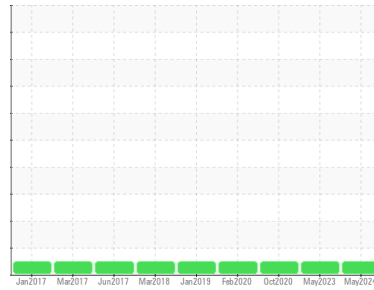


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
JOHN DEERE 500-188
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (7 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 suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0089603	PCA0082169	PCA0027477
Sample Date	Client Info		23 May 2024	23 May 2023	02 Oct 2020
Machine Age	hrs	Client Info	6004	5143	4080
Oil Age	hrs	Client Info	500	543	500
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	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	29	33	34
Chromium	ppm	ASTM D5185m	>11	<1	0	1
Nickel	ppm	ASTM D5185m	>5	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>31	2	10	0
Lead	ppm	ASTM D5185m	>26	<1	0	1
Copper	ppm	ASTM D5185m	>26	<1	0	2
Tin	ppm	ASTM D5185m	>4	<1	0	<1
Antimony	ppm	ASTM D5185m		---	---	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	3	0	3
Barium	ppm	ASTM D5185m	0	<1	0	0
Molybdenum	ppm	ASTM D5185m	60	55	63	65
Manganese	ppm	ASTM D5185m	0	<1	0	<1
Magnesium	ppm	ASTM D5185m	1010	879	1020	955
Calcium	ppm	ASTM D5185m	1070	1004	1220	1038
Phosphorus	ppm	ASTM D5185m	1150	971	1024	1002
Zinc	ppm	ASTM D5185m	1270	1141	1328	1227
Sulfur	ppm	ASTM D5185m	2060	3109	3480	2596

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>22	4	2	3
Sodium	ppm	ASTM D5185m	>31	3	2	1
Potassium	ppm	ASTM D5185m	>20	3	2	2

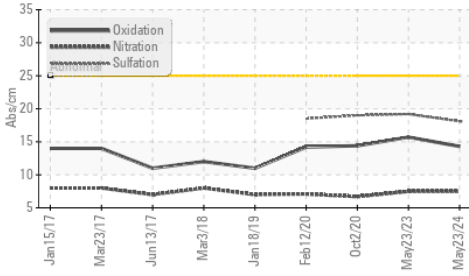
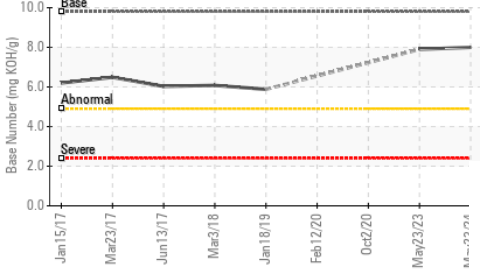
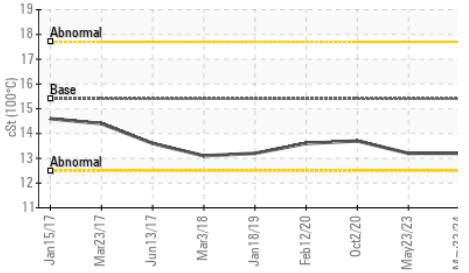
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	0.4	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	7.5	7.5	6.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.1	19.2	19

FLUID DEGRADATION

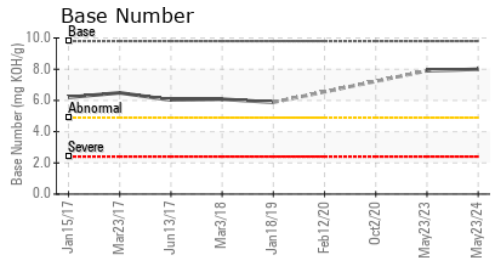
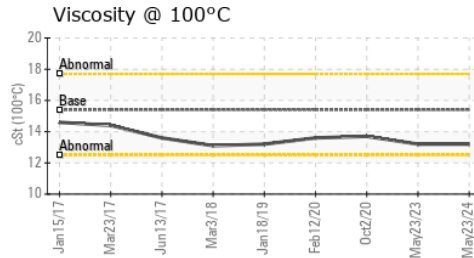
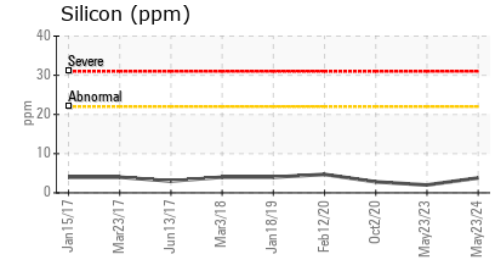
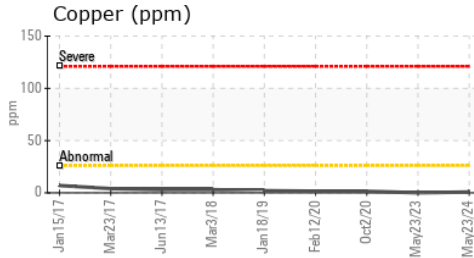
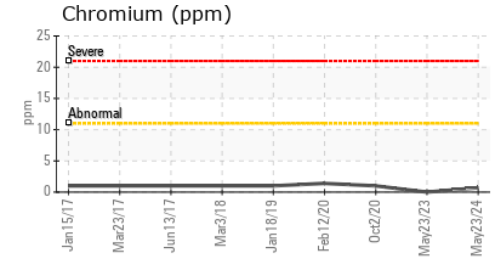
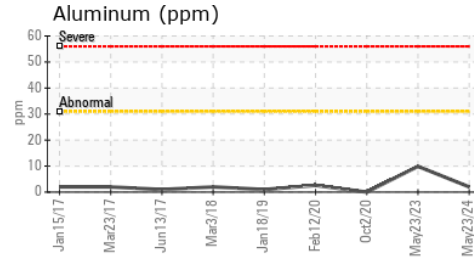
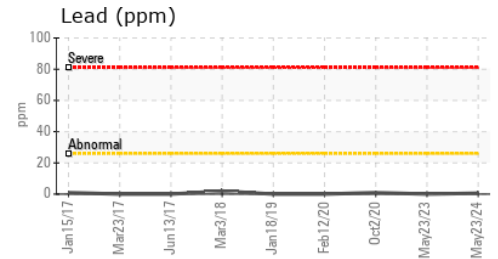
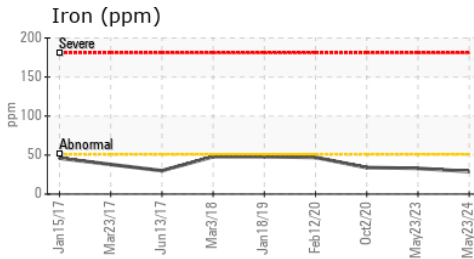
	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.3	15.7	14.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.0	7.9	---

OIL ANALYSIS REPORT

FT-IR (Direct Trend)

Base Number

Viscosity @ 100°C


PARAMETER	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	13.2	13.2

GRAPHS


Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0089603 **Received** : 06 Jun 2024
Lab Number : 06201166 **Tested** : 07 Jun 2024
Unique Number : 11063289 **Diagnosed** : 07 Jun 2024 - Wes Davis
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)