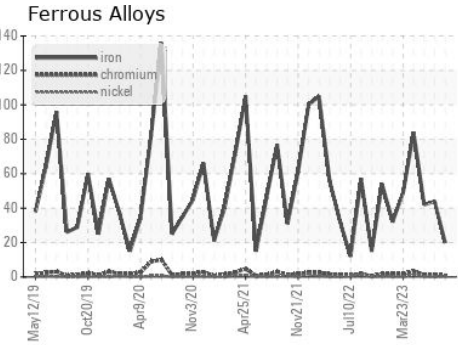
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.1	▲ 17.3	15.8

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0821650 **Received** : 30 Aug 2023
Lab Number : 05939131 **Diagnosed** : 31 Aug 2023
Unique Number : 10629743 **Diagnostician** : Wes Davis
Test Package : IND 2

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 MONROE, NC
 US 28110
 Contact: mark eilerman
 mark.eilerman@atimaterials.com
 T: (704)292-4051
 F: (704)282-0665

To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - 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)