



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

Rockydale Quarries [W11509]

Machine Id

JOHN DEERE 944K 1DW944KXVGE677118

Component

Diesel Engine

Fluid

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- QTS)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0126029	JR0074526	JR0170405
Sample Date		Client Info		09 May 2024	01 Mar 2024	01 Dec 2023
Machine Age	hrs	Client Info		11649	11107	11106
Oil Age	hrs	Client Info		11106	1	0
Filter Age	hrs	Client Info		11106	0	0
Oil Changed		Client Info		Changed	N/A	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

The copper level is abnormal. Valve wear is indicated. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

Iron	ppm	ASTM D5185m	>51	48	29	41
Chromium	ppm	ASTM D5185m	>11	1	<1	<1
Nickel	ppm	ASTM D5185m	>5	▲ 10	7	5
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>31	8	7	7
Lead	ppm	ASTM D5185m	>26	13	6	8
Copper	ppm	ASTM D5185m	>26	▲ 224	▲ 233	▲ 333
Tin	ppm	ASTM D5185m	>4	5	3	5
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

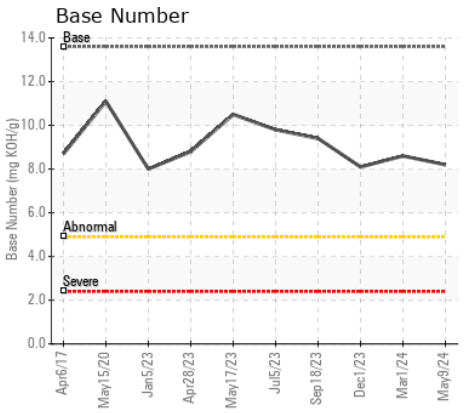
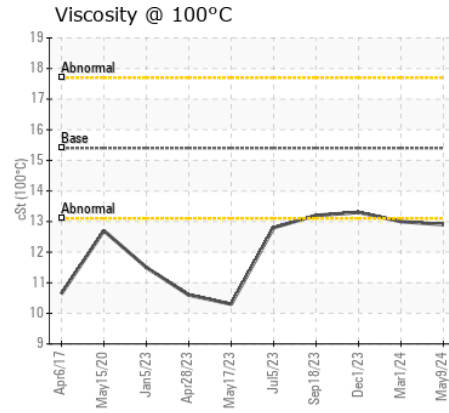
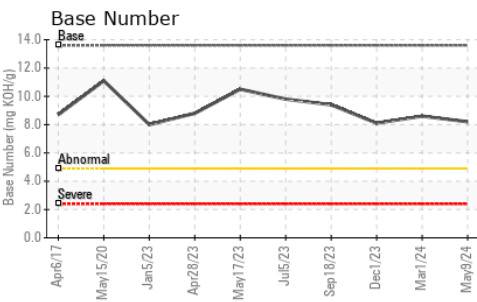
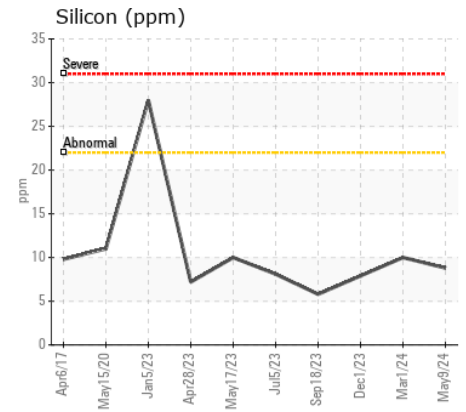
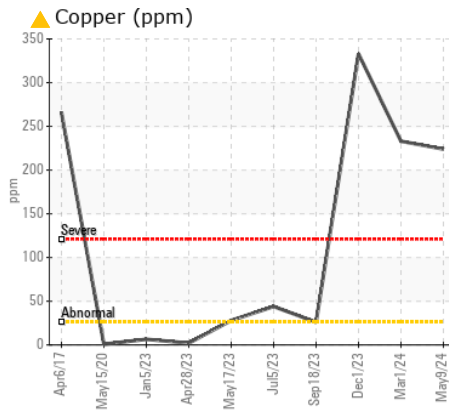
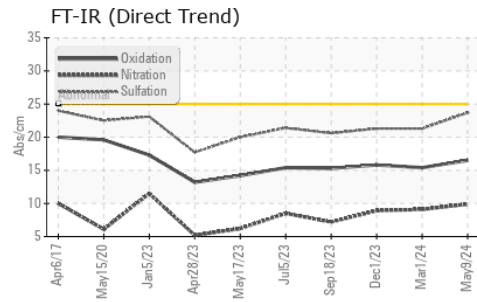
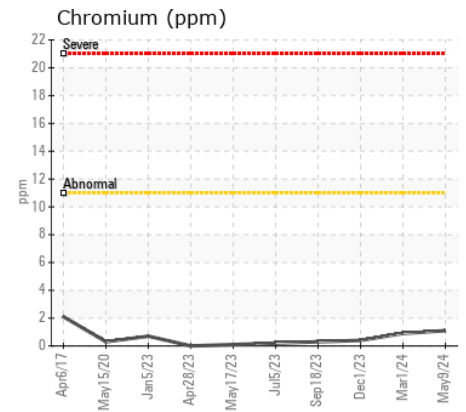
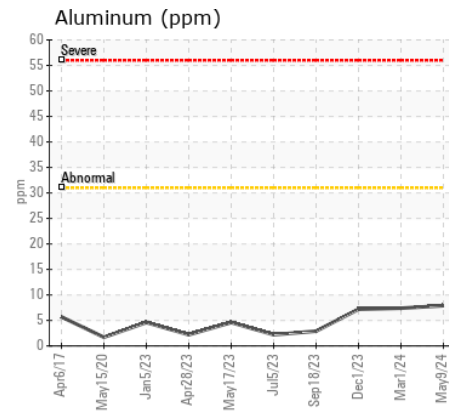
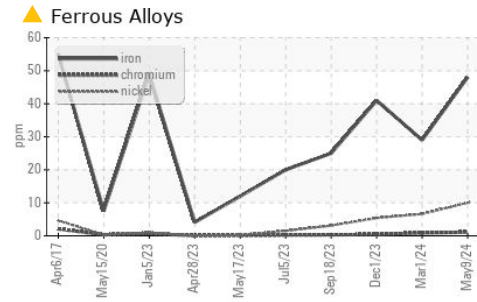
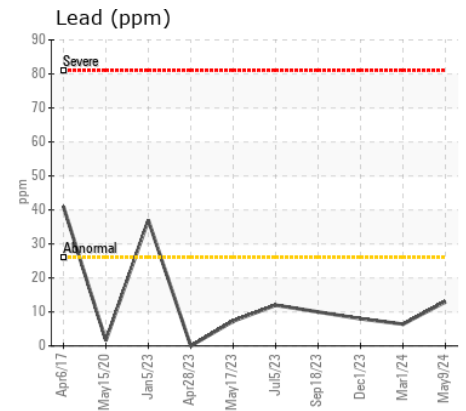
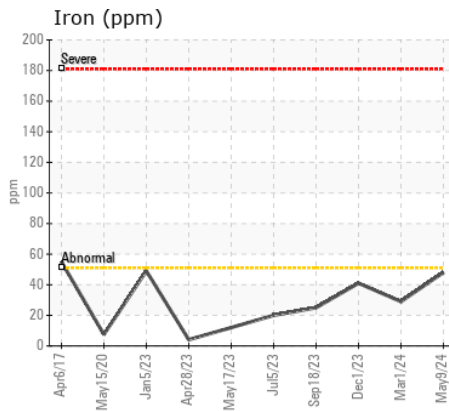
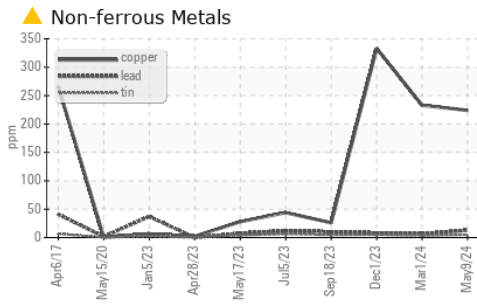
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>22	9	10	8
Potassium	ppm	ASTM D5185m	>20	2	4	5
Fuel		WC Method	>2.1	<1.0	<1.0	<1.0
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.4	0.9	1.2
Nitration	Abs/cm	*ASTM D7624	>20	9.9	9.1	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.7	21.3	21.3
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 acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>31	4	2	6
Boron	ppm	ASTM D5185m		107	182	24
Barium	ppm	ASTM D5185m		<1	0	2
Molybdenum	ppm	ASTM D5185m		243	240	91
Manganese	ppm	ASTM D5185m		2	1	<1
Magnesium	ppm	ASTM D5185m		834	756	464
Calcium	ppm	ASTM D5185m		1681	1509	1577
Phosphorus	ppm	ASTM D5185m		985	1023	985
Zinc	ppm	ASTM D5185m		1228	1127	1144
Sulfur	ppm	ASTM D5185m		3739	3508	2936
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.5	15.4	15.8
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	8.2	8.6	8.1
Visc @ 100°C	cSt	ASTM D445	15.4	12.9	13.0	13.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0126029 **Received** : 13 May 2024
Lab Number : 06177008 **Tested** : 14 May 2024
Unique Number : 11023061 **Diagnosed** : 14 May 2024 - Don Baldrige
Test Package : MOBCE (Additional Tests: Glycol, 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)

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