

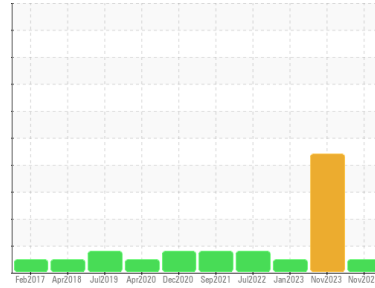
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
JOHN DEERE 290GLC EXCAVATOR 500-184
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0106869	PCA0106837	PCA0078536
Sample Date	Client Info		30 Nov 2023	05 Nov 2023	31 Jan 2023
Machine Age	hrs	Client Info	6993	9640	6500
Oil Age	hrs	Client Info	500	540	500
Oil Changed	Client Info		Changed	N/A	Changed
Sample Status			NORMAL	SEVERE	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
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

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>51	56	63	49
Chromium	ppm	ASTM D5185m	>11	<1	3	1
Nickel	ppm	ASTM D5185m	>5	2	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>31	2	13	2
Lead	ppm	ASTM D5185m	>26	0	4	<1
Copper	ppm	ASTM D5185m	>26	2	▲ 36	2
Tin	ppm	ASTM D5185m	>4	0	2	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	<1	2	<1
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	56	64	64
Manganese	ppm	ASTM D5185m	0	<1	2	<1
Magnesium	ppm	ASTM D5185m	1010	947	975	960
Calcium	ppm	ASTM D5185m	1070	1071	1149	1103
Phosphorus	ppm	ASTM D5185m	1150	942	941	1010
Zinc	ppm	ASTM D5185m	1270	1200	1173	1226
Sulfur	ppm	ASTM D5185m	2060	2704	2276	3514

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>22	4	8	4
Sodium	ppm	ASTM D5185m	>31	1	5	3
Potassium	ppm	ASTM D5185m	>20	<1	0	<1

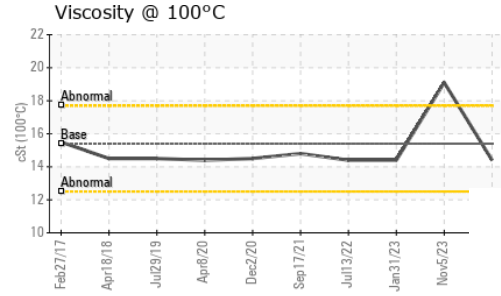
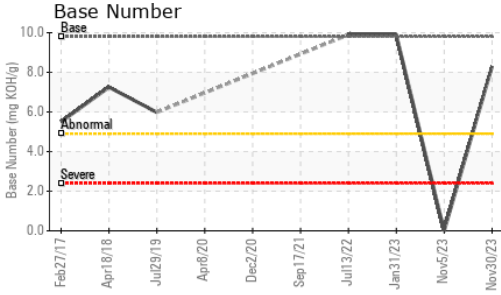
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	1.1	◆ 6.3	1.3
Nitration	Abs/cm	*ASTM D7624	>20	9.7	16.4	10.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.2	34.8	20.2

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.7	22.7	16.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.3	▲ 0.0	9.9

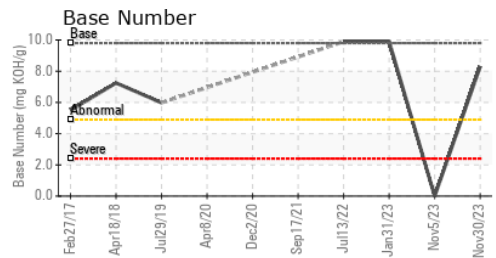
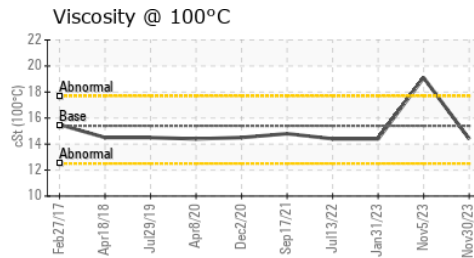
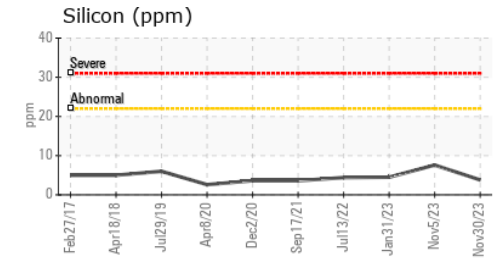
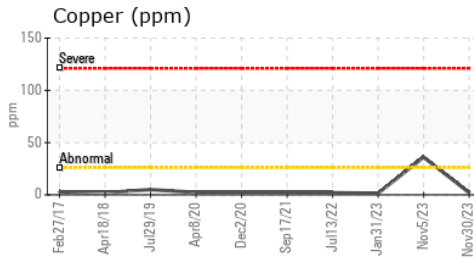
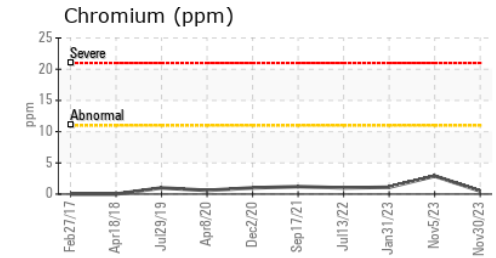
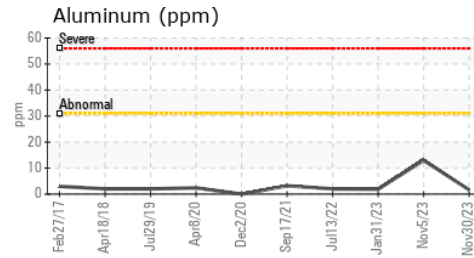
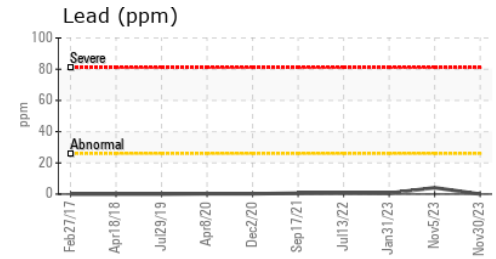
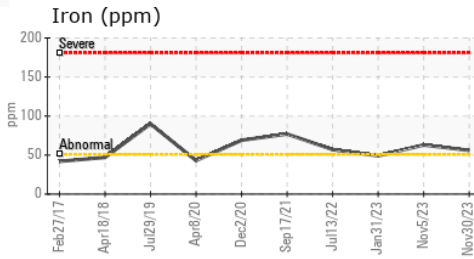
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
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	>0.21	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	14.4	▲ 19.1	14.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0106869 **Recieved** : 27 Dec 2023
Lab Number : 06046043 **Diagnosed** : 28 Dec 2023
Unique Number : 10806651 **Diagnostician** : Angela Borella
Test Package : MOB 1 (Additional Tests: TBN)

GE MARSHALL EXCAVATION
 1351 JOLIET RD
 VALPARAISO, IN
 US 46385
 Contact: MARK STEFFEL
 mark.steffel@gemarshall.com

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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