James River Equipment

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Area
[W51219]
Machine Id
JOHN DEERE 310SL 1T0310SLTHF313104
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

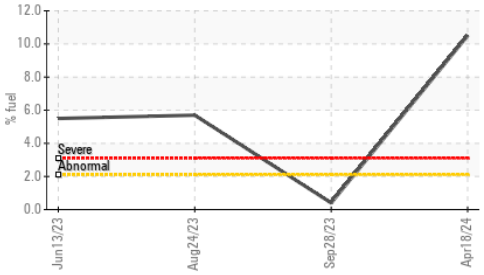
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

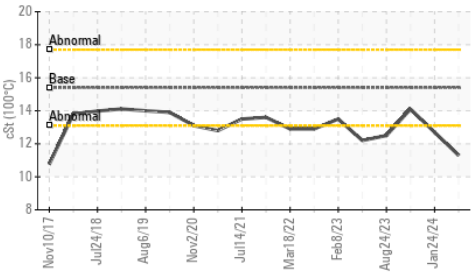
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**JR0179240**	JR0179478	JR0179194
Sample Date		Client Info		**18 Apr 2024**	24 Jan 2024	28 Sep 2023
Machine Age	hrs	Client Info		**9954**	9467	8961
Oil Age	hrs	Client Info		**0**	0	0
Filter Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Filter Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>51	**11**	31	7
Chromium	ppm	ASTM D5185m	>11	**0**	<1	<1
Nickel	ppm	ASTM D5185m	>5	**0**	1	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>31	**4**	7	4
Lead	ppm	ASTM D5185m	>26	**10**	4	2
Copper	ppm	ASTM D5185m	>26	**0**	2	<1
Tin	ppm	ASTM D5185m	>4	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	<1	<1
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>22	**5**	7	6
Potassium	ppm	ASTM D5185m	>20	**<1**	3	<1
Fuel	%	ASTM D3524	>2.1	▲ **10.5**	<1.0	0.4
Water		WC Method	>0.21	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844	>3	**0.2**	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**9.2**	9.6	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.1**	22.8	19.4
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	>0.21	**NEG**	NEG	NEG
Sodium	ppm	ASTM D5185m	>31	**0**	2	<1
Boron	ppm	ASTM D5185m		**202**	264	284
Barium	ppm	ASTM D5185m		**<1**	<1	0
Molybdenum	ppm	ASTM D5185m		**224**	238	252
Manganese	ppm	ASTM D5185m		**0**	1	<1
Magnesium	ppm	ASTM D5185m		**777**	811	853
Calcium	ppm	ASTM D5185m		**1281**	1308	1371
Phosphorus	ppm	ASTM D5185m		**791**	886	946
Zinc	ppm	ASTM D5185m		**936**	1041	1139
Sulfur	ppm	ASTM D5185m		**3046**	2874	3290
Oxidation	Abs/.1mm	*ASTM D7414	>25	**18.9**	19.4	14.4
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	**7.3**	7.9	8.9
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **11.3**	12.7	14.1

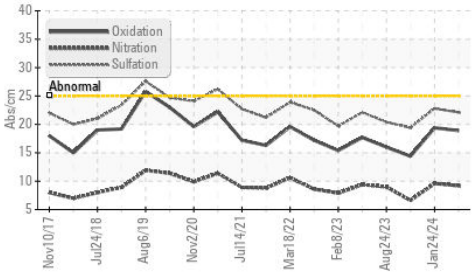
Fuel Dilution



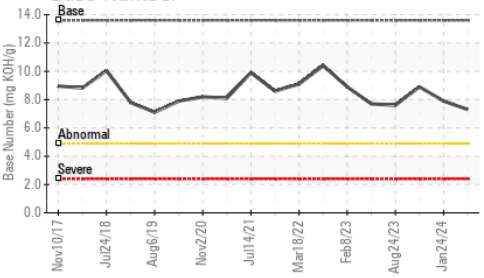
Viscosity @ 100°C



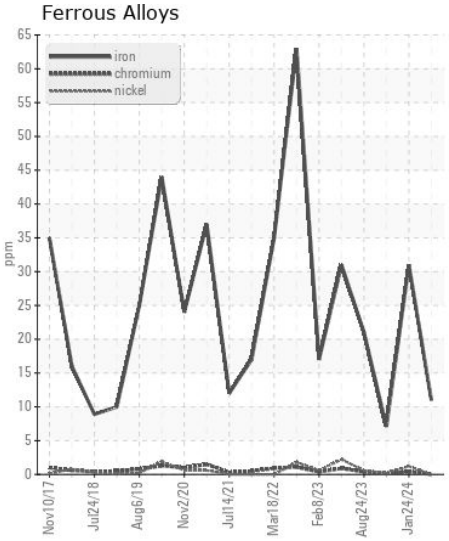
FT-IR (Direct Trend)



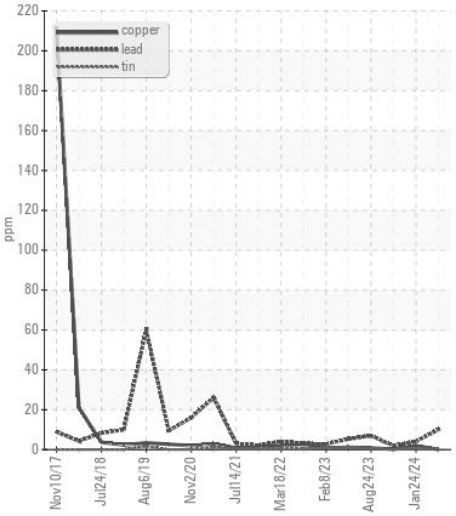
Base Number



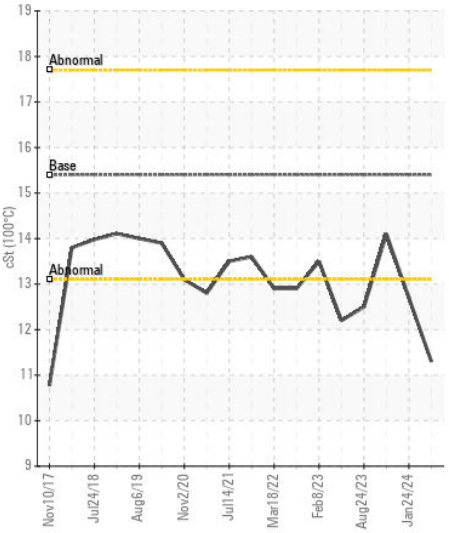
Ferrous Alloys



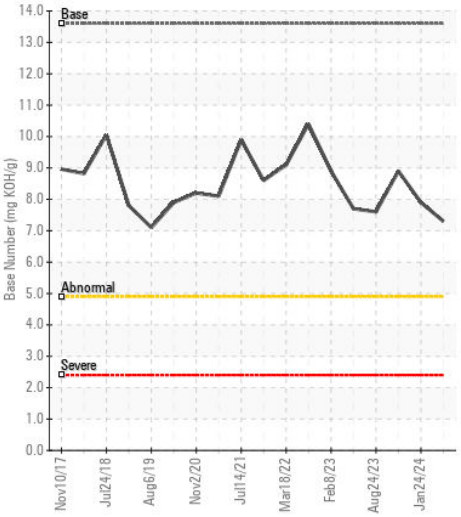
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0179240 **Received** : 25 Apr 2024
Lab Number : 06160124 **Tested** : 29 Apr 2024
Unique Number : 10995547 **Diagnosed** : 29 Apr 2024 - Wes Davis
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, 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)

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