



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
[W52619 JR CASKEY]
 Machine Id
HAMM GRW180I H2280193
 Component
Diesel Engine
 Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0224934	JRMC471099	---
Sample Date		Client Info		21 Jun 2024	14 Dec 2018	---
Machine Age	hrs	Client Info		1215	475	---
Oil Age	hrs	Client Info		0	475	---
Filter Age	hrs	Client Info		0	475	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	35	22	---
Chromium	ppm	ASTM D5185m	>20	4	2	---
Nickel	ppm	ASTM D5185m	>4	<1	<1	---
Titanium	ppm	ASTM D5185m		<1	<1	---
Silver	ppm	ASTM D5185m	>3	<1	0	---
Aluminum	ppm	ASTM D5185m	>20	15	3	---
Lead	ppm	ASTM D5185m	>40	2	2	---
Copper	ppm	ASTM D5185m	>330	30	19	---
Tin	ppm	ASTM D5185m	>15	2	0	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

There is no indication of any contamination in the oil.

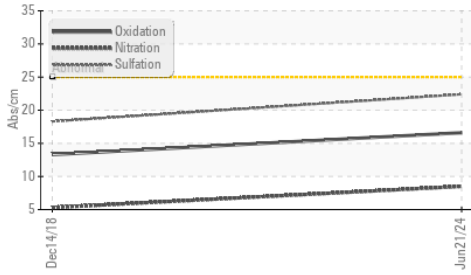
Silicon	ppm	ASTM D5185m	>25	23	23	---
Potassium	ppm	ASTM D5185m	>20	5	4	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.1	0.1	---
Nitration	Abs/cm	*ASTM D7624	>20	8.5	5.3	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.4	18.3	---
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	---

FLUID CONDITION

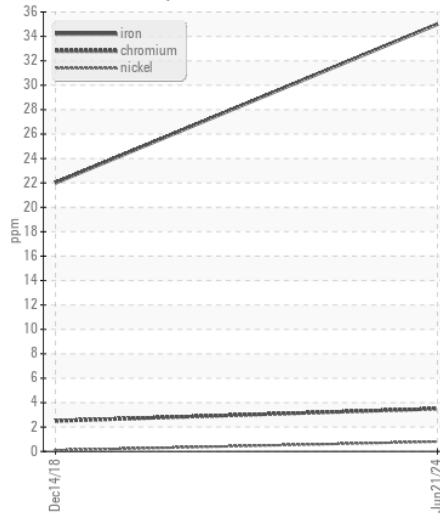
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	3	---
Boron	ppm	ASTM D5185m		222	152	---
Barium	ppm	ASTM D5185m		3	<1	---
Molybdenum	ppm	ASTM D5185m		291	52	---
Manganese	ppm	ASTM D5185m		2	2	---
Magnesium	ppm	ASTM D5185m		905	442	---
Calcium	ppm	ASTM D5185m		1689	2021	---
Phosphorus	ppm	ASTM D5185m		886	1023	---
Zinc	ppm	ASTM D5185m		1270	1244	---
Sulfur	ppm	ASTM D5185m		3513	3800	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.6	13.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	8.0	9.1	---
Visc @ 100°C	cSt	ASTM D445	15.4	13.2	13.14	---

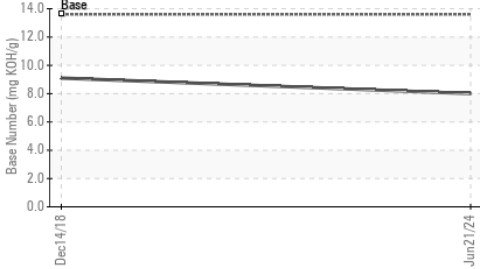
FT-IR (Direct Trend)



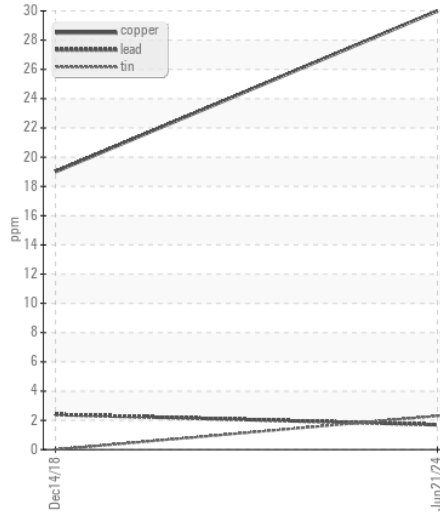
Ferrous Alloys



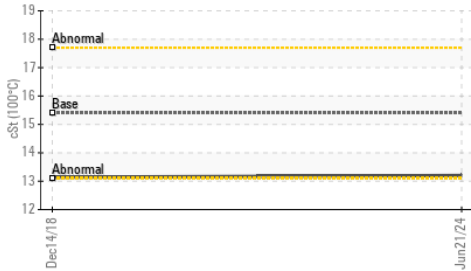
Base Number



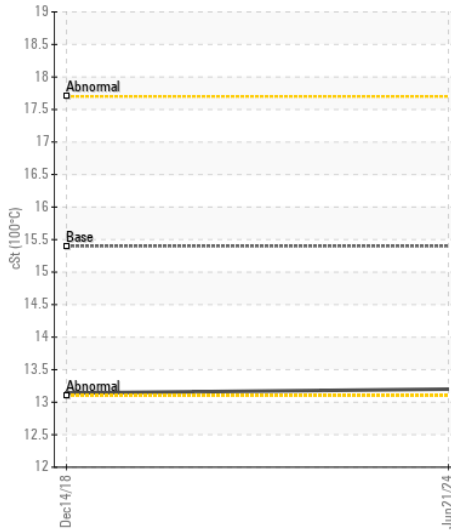
Non-ferrous Metals



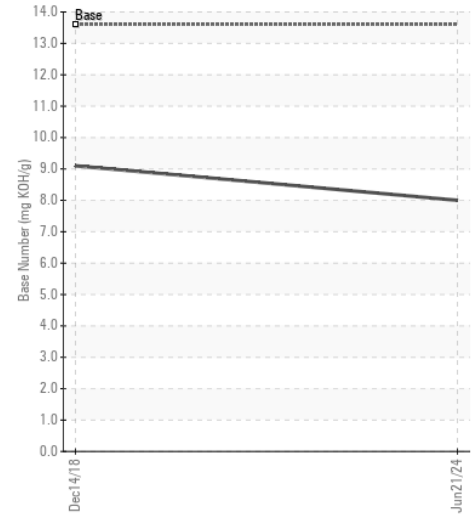
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0224934 **Received** : 25 Jun 2024
Lab Number : 06219501 **Tested** : 26 Jun 2024
Unique Number : 11097698 **Diagnosed** : 26 Jun 2024 - Don Baldrige
Test Package : CONST (Additional Tests: TBN)

JRE - ASHLAND
 11047 LEADBETTER RD
 ASHLAND, VA
 US 23005
 Contact: DAVID ZIEG
 dzieg@jamesriverequipment.com
 T: (804)798-6001
 F: (804)798-0292

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)