



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
HAMM HD110 ROLLER RA507 (S/N H2090075)

Component
Diesel Engine

Fluid
DURALENE Dura-Tech Syn Blend 10W40 (4 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0675006	WC0615384	WC0314365
Sample Date		Client Info		09 Jan 2024	20 Jan 2022	21 Feb 2019
Machine Age	hrs	Client Info		4926	4072	3121
Oil Age	hrs	Client Info		190	300	150
Filter Age	hrs	Client Info		190	300	150
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	33	14	10
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	6	3	4
Lead	ppm	ASTM D5185m	>40	0	<1	1
Copper	ppm	ASTM D5185m	>330	23	1	<1
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

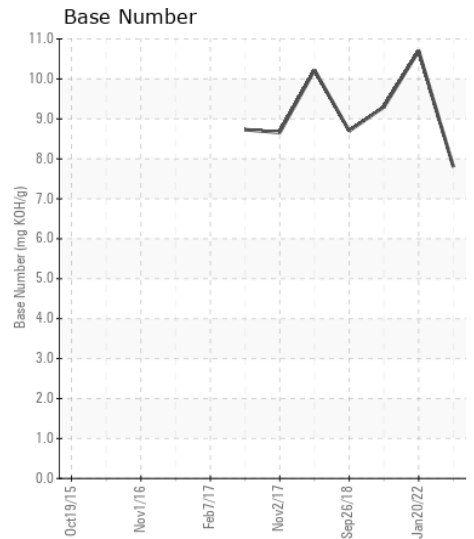
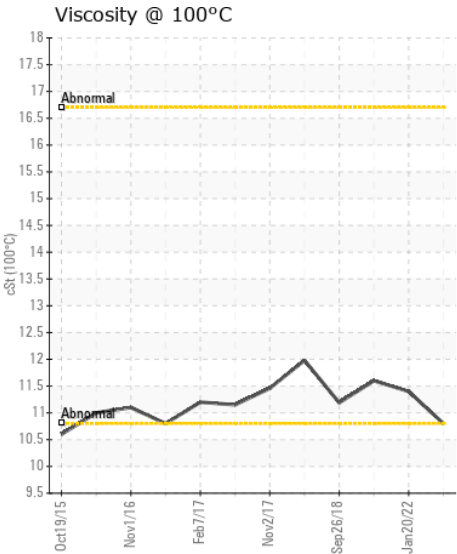
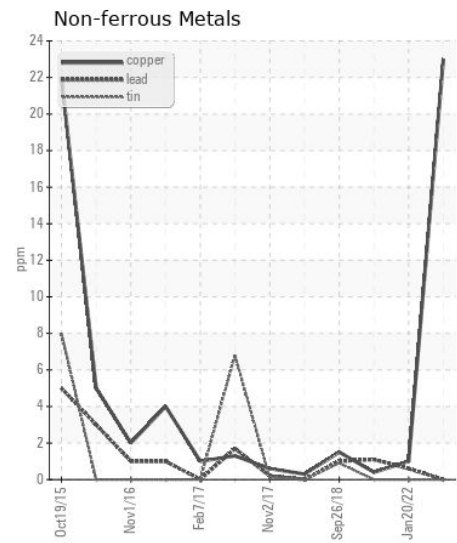
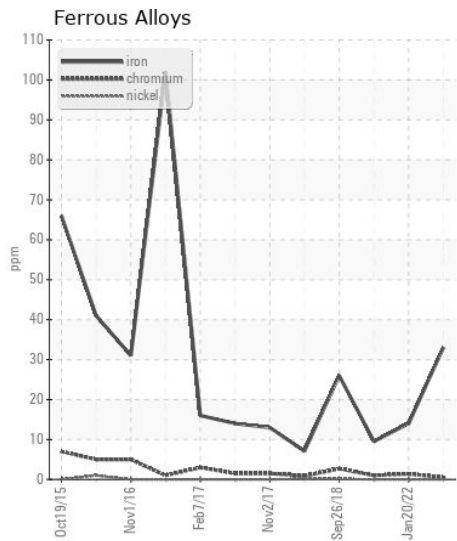
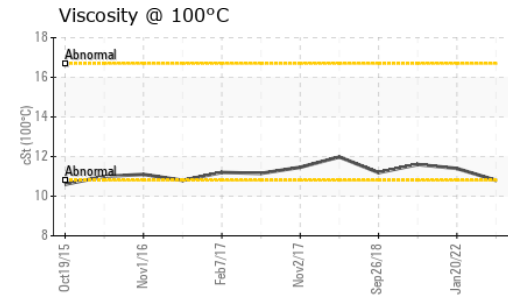
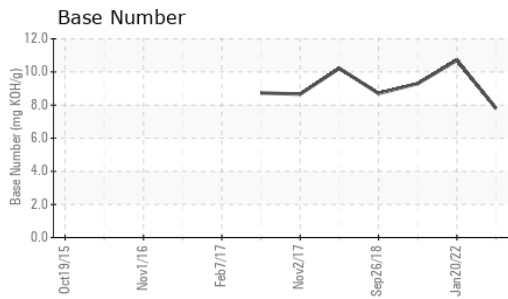
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	7	7	8
Potassium	ppm	ASTM D5185m	>20	0	2	<1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	9.1	7.5	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.4	18.8	18.8
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

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.

Sodium	ppm	ASTM D5185m		<1	0	2
Boron	ppm	ASTM D5185m		2	20	103
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		56	56	62
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		944	1001	1109
Calcium	ppm	ASTM D5185m		1215	1440	1188
Phosphorus	ppm	ASTM D5185m		1026	1164	1036
Zinc	ppm	ASTM D5185m		1304	1289	1292
Sulfur	ppm	ASTM D5185m		3080	2715	3189
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.8	14.7	14.9
Base Number (BN)	mg KOH/g	ASTM D2896		7.8	10.7	9.3
Visc @ 100°C	cSt	ASTM D445		10.8	11.4	11.6



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0675006 **Received** : 17 Jan 2024
Lab Number : 06062433 **Diagnosed** : 18 Jan 2024
Unique Number : 10833815 **Diagnostician** : Wes Davis
Test Package : CONST (Additional Tests: TBN)

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)

GRAY & SON INC
 430 W PADONIA RD
 TIMONIUM, MD
 US 21093-2274
 Contact: DON WIMER
 dwimer@graynson.com
 T: (410)771-4311
 F: (410)560-0394