



LUBE PLUS+

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL



Area
TRUCKHAUL
Machine Id
JOHN DEERE 410E 05-02060-023 (S/N 1DW410ETPJF593044)
Component
Diesel Engine
Fluid
PETRO CANADA 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LP0000015	WC0569816	WC0661635
Sample Date		Client Info		04 Jan 2024	07 Feb 2023	25 Jul 2022
Machine Age	hrs	Client Info		5396	4443	3873
Oil Age	hrs	Client Info		581	570	581
Filter Age	hrs	Client Info		0	0	581
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Filter Changed		Client Info		N/A	N/A	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>51	25	13	10
Chromium	ppm	ASTM D5185m	>11	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>31	8	6	4
Lead	ppm	ASTM D5185m	>26	3	2	2
Copper	ppm	ASTM D5185m	>26	7	8	7
Tin	ppm	ASTM D5185m	>4	2	2	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

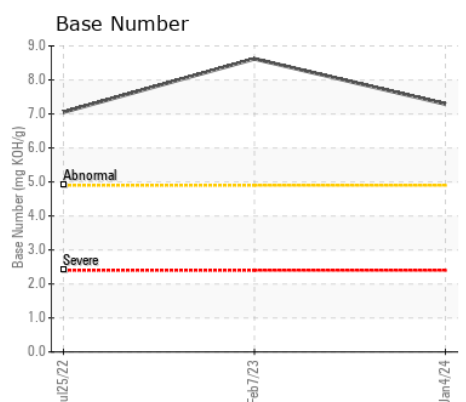
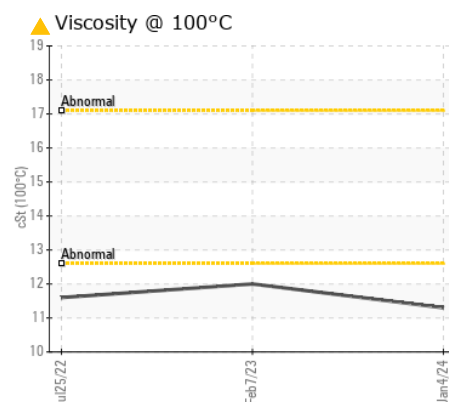
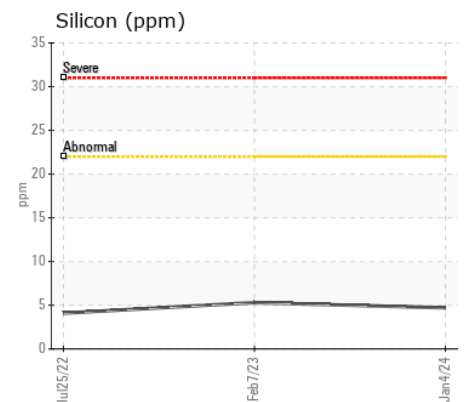
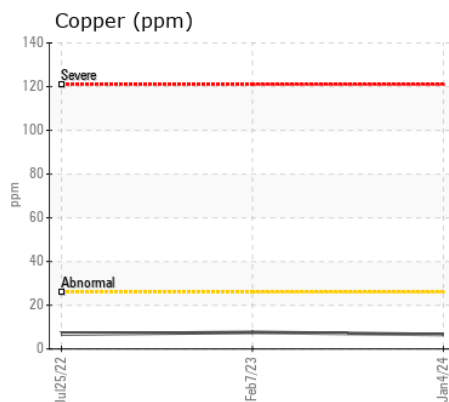
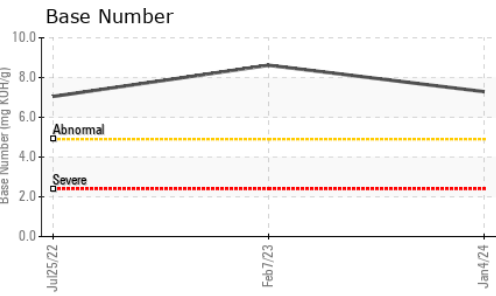
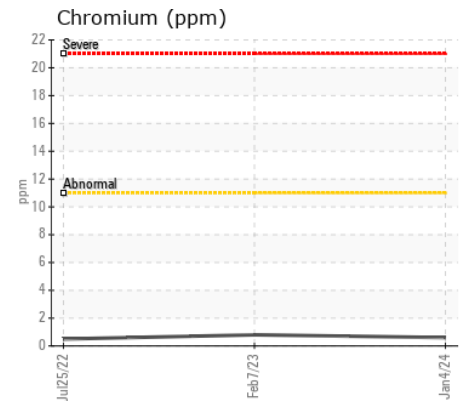
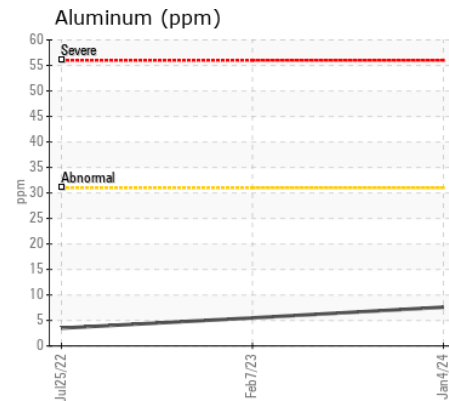
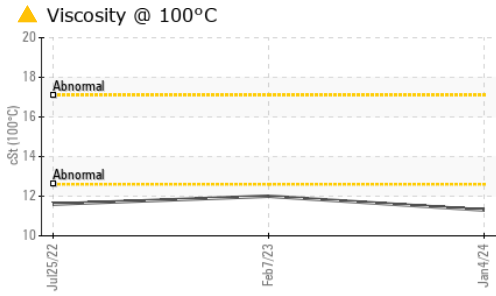
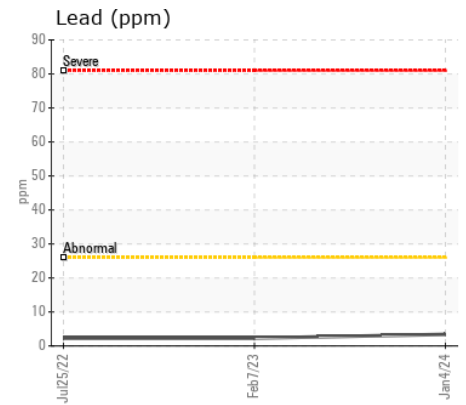
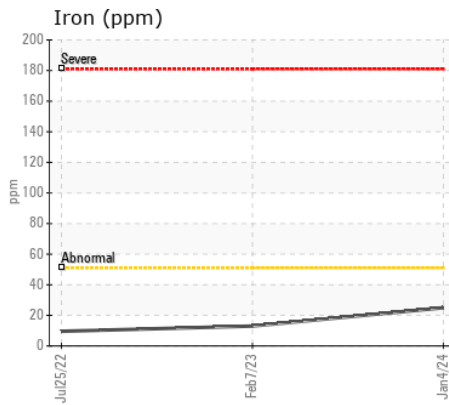
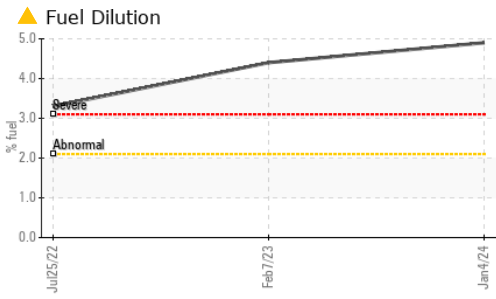
There is a moderate amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>22	5	5	4
Potassium	ppm	ASTM D5185m	>20	2	1	10
Fuel	%	ASTM D3524	>2.1	▲ 4.9	▲ 4.4	▲ 3.3
Water		WC Method	>0.21	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	10.1	9.5	10.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.2	19.3	20.7
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

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		7	3	8
Boron	ppm	ASTM D5185m		8	10	32
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		61	61	83
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		871	773	347
Calcium	ppm	ASTM D5185m		1058	1200	1591
Phosphorus	ppm	ASTM D5185m		899	923	869
Zinc	ppm	ASTM D5185m		1142	1192	1091
Sulfur	ppm	ASTM D5185m		2973	3468	3579
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.3	15.2	16.2
Base Number (BN)	mg KOH/g	ASTM D2896		7.29	8.62	7.05
Visc @ 100°C	cSt	ASTM D445		▲ 11.3	▲ 12.0	▲ 11.6



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LP0000015 **Received** : 12 Jan 2024
Lab Number : 06060400 **Diagnosed** : 16 Jan 2024
Unique Number : 10831782 **Diagnostician** : Don Baldridge
Test Package : MOB 2 (Additional Tests: PercentFuel)

HAYNES MATERIALS
 220-2F MAIN ST
 OXFORD, CT
 US 06478
 Contact: AMANDA BOWLEY
 abowley@haynesmaterials.com
 T: (203)888-8186
 F:

Certificate L2367
 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)