



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area **Store 5 - Cross Lanes**

Machine Id **JOHN DEERE E-50**

Component **Diesel Engine**

Fluid **JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (5 GAL)**

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0049419	LEC0026605	LEC0004918
Sample Date		Client Info		06 May 2024	27 Sep 2022	03 Sep 2019
Machine Age	hrs	Client Info		5267	4025	1167
Oil Age	hrs	Client Info		400	256	669
Filter Age	hrs	Client Info		400	256	669
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	45	31	36
Chromium	ppm	ASTM D5185m	>11	<1	<1	1
Nickel	ppm	ASTM D5185m	>5	2	1	2
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	6	4	5
Lead	ppm	ASTM D5185m	>26	0	<1	0
Copper	ppm	ASTM D5185m	>26	3	3	▲ 65
Tin	ppm	ASTM D5185m	>4	1	1	0
Vanadium	ppm	ASTM D5185m		<1	<1	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.

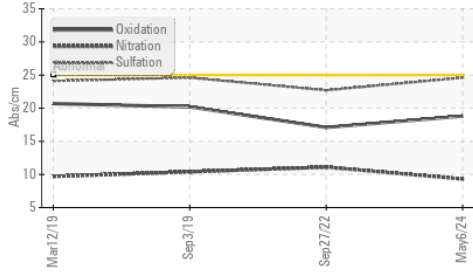
Silicon	ppm	ASTM D5185m	>120	10	6	7
Potassium	ppm	ASTM D5185m	>20	3	<1	0
Fuel		WC Method	>2.1	<1.0	<1.0	<1.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.9	0.8	0.7
Nitration	Abs/cm	*ASTM D7624	>20	9.3	11.1	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.6	22.7	24.6
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

FLUID CONDITION

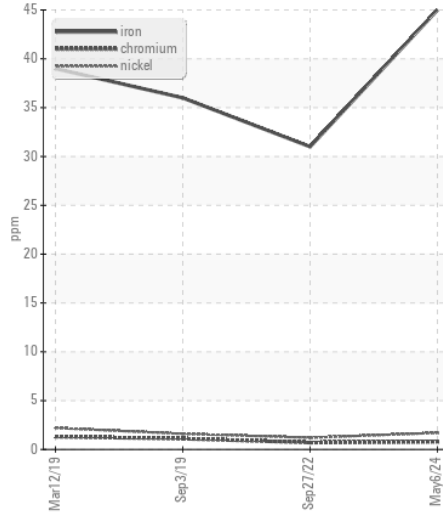
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>31	2	4	6
Boron	ppm	ASTM D5185m		321	57	89
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		91	97	215
Manganese	ppm	ASTM D5185m		<1	<1	1
Magnesium	ppm	ASTM D5185m		499	148	928
Calcium	ppm	ASTM D5185m		1379	2066	1561
Phosphorus	ppm	ASTM D5185m		1083	944	910
Zinc	ppm	ASTM D5185m		1309	1164	1110
Sulfur	ppm	ASTM D5185m		3457	3874	2389
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.8	17.1	20.2
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	7.6	7.6	8.1
Visc @ 100°C	cSt	ASTM D445	15.4	14.1	14.2	14.7

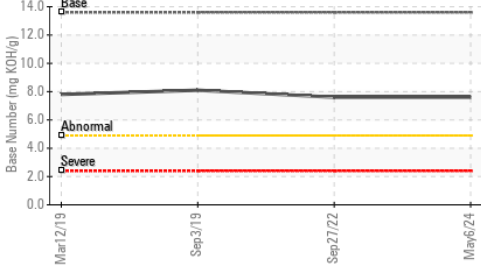
FT-IR (Direct Trend)



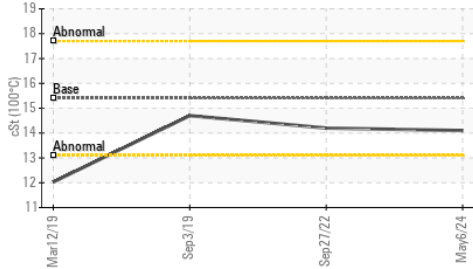
Ferrous Alloys



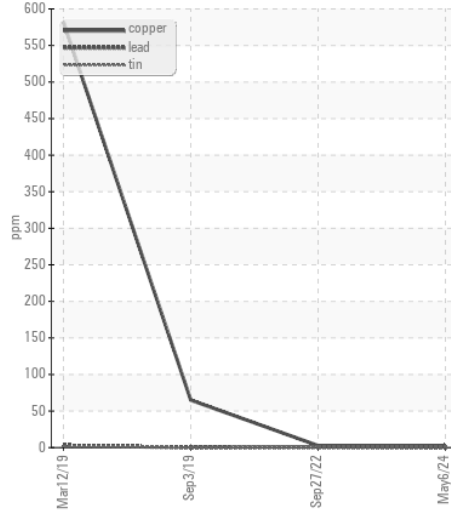
Base Number



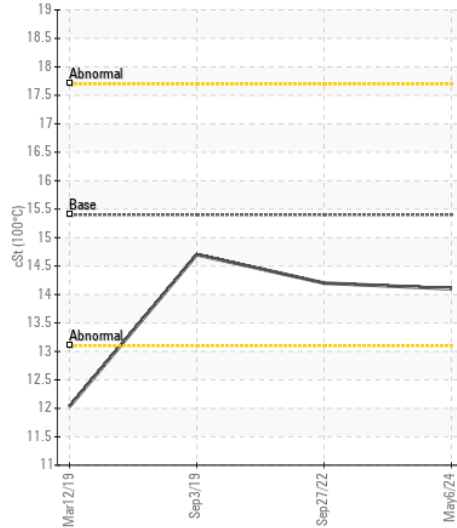
Viscosity @ 100°C



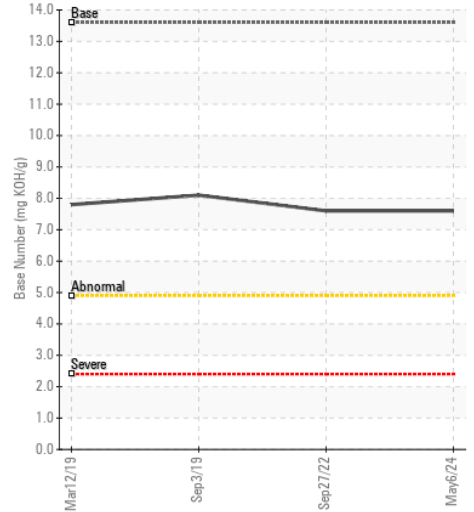
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0049419 **Received** : 14 May 2024
Lab Number : 06178505 **Tested** : 15 May 2024
Unique Number : 11029831 **Diagnosed** : 16 May 2024 - Sean Felton
Test Package : CONST (Additional Tests: TBN)

APEX PIPELINE

P.O. BOX 580
 NITRO, WV
 US 25143
 Contact: KELLY TUCKER

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)

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